IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, *et al.*, *Plaintiffs*, v. NATIONAL MARINE FISHERIES SERVICE, *et al.*, *Defendants*, and AMERICAN PETROLEUM INSTITUTE, *et al.*, *Intervenors-Defendants.*	No. 8:20-cv-03060-DLB Hon. Deborah L. Boardman

INTERVENORS-DEFENDANTS' EMERGENCY MOTION TO ALTER OR AMEND THE JUDGMENT OR, IN THE ALTERNATIVE, FOR A STAY PENDING APPEAL, AND FOR EXPEDITED RULING

Pursuant to Federal Rules of Civil Procedure 59(e) and 60(b), Intervenors-Defendants American Petroleum Institute, EnerGeo Alliance, National Ocean Industries Association, and Chevron U.S.A. Inc. move to alter or amend this Court's judgment (Dkt. 205) to the extent of delaying the Court's December 20, 2024 vacatur of the 2020 programmatic Biological Opinion (BiOp) and 2021 Amended Incidental Take Statement until at least May 21, 2025.

In the alternative, pursuant to Federal Rule of Civil Procedure 62 and consistent with Federal Rule of Appellate Procedure 8(a)(1), Intervenors move to stay the Court's judgment (Dkt. 205) pending resolution of Intervenors' appeals to the Fourth Circuit.

Finally, Intervenors move that the Court rule on this Motion **no later than October 21, 2024**, because, absent relief, Intervenors will need sufficient time to seek emergency relief in the

Fourth Circuit and, if necessary, the U.S. Supreme Court, and to afford those courts adequate time to consider Intervenors' applications. Intervenors intend to file a reply in support of their motion no later than October 7, 2024.

The grounds for the Motion are set out in the accompanying memorandum.

Counsel for Intervenors have conferred with counsel for Plaintiffs and Federal Defendants. Plaintiffs will take a position on the motion to extend the vacatur date after reviewing the papers. Plaintiffs oppose the motion to stay. Plaintiffs will respond to the motions in accordance with the court's local rules. The Federal Defendants do not oppose relief under Rule 59(e), but take no position on relief under Rule 60(b). The Federal Defendants also take no position on Intervenors' alternative request for a stay.

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September 16, 2024

CERTIFICATE OF SERVICE

I hereby certify that on September 16, 2024, I electronically filed the foregoing using the CM/ECF system, which will send notification of this filing to the attorneys of record.

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IN THE UNITED STATES DISTRICT COURT
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INTERVENORS-DEFENDANTS' MEMORANDUM IN SUPPORT OF THEIR EMERGENCY MOTION TO ALTER OR AMEND THE JUDGMENT OR, IN THE ALTERNATIVE, FOR A STAY PENDING APPEAL, AND FOR EXPEDITED RULING

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INTRODUCTION

This Court vacated the 2020 programmatic Biological Opinion (BiOp) and 2021 Amended Incidental Take Statement effective December 20, 2024, on the assumption that the National Marine Fisheries Service (NMFS) could complete its revised BiOp around that time. That assumption has proven inaccurate. NMFS now estimates that even after allocating all practicable resources, the new BiOp cannot be done until at least May 21, 2025.[1] That late-breaking revelation calls for the Court to reconsider the December 20, 2024 vacatur date. As the Government explains, "no amount of planning can mitigate the potentially extreme and dangerous destabilization of the [Gulf] oil and gas industry . . . that will flow from vacatur on December 20," ECF 211-4 ¶ 2—the disastrous consequences of which are underscored in the attached declarations from the American Petroleum Institute (API), EnerGeo Alliance, National Ocean Industries Association (NOIA), Chevron U.S.A. Inc., and nearly 30 of the trade associations' member companies.

Vacatur means that Gulf oil-and-gas production will be seriously curtailed or halted entirely. But production problems are just the tip of the iceberg. Vacatur and its attendant multi-month permitting moratorium will also prevent oil-and-gas activities that keep people and the environment safe, impair emergency-response operations, and delay the environmental benefits of decommissioning. Vacatur will force Gulf operators and service providers to risk penalties under the Endangered Species Act (ESA) in order to comply with other mandatory regulatory obligations, even as they continue to implement the BiOp's precautions to protect wildlife. And vacatur will imperil innumerable contracts, risk thousands of jobs, and threaten the trade

[1] As the Government explains, it initially had told the parties that NMFS would complete its BiOp by August 31, 2025. ECF 211 at 2 n.1. Many declarations therefore refer to that August 31 date. But the overall impact to industry of a May 21 date is equally harmful.

associations' member companies with billions of dollars in losses—economic devastation that will be felt nationally and could even put some companies out of business. The Court should avoid these ripple effects by postponing vacatur until at least May 21, 2025, when NMFS anticipates the new BiOp will be complete.[2]

In the alternative, the Court should grant a stay to allow Intervenors to seek appellate review. Although Intervenors respectfully disagree with the Court's assessment that certain aspects of the BiOp lacked sufficient explanation, NMFS can ultimately incorporate additional explanation into the new BiOp on remand. But a critical question for appeal is the remedy: whether this Court should have allowed "the current [BiOp] to die a natural death" and remain in effect until NMFS issues the new BiOp because, "in the short term," vacatur "would do more harm than good." *Maryland People's Counsel v. FERC*, 768 F.2d 450, 455 (D.C. Cir. 1985) (per curiam). The Fourth Circuit is likely to conclude that the Court abused its discretion in refusing to do so, or, at the very least, that the question of whether to depart from the eleven other circuits recognizing *Allied-Signal, Inc. v. Nuclear Regulatory Commission*, 988 F.2d 146 (D.C. Cir. 1993)'s remedy of remand without vacatur is sufficiently novel and important to warrant maintaining the status quo pending appeal.

Intervenors respectfully request a decision on this motion by **no later than October 21, 2024**, to allow them sufficient time to seek emergency relief in the Fourth Circuit and, if necessary, the U.S. Supreme Court, and to afford those courts adequate time to consider the requested relief before the BiOp is vacated. A decision as soon as possible is also imperative because Gulf operators need advance notice before they can safely suspend Gulf operations, if necessary, and are incurring substantial costs every day that vacatur looms.

[2] In moving for reconsideration, Intervenors reserve their right to challenge on appeal any aspect of this Court's opinion, including the BiOp's merits and the remedy ordered.

ARGUMENT

I. The Court Should Delay Vacatur Until At Least May 21, 2025.

Reconsideration is warranted in light of the late-breaking development that NMFS now cannot complete the new BiOp until May 2025. This Court opted to delay vacatur until only December 20, 2024 based on the Government's "most pessimistic projections" at the time that the new BiOp would "be ready not long after." Op. 83. The Court rejected "immediate vacatur" because it correctly recognized that "[v]acating the BiOp months before a replacement is ready" would "delay or inhibit many oil and gas industry activities in the Gulf," "disrupt efforts to keep workers safe and prevent serious accidents," and "stall the completion of a replacement" BiOp. Op. 81-82 (cleaned up). Those harms—and the others discussed below—are salient once again because the new BiOp's delayed release date means that vacatur in December 2024 will result in "[v]acating the BiOp months before a replacement is ready." Op. 81.

The Court should accordingly reconsider its remedial order so that the BiOp is not vacated until at least May 21, 2025. "Two rules enable a court to reconsider a final judgment: Rule 59(e) authorizes a district court to alter, amend, or vacate a prior judgment, while Rule 60 provides for relief from judgment." *Jackson v. Sprint/United Mgmt. Co.*, 633 F. Supp. 3d 741, 745 (D. Md. 2022). Reconsideration under Rule 59(e) is appropriate, among other things, "to account for new evidence" or "to prevent manifest injustice." *Pacific Ins. Co. v. American Nat. Fire Ins. Co.*, 148 F.3d 396, 403 (4th Cir. 1998). Rule 60(b)(5) permits a party to obtain relief from a judgment if, among other things, "applying it prospectively is no longer equitable," such as "significantly changed factual conditions" that "make compliance . . . more onerous, unworkable, or detrimental to the public interest." *Small v. Hunt*, 98 F.3d 789, 795 (4th Cir. 1996) (citation and quotation marks omitted). And Rule 60(b)(6) offers a catchall for "any other reason that justifies relief," which "provides the court with a grand reservoir of equitable power

to do justice" in "extraordinary circumstances," *Justus v. Clarke*, 78 F.4th 97, 116 (4th Cir. 2023) (citation omitted), such as intervening changes in facts, *Liljeberg v. Health Servs. Acquisition Corp.*, 486 U.S. 847, 864 n.11 (1988).

Reconsideration is warranted under any of these standards. NMFS's anticipated May 2025 completion date is significant new information that renders the Court's vacatur order manifestly unjust. Intervenors cannot control the new BiOp's timing, nor can they prevent the looming Gulf-wide paralysis that vacatur will trigger. And the Government has articulated no "transition" plan guaranteed to maintain normal operations in the interim. *Contra* Op. 83. The Court should therefore grant reconsideration and defer vacatur until at least May 21, 2025.

A. Vacatur will seriously disrupt all aspects of oil-and-gas operations across the entire Gulf of Mexico.

As the Court recognized, vacating the BiOp months before it can be replaced will "delay or inhibit many oil and gas industry activities in the Gulf." Op. 81 (cleaned up). That is because "[t]he BiOp is the linchpin for oil and gas operations in the Gulf of Mexico," Hopkins Decl. ¶ 11, so its vacatur guts the regulatory regime guiding Gulf operations.

The ESA makes it illegal to "take" listed species, even incidentally, absent authorization. 16 U.S.C. § 1538(a)(1), (g). The ESA defines "take" broadly as encompassing not just killing listed species, but also as actions that "harass, harm, pursue, . . . trap, capture, or collect" listed species, or "attempt to engage in any such conduct." *Id*. § 1532(19).[3]

The ESA allows takes of protected species in the course of otherwise lawful activities—known as "incidental take"—when NMFS issues a biological opinion and incidental take

[3] NMFS further defines "harm" as including "significant habitat modification or degradation" that significantly impairs essential behavioral patterns, 50 C.F.R. § 222.102, and other agencies define "harass" as including a "negligent act or omission which creates the likelihood of injury," 50 C.F.R. § 17.3; *see* NMFS, Interim Guidance on the Endangered Species Act Term "Harass" 2 & n.4 (2016), https://perma.cc/LBX7-4FDP.

statement "set[ting] forth the terms and conditions . . . that must be complied with" by the action agency and regulated parties, *id.* § 1536(b)(4)(iv), (o)(2)—here, the Bureau of Ocean Energy Management (BOEM) and the Bureau of Safety and Environmental Enforcement (BSEE) (collectively, "the Bureaus"), and the Gulf oil-and-gas industry. The BiOp reflects that "[a]ll phases" of oil-and-gas development "will have stressor-causing activities" projected to result in some amount of statistically inevitable incidental take. AR0013388-89; *see also, e.g.*, Martin Decl. ¶¶ 6-8. If incidental take occurs during activities that are otherwise lawful and comply with the incidental take statement's terms and conditions designed to protect wildlife and the environment, the taking party is protected from ESA liability. 16 U.S.C. § 1536(o)(2).

The BiOp is a "Gulf-wide programmatic opinion," meaning that it governs "*all* permitted actions and plans" for Outer Continental Shelf oil-and-gas operations. AR0013252, 0013255 (emphasis added). NMFS and the Bureaus rely on the programmatic approach because the "vast number" of Gulf oil-and-gas activities, "operating simultaneously across all of the [development] stages," is simply "not conducive" to individual ESA consultations. AR0013267. The Bureaus' practical ability to issue permits and approvals depends on having a programmatic BiOp in place.

Without the BiOp, the Bureaus would no longer be able to issue the thousands of permits and approvals necessary to all stages of oil-and-gas operations, and Gulf operations will grind to a halt. The Bureaus and NMFS do not have the staff to conduct the individual ESA consultations that would otherwise be required, *see* ECF 211-1 at 12; ECF 211-3 ¶ 14; *see also* ECF 175-1 at 46-47; ECF 191 at 28-31; ECF 175-4 ¶¶ 6-7, 10; ECF 191-2 ¶¶ 8-12; ECF 175-3 ¶¶ 18-19, 22-23; ECF 191-1 ¶¶ 5, 7-9; Hopkins Decl. ¶¶ 15-17, and this Court has acknowledged that individual consultations would be "unworkable," Op. 81 (citation omitted).

The scale of the permitting problem is staggering: As of August 2024, there were 2,304 active oil-and-gas leases; over 1,390 facilities; 7,534 active wells; and 19,157 miles of active pipeline across the Gulf. ECF 211-1 at 10-11. Each year, BSEE approves more than 5,000 permits for wells, pipelines, and facilities, and BOEM approves hundreds of plans and permits. ECF 211-3 ¶ 11; ECF 175-4 ¶ 7. Gulf of Mexico operators and service providers submit permit requests every day. Hopkins Decl. ¶ 17; *see also* Gordon Decl. ¶ 15 (Chevron submitted 16 of one type of permit revisions to BSEE in August 2024 alone); Martin Decl. ¶ 6 (weekly average of three-plus geological and geophysical permits); Ozenne Decl. ¶ 11 (company has 200-plus pending requests). Industry Intervenors will require numerous authorizations throughout the next year to maintain operations.[4] BP Exploration & Production Inc. (bp) has "over $650 million" in planned activities requiring permits. Linster Decl. ¶ 5. One NOIA member will seek more than 150 permits in just the next six months, Ozenne Decl. ¶ 11, which alone far exceeds NMFS's capacity for individual consultations—currently just 20 to 30 per year nationwide, ECF 175-3 ¶ 23. NMFS adopted the programmatic BiOp precisely because there is no other way to address this high volume of time-sensitive requests.

The Government's inability to issue prompt authorizations will effectively halt every aspect of Gulf oil-and-gas operations—from initial surveying and exploration through drilling, production, and decommissioning—that depend on those authorizations. *See, e.g.*, Martin Decl. ¶ 11; Hopkins Decl. ¶¶ 14-17; Gordon Decl. ¶¶ 14-15, 18-42; Leimkuhler Decl. ¶ 8; Lorino Decl. ¶¶ 5-6. Permits for each phase of development typically require multiple revisions that must themselves be separately approved. An initial drilling permit, for instance, typically undergoes

[4] *See, e.g.*, Linster Decl. ¶¶ 5, 11; Gordon Decl. ¶¶ 14, 18, 21, 29, 32; Stith Decl. ¶¶ 7-8; Lorino Decl. ¶¶ 6, 13; Akoto-Ampaw Decl. ¶¶ 3, 5; Beck Decl. ¶ 5; Janiszewski Decl. ¶ 8; Hajdik Decl. ¶ 7; Spath Decl. ¶¶ 5, 13; Kirkland Decl. ¶¶ 5, 11; Zimmerman Decl. ¶¶ 4, 6, 12; Leimkuhler Decl. ¶ 5; Viau Decl. ¶ 11; Young Decl. ¶¶ 3, 9.

10 to 20 revisions, each requiring a separate BSEE approval. Gordon Decl. ¶ 18. Chevron alone required nearly 250 revisions and modifications to initial drilling permits in the last two years. *Id*. ¶ 15. Revisions are necessary for common events like re-routing to account for unexpected geological features and changes to cementing or drilling-fluid programs. *Id*.; Hopkins Decl. ¶ 16. Development-and-production permits also require updates or separate authorizations for common activities like repairing or replacing compressors or other equipment; routine pipeline-installation work tied to existing assets; and "tying back" already-drilled wells to existing production facilities. Gordon Decl. ¶¶ 20, 28, 30; Janiszewski Decl. ¶ 8. And because permitting in each development phase depends on having permits in place from previous phases, delays in one phase will have knock-on effects for other downstream development. *See, e.g.*, Martin Decl. ¶ 13.

If the Government cannot reliably issue permits and authorizations for ongoing oil-and-gas production, including timely revisions related to safety and operations conditions, those activities will have to be curtailed or stopped altogether. *See, e.g.*, Hopkins Decl. ¶ 17 ("properly drilling a well depends on the ability to obtain a revision, if necessary"). But halting operations presents an "enormous" and "highly complex" logistical challenge. Gordon Decl. ¶¶ 23, 34; *see also* Beck Decl. ¶ 8. There is no "off" switch that allows industry to instantaneously idle the Gulf for months. Gordon Decl. ¶¶ 23, 34; *see* ECF 211-1 at 9 (Gulf oil-and-gas "operations cannot simply be suspended or put on hold"). Although individual facilities or operations can be made safe and brought to minimum capacity for acute emergencies like hurricanes, that is nothing like the logistical difficulties of operators attempting to wind down the literally thousands of activities across the entire Gulf of Mexico that rely on the BiOp simultaneously. Gordon Decl. ¶¶ 23, 34. For example, "pipelines and infrastructure at deep depths often cannot

be emptied of fluids without risking their collapse due to the weight of the ocean above them," but "idling fluid-filled equipment increases the risk that blockages will form, requiring intervention" that is "costly, logistically challenging, and increase[s] the risk of potential environmental consequences." Janiszewski Decl. ¶ 9. Forcing operators to "shut-in oil and gas production" for many months, Zimmerman Decl. ¶ 13, would likewise be extremely complicated and would require moving vast amounts of tremendously expensive equipment, which will be in demand all across the Gulf at exactly the same time, Gordon Decl. ¶¶ 23, 34; Beck Decl. ¶ 8. And "production wells risk permanent damage from a prolonged shut-in and lack of maintenance, such that they may not be able to produce at the same scale once reactivated." Hopkins Decl. ¶ 22; *see also* Beck Decl. ¶ 8; Janiszewski Decl. ¶ 9.

"Restarting operations after months of shutdown would also be tremendously difficult." Gordon Decl. ¶¶ 26, 34; *see also* Beck Decl. ¶ 8. Operators would be required to "reverse the shutdown process by obtaining permits to reinitiate activities, potentially renegotiate and reactivate contracts, remobilize equipment to sites across the Gulf, and return the work force." Gordon Decl. ¶¶ 26, 34. The necessary highly specialized equipment may no longer be available, potentially for years. *See id.*; Janiszewski Decl. ¶ 9 ("contractors [may] elect to send their assets into more stable work environments of the world"); Viau Decl. ¶ 8 (surveying company "may lose its ability to reserve vessel allocation slots and secure proprietary technology to restart operations"); Hajovsky Decl. ¶ 7. And "there will be an increase in risks to worker and public health and safety associated with stopping and restarting operations," Leimkuhler Decl. ¶ 9, because "facilities are designed to run efficiently, not to swing rapidly through production rates and stoppages," Linster Decl. ¶ 8; *see also* Beck Decl. ¶ 8 (describing "unpredictable consequences on restart" of equipment); Janiszewski Decl. ¶ 9; Stith Decl. ¶ 11.

The permitting backlog would not disappear when NMFS completes the new BiOp. *See, e.g.*, Hopkins Decl. ¶ 23; Martin Decl. ¶ 13; Milito Decl. ¶ 9. The new BiOp's completion would allow the Bureaus to only begin the process of catching up on the many thousands of applications that would have accumulated. The consequences of a de facto permitting moratorium would therefore continue long after the revised BiOp is issued, disrupting operators' operational timelines for additional months or years to come.

B. Vacatur will prevent activities designed to ensure safety and prevent accidents, impair emergency response to serious problems like well-control incidents and spills, and delay decommissioning.

A de facto permitting moratorium also prevents Gulf operators from undertaking activities that are necessary to "maintain safe operations and avoid potentially serious accidents, e.g., approvals for well workovers, platform and infrastructure updates, and plan updates for safety equipment and pollution control." ECF 175-4 ¶ 7; *see generally* ECF 211-3; *see also, e.g.*, Janiszewski Decl. ¶ 9. For example, of the 828 Gulf drilling permits BSEE approved last year, 713 were for revisions that "may be necessary for safety purposes, such as if an operator determines it is necessary to set a liner deeper in the wellbore due to results from a formation integrity test." Hopkins Decl. ¶ 16. In the next year, operators will need authorizations for "modifications to safety systems, such as fire-fighting equipment, emergency generators, HVAC systems, subsea safety valves to control wells, and flammable gas leak detection systems." Linster Decl. ¶ 9; *see also, e.g.*, Gordon Decl. ¶¶ 14, 18-19, 29, 32. Vacatur, "therefore, puts the safety of personnel working offshore at greater risk." Linster Decl. ¶ 9.

The impact on emergency-response operations—those designed to respond to and prevent serious problems like well-control incidents and oil spills—would also be significant. Leimkuhler Decl. ¶ 8; *see also* Janiszewski Decl. ¶ 9 ("reduced ability to respond to an integrity issue, personnel safety incident or environmental event"). Numerous emergency operations

require BiOp coverage, including operations "essential to limit and mitigate oil spill pollution events from subsea wells" and "monitoring[ ] required to ensure safety of onsite first responders." Leimkuhler Decl. ¶ 8. Any delay in obtaining those authorizations "increases potential environmental exposure" and "introduces unacceptable safety risks." *Id.*; *see also* Spath Decl. ¶ 13. One company's quick response time—recently "capping a subsea well in 5,600 feet of water located 300 miles offshore from Houston in just 3.6 days"—"would not have been possible without a viable BiOp and ITS in place." Leimkuhler Decl. ¶ 8.

A permitting moratorium also "prevents operators like bp from improving their impacts to the environment, including ESA-listed species and critical habitats," Linster Decl. ¶ 9, and would increase environmental risks, *see* Beck Decl. ¶ 8; Spath Decl. ¶¶ 11-12; Ozenne Decl. ¶ 8. For example, a moratorium would prevent planned "improvements to systems designed to control impacts on the environment," including "natural gas leakage detection equipment, and greenhouse gas leakage measurement equipment." Linster Decl. ¶ 9.

A permitting moratorium would also prevent operators from obtaining the approvals necessary to decommission obsolete infrastructure. *See, e.g.*, Ozenne Decl. ¶ 8 (company's "ongoing efforts to responsibly and timely decommission infrastructure would be thwarted"); Leimkuhler Decl. ¶ 9 (company "will be unable to comply with its plugging and abandonment obligations"); Linster Decl. ¶¶ 9, 14 (similar). For example, significant decommissioning obligations have been assigned to operators like Chevron as a result of the recent bankruptcies of others in the industry—obligations known as "boomerang" decommissioning projects. Gordon Decl. ¶ 38. Gulf operators are scheduled to conduct numerous decommissioning activities, including on boomerang projects, in the next year, but if BSEE is unable to provide timely authorizations, operators "will be unable to safely plug and abandon 'boomerang' wells," or

"conduct structure removal and site-clearance activities necessary for decommissioning." *Id.* ¶¶ 40, 42; *see also* Janiszewski Decl. ¶ 7; Spath Decl. ¶ 10. The result is that mothballed oil-and-gas infrastructure, including wells, are likely to remain in the Gulf for months or years longer, which "risks exposing aged infrastructure to degradation from the elements and lack of activity, posing multiple environmental and safety risks." Hopkins Decl. ¶ 22; *see also* Beck Decl. ¶ 8. And that, as bp explains, "would increase the potential for oil spills." Linster Decl. ¶ 9.

C. Vacatur will force Gulf operators to risk substantial ESA liability to comply with other mandatory obligations.

Operators' inability to obtain necessary permits in a timely fashion will leave many companies unable to comply with their non-ESA regulatory obligations, will force the companies to risk significant ESA liability to meet them, or both. *Cf.* Op. 81.

Offshore platforms use highly specialized equipment to monitor and control oil-and-gas production operations that occur at high temperatures and pressures—equipment that must be operated and maintained around the clock. Gordon Decl. ¶ 24. "For safety reasons," these "multi-billion-dollar production facilities" "are not designed to and generally should not be 'turned off,' left 'unmanned,' and idled for months." *Id.* Regulations and permitting conditions therefore "require personnel to be present on producing facilities," and under normal circumstances, Gulf operators have thousands of workers residing at least part time offshore to maintain equipment. *Id.*; *see* Beck Decl. ¶ 8; Hopkins Decl. ¶ 21.

These workers depend on essential supplies transported by boat, many of which are operated by third-party vessel contractors. Milito Decl. ¶¶ 10-12; Hopkins Decl. ¶ 19; AR0013298-301. "[O]ffshore platforms cannot operate without vessel support," Milito Decl. ¶ 11; *see* Giberga Decl. ¶ 3, yet vessel operations are among the activities that the BiOp concludes will result in takes of listed species, *e.g.*, AR0013388. Even if the vast majority of

workers could be brought ashore—and attempting to move thousands of people presents its own difficulties given the limited helicopters, vessels, and other support services available for immediate use in the Gulf, *see* Gordon Decl. ¶ 23; Janiszewski Decl. ¶ 9—at least some skeletal crew must remain behind to maintain critical infrastructure, which in turn, necessitates some level of continued vessel support. Milito Decl. ¶¶ 11-12.

Yet vessel operations could take place only at the operator's "own peril," because " 'any person' who knowingly 'takes' an endangered or threatened species is subject to substantial civil and criminal penalties, including imprisonment." *Bennett v. Spear*, 520 U.S. 154, 170 (1997); *see* 16 U.S.C. § 1540(a), (b); 88 Fed. Reg. 89,300, 89,302 (Dec. 27, 2023).[5] Such risks are why courts ordinarily refuse to vacate incidental take authority.[6] On top of that, agencies and operators could face ESA citizen suits by private parties like Plaintiffs seeking to enjoin the Bureaus from authorizing, and operators from carrying out, continued activities. 16 U.S.C. § 1540(g)(1)(A); *see, e.g.*, *Atlantic Salmon Fed'n U.S. v. Merimil Ltd. P'ship*, No. 1:21-cv-00257, 2022 WL 558358, at *3 (D. Me. Feb. 24, 2022) (citizen suit to limit dam operations after incidental take authority expired while NMFS was preparing a new biological opinion).

At the same time, Gulf operators cannot simply walk away from ongoing operations, drilling, and required maintenance activities without risking non-compliance with lease obligations and permits. This no-win situation traps operators "between the Scylla and Charybdis" of violating their obligations or violating the ESA. *Shafer*, 992 F.3d at 1096.

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[5] *See also, e.g.*, Giberga Decl. ¶ 6; Akoto-Ampaw Decl. ¶ 8; Johnson Decl. ¶ 6; Dyer Decl. ¶ 6; Danos Decl. ¶ 6; Cole Decl. ¶ 6; Kirkland Decl. ¶ 6; Leimkuhler Decl. ¶¶ 6-7; Ramsay Decl. ¶ 5; Shelton Decl. ¶¶ 6-9; Viau Decl. ¶¶ 6-7.

[6] *E.g.*, *Alaska Wildlife All. v. Fish & Wildlife Serv.*, No. 23-35299, 2024 WL 1169411, at *6 (9th Cir. Mar. 19, 2024); *Shafer & Freeman Lakes Env't Conservation Corp. v. FERC*, 992 F.3d 1071, 1096 (D.C. Cir. 2021); *Maine Lobstermen's Ass'n v. NMFS*, 70 F.4th 582, 601 (D.C. Cir. 2023); *Pacific Coast Fed'n of Fishermen's Ass'ns v. Gutierrez*, 606 F. Supp. 2d 1195, 1202-03 & n.5 (E.D. Cal. 2008); *National Wildlife Fed'n v. NMFS*, 839 F. Supp. 2d 1117, 1129 (D. Or. 2011); *National Wildlife Fed'n v. NMFS*, 184 F. Supp. 3d 861, 949 (D. Or. 2016); *Natural Res. Def. Council v. Kempthorne*, No. 1:05-cv-1207, 2007 WL 4462391, at *1 (E.D. Cal. Dec. 14, 2007); *Pacific Coast Fed'n of Fishermen's Ass'ns v. Raimondo*, No. 1:20-cv-00426, 2022 WL 789122, at *16 (E.D. Cal. Mar. 11, 2022).

Operators face other conflicting legal obligations, too. Permitting delays threaten operators' ability to meet certain benchmarks in order to maintain their leases, which they have invested hundreds of millions in. Gordon Decl. ¶ 37; *see* 30 C.F.R. §§ 250.168-250.177. For example, one member company is "operating under an approved [authorization] that requires [it] to execute work" on "ongoing projects and installation contracts with defined windows of time," but a "delay in permit approvals will prevent contractors from meeting their deadlines." Leimkuhler Decl. ¶ 12. Permitting delays also threaten operators' abilities to meet deadlines set by BSEE's decommissioning orders, Gordon Decl. ¶¶ 39-41; Spath Decl. ¶ 11, which could result in civil penalties of up to $54,352 per day per violation, *see* 30 C.F.R. § 250.1403. And vessel operators that redeploy their fleet internationally in the wake of a multi-month collapse in Gulf demand would risk the "permanent loss" of their qualifications under the Jones Act, 46 U.S.C. § 55102, which "permanently bars the vessel from regaining its Jones Act trading privileges in the United States" once demand returns. Giberga Decl. ¶ 11.

D. Vacatur will imperil contracts, risk thousands of jobs, and threaten billions of dollars in losses—economic devastation that will be felt nationally.

Harms from halting or severely curtailing Gulf oil-and-gas operations would ricochet through the entire industry, hurting far more than oil-and-gas companies. It would imperil innumerable contracts oil-and-gas companies have with third-party service contractors[7]—many of them small and family-owned businesses—for wide-ranging services, including marine-vessel transport, helicopter transport, seismic surveys, groceries and other personnel supplies, drilling

[7] *See, e.g.*, Linster Decl. ¶ 14 (bp's inability to proceed with planned activities "would result in cancellation of contracts"); Zimmerman Decl. ¶ 13 (company "would need to cancel third-party contracts," which would "create serious financial issues for [the company], its working interest partners, and its third-party vendors"); Spath Decl. ¶ 15 ("would be forced to cancel a rig contract and all existing orders with our suppliers and service providers"); Leimkuhler Decl. ¶¶ 9, 11 ("a halt in operations will result in the cancellation and/or breach of third-party contracts"); Kirkland Decl. ¶¶ 8, 10 (similar); Gordon Decl. ¶¶ 25, 35 (similar); Beck Decl. ¶ 8 (similar).

and other operational supplies, maintenance and monitoring, and many more.[8] If those contracts cannot be performed, there will be difficult questions about who will bear the resulting losses. *See, e.g.*, Shelton Decl. ¶ 8 (contract-breach claims "could easily be tens of millions of dollars"); Gordon Decl. ¶ 25 (contract costs "would likely exceed multiple millions of dollars *per day* in several scenarios").

Canceled contracts would result in the elimination of thousands of jobs.[9] The dynamics of Gulf employment—idled employees will seek work elsewhere—mean those losses could be permanent, *see, e.g.*, Falgout Decl. ¶ 7; Ramsay Decl. ¶ 6; Beck Decl. ¶ 8; Janiszewski Decl. ¶ 11, and "losing highly skilled labor" would "hinder future operations and the ability to respond effectively when the regulatory environment stabilizes," Spath Decl. ¶ 12; Cole Decl. ¶ 7. Some companies may be forced to the brink of bankruptcy, Martin Decl. ¶ 12, and others may be driven out of business entirely, *see, e.g.*, Kirkland Decl. ¶ 8 ("viability as a company will be at risk"); Cole Decl. ¶ 7 ("could force the company to leave the market"). Such "injur[ies] to innocent third parties" "fall beneath the 'manifest injustice' umbrella" and warrant relief. *PETA v. HHS*, 901 F.3d 343, 355 (D.C. Cir. 2018) (citation omitted).

[8] *See, e.g.*, Bradshaw Decl. ¶ 7 (flight personnel company currently "under contract to provide transportation services worth millions of dollars"); Danos Decl. ¶¶ 3, 7 (personnel supplier); Falgout Decl. ¶¶ 3, 6-7 (personnel); Shelton Decl. ¶¶ 3, 6-7 (mooring-systems supplier); Cole Decl. ¶¶ 3, 7 (surveying company); Dyer Decl. ¶¶ 3, 7 (technology company); Hajovsky Decl. ¶¶ 3, 7 (data company); Morrison Decl. ¶¶ 3, 6-7 (service provider); Ramsay Decl. ¶¶ 2, 6-7 (marine assets); Giberga Decl. ¶¶ 3, 5-7, 10-12 (vessels); Ramcharitar Decl. ¶¶ 3, 6-8 (vessels); Johnson Decl. ¶¶ 3, 7 (vessels); Morgan Decl. ¶¶ 3, 6 (vessels).

[9] *See, e.g.*, Danos Decl. ¶ 7 (canceled contracts "will force" personnel supplier "to lay off [3,000] employees," and the "impact of these layoffs will extend to [the] employees' communities and families"); Falgout Decl. ¶¶ 3, 7 ("over five hundred of our operators' jobs will be eliminated," nearly 65% of total positions); Johnson Decl. ¶ 7 ("terminating or furloughing close to 300 offshore employees"); Morrison Decl. ¶ 7 (facing "the elimination of hundreds of jobs"); Cole Decl. ¶ 7 (surveying company's "150 positions will be put at risk"); Shelton Decl. ¶¶ 3, 7 (mooring-systems supplier "will have to consider laying off" its 70 employees); Kirkland Decl. ¶ 8 (shallow-water producer "would need to adjust its workforce, such as eliminating jobs"); Spath Decl. ¶ 8 (would be "forced to lay off our offshore workforce"); Ramsay Decl. ¶ 6 ("the company will be forced to lay off crews"); Neal Decl. ¶¶ 3, 7 ("may affect its ability to pay its employees, contractors, and the contractors' employees").

Permitting delays also risk derailing major projects and investments, which could be "cancelled indefinitely due to [the] inability to secure financial commitments from potential underwriters." Viau Decl. ¶ 12; *see also* Kirkland Decl. ¶ 8 (effects "would cascade down to our banks and surety providers"); Hajovskly Decl. ¶ 9 ("detrimental impact" on "ability to secure funding"); Ramcharitar Decl. ¶ 7; Hajdik Decl. ¶ 8. For one NOIA member company, the BiOp's "vacatur puts billions of dollars of capital investment at risk" for "a major project" scheduled to enter production within the next 24 months. Zimmerman Decl. ¶ 10. Another member company "is in the process of executing an over $2 billion development that will be detrimentally impacted if development operations had to be put on hold." Leimkuhler Decl. ¶ 9.

The immediate production losses and extended production deferrals would be substantial—at least hundreds of thousands of barrels for many companies. Leimkuhler Decl. ¶ 9; Spath Decl. ¶ 13; Janiszewski Decl. ¶ 10; *cf.* Ozenne Decl. ¶ 8; Linster Decl. ¶¶ 8, 10, 12, 14; Gordon Decl. ¶¶ 3, 19-22. "Those financial and production volume impacts would be difficult to recoup and could be felt for years." Janiszewski Decl. ¶ 10.

The result "would be financially catastrophic." Kirkland Decl. ¶ 8. Member companies "would suffer immediate financial loss due to lost production." Ozenne Decl. ¶ 8. One company anticipates that delays requiring it to idle two drillships "will cost approximately $1.1 million per day." Leimkuhler Decl. ¶ 9. Chevron similarly anticipates "additional costs in the range of hundreds of thousands of dollars to a million dollars or more *per rig, per day* if drilling is delayed or discontinued." Gordon Decl. ¶ 36; *see also, e.g.*, Linster Decl. ¶ 8; Spath Decl. ¶ 14.

The overall financial impact would be so vast and so unprecedented that totals are essentially impossible to quantify—but they start in the billions. Bp alone anticipates losses of "over a billion dollars." Linster Decl. ¶ 13. Five other member companies expect tens or

hundreds of millions of dollars in losses, Leimkuhler Decl. ¶ 10; Hajovsky Decl. ¶ 8; Zimmerman Decl. ¶ 10; Ozenne Decl. ¶ 13; Falgout Decl. ¶ 7; and two others estimate losses "in the millions," Cole Decl. ¶ 7; Ramcharitar ¶ 7; *cf. Small*, 98 F.3d at 797 (reconsideration warranted given "the enormous expense" of changed circumstances).

The fallout would be felt far beyond the Gulf. The Gulf accounts for nearly 15% of U.S. crude oil production and 5% of U.S. dry natural gas production.[10] Gulf crude oil output—averaging 1.9 million barrels per day—far exceeds that of Libya, and global oil prices spiked 3% when Libya's production dropped from 1.1 to 0.4 million barrels per day in August 2024.[11] Federal and State budgets also depend on Gulf revenue: In fiscal year 2023, the Gulf oil-and-gas industry generated $7 billion in revenue for the federal government and more than $353 million in revenue for state and local governments. ECF 175-4 ¶ 2. And as of 2020, at least 2,400 companies across all 50 States depended on Gulf-derived production as part of their supply chains, Hopkins Decl., Ex. B at 46. The Gulf oil-and-gas industry is also estimated to have supported over 412,000 jobs in 2023, Hopkins Decl., Ex. A at 4, 21. A multi-month de facto permitting moratorium and its attendant financial devastation, enormous job losses, and supply-chain disruption would reverberate through the entire economy. *Cf.* Hopkins Decl. ¶¶ 22, 25. If any case "cries out for the exercise of th[e] equitable power to do justice," *National Credit Union Admin. Bd. v. Gray*, 1 F.3d 262, 266 (4th Cir. 1993) (cleaned up), it is this one.

[10] U.S. Energy Information Administration, Gulf of Mexico Fact Sheet (Sept. 4, 2024), https://perma.cc/Y758-ERH8.

[11] U.S. Energy Information Administration, Short-Term Energy Outlook, Global Oil Markets (Sept. 10, 2024), https://perma.cc/XB4J-EKAN; Arathy Somasekhar, *Oil Climbs 3% As Libya Output Cuts Further Supply Concerns*, Reuters (Aug. 26, 2024), https://www.reuters.com/business/energy/oil-climbs-mideast-escalation-fears-us-rate-cut-expectations-2024-08-25/.

II. Alternatively, The Court Should Grant A Stay Pending Appeal.

If the Court does not amend the judgment to delay vacatur until the new BiOp issues, the Court should grant a stay pending appeal. A party is entitled to a stay when it shows "(1) that it will likely prevail on the merits of the appeal; (2) that it will suffer irreparable injury if the stay is denied; (3) that other parties will not be substantially harmed by the stay; and (4) the public interest will be served by granting the stay." *Dairy King, Inc. v. Kraft, Inc.*, 665 F. Supp. 1181, 1189 (D. Md. 1987) (citing *Long v. Robinson*, 432 F.2d 977, 979 (4th Cir. 1970)); *see also Nken v. Holder*, 556 U.S. 418, 426 (2009). The first factor also "weighs in favor of granting a stay" when "clear precedent from the Court of Appeals does not dictate the outcome of the substantive issue decided by th[e] court and presented by the appeal." *United States v. Fourteen Various Firearms*, 897 F. Supp. 271, 273 (E.D. Va. 1995); *see also, e.g.*, *Project Vote/Voting for Am., Inc. v. Long*, 275 F.R.D. 473, 474 (E.D. Va. 2011); Wright & Miller, 11 Fed. Prac. & Proc. Civ. § 2904 (3d ed.) ("Many courts also take into account that the case raises substantial difficult or novel legal issues meriting a stay."). This Court therefore need not necessarily "change its mind or develop serious doubts concerning the correctness of its decision in order to grant a stay pending appeal." *Goldstein v. Miller*, 488 F. Supp. 156, 172 (D. Md. 1980).

Intervenors make all four showings here. The Fourth Circuit is likely to reverse this Court's decision to vacate the BiOp before a replacement is ready, or at least conclude it presents novel and serious questions; Intervenors and their members will be irreparably harmed if Gulf operations are halted because of permitting logjams and they are forced to risk ESA liability to meet other mandatory regulatory obligations; Plaintiffs will not be substantially injured by the current BiOp continuing until a new one issues; and the public interest overwhelmingly favors protecting domestic energy supply and national security.

A. The Fourth Circuit is likely to conclude that the Court erred in vacating the BiOp effective December 20, 2024, or at least that the Court's vacatur remedy presents serious and difficult questions warranting a stay.

The Fourth Circuit is likely to find that the Court abused its discretion when it vacated the BiOp effective December 20, 2024. This Court held that "[b]inding precedent requires the Court to vacate the BiOp." Op. 78. But the Court misunderstood the Fourth Circuit and other precedent it cited, and "a court by definition abuses its discretion when it makes an error of law." *In re Search Warrant Issued June 13, 2019*, 942 F.3d 159, 171-172 (4th Cir. 2019) (citation omitted).[12] The Fourth Circuit is also likely to conclude that it would be an abuse of discretion not to at least delay vacatur until the new BiOp is completed.

1. The Fourth Circuit is likely to agree that remand without vacatur is a permissible remedy in Administrative Procedure Act cases.

The Fourth Circuit has not decided whether remand without vacatur is a permissible remedy, noting that it "has never formally embraced the *Allied-Signal* remand-without-vacatur approach." *Sierra Club v. Army Corps of Eng'rs*, 909 F.3d 635, 655 (4th Cir. 2018). In the one case where the issue arose, the court punted because "even if [the court] were to follow *Allied-Signal*," remand without vacatur was not called for. *Id*.

Despite the Fourth Circuit's express deferral of the question, this Court nevertheless concluded that existing Fourth Circuit precedent *forbids* remand without vacatur, based on four cases in which the parties did not ask for remand without vacatur and the Fourth Circuit said nothing about it. Op. 78 (citing *Appalachian Voices v. Department of Interior*, 25 F.4th 259 (4th Cir. 2022); *Defenders of Wildlife v. Department of Interior*, 931 F.3d 339 (4th Cir. 2019); *Sierra*

[12] For these same reasons, the Court could alternatively grant reconsideration under Rule 59(e), *see Daulatzai v. Maryland*, 97 F.4th 166, 178 (4th Cir. 2024) (allowing court "to reconsider its ruling on virtually any basis that it determines might have been an error or mistake in its judgment"), or Rule 60(b)(1), *see Kemp v. United States*, 596 U.S. 528, 534, 536 (2022) (relief from judgment appropriate for court's "legal and factual errors").

Club v. Department of Interior, 899 F.3d 260 (4th Cir. 2018); and *Dow AgroSciences LLC v. NMFS*, 707 F.3d 462 (4th Cir. 2013)). Reading into the silence of these cases strays from the Fourth Circuit's crucial principle that "judicial decisions do not stand as binding 'precedent' for points that were not raised, not argued, and hence not analyzed." *United States v. Norman*, 935 F.3d 232, 240 (4th Cir. 2019) (citation omitted); *see also Fernandez v. Keisler*, 502 F.3d 337, 343 n.2 (4th Cir. 2007) ("Questions which merely lurk in the record, neither brought to the attention of the court nor ruled upon, are not to be considered as having been so decided as to constitute precedents." (citation omitted)).

This Court's reasoning underscores why that rule exists. The Court found it significant that, in the four cases, the Fourth Circuit vacated a biological opinion "without any indication that any other remedy was an option." Op. 77-78. But the Fourth Circuit had no reason to indicate the availability of a remedy no one had requested. And the Fourth Circuit's vacatur of *project-specific* biological opinions—three cases involved not-yet-operational pipelines, while the other involved the re-registration of three pesticides—says nothing about the appropriateness of vacating a *programmatic* biological opinion supporting *thousands* of existing and ongoing activities across the entire Gulf of Mexico.

The Court was also mistaken that "*Appalachian Voices* is particularly clear that vacatur is necessary," Op. 79 n.3, based on oft-quoted language about the ESA's "directive" to "halt and reverse the trend towards species extinction, whatever the cost." *Appalachian Voices*, 25 F.4th at 283 (quoting *Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 184 (1978)). After *Tennessee Valley*, Congress amended the ESA because "Congress did not want economic activity stopped in its tracks." *Maine Lobstermen's Ass'n*, 70 F.4th at 596. The Supreme Court unanimously held that Congress's "obvious" objective—"if not indeed the primary one"—in amending the ESA was

"to avoid needless economic dislocation produced by agency officials zealously but unintelligently pursuing their environmental objectives," making "economic consequences . . . an explicit concern of the ESA." *Bennett*, 520 U.S. at 176-177. The amended ESA is thus fully consistent with remand without vacatur. *Appalachian Voices* did not hold differently.

This Court also erred in concluding that *Defenders of Wildlife* "explain[ed] that in the Fourth Circuit, a court must 'vacate agency action.' " Op. 77 (quoting *Defenders of Wildlife*, 931 F.3d at 345). The word "must" does not appear in the sentence this Court quoted, which came from the Fourth Circuit's boilerplate recital of the standard of review: that although review is "highly deferential" in Administrative Procedure Act (APA) cases, courts "will vacate agency action" that violates the APA. 931 F.3d at 345. At most, *Defenders of Wildlife* confirms that "vacatur is the normal remedy," *American Great Lakes Ports Ass'n v. Schultz*, 962 F.3d 510, 518 (D.C. Cir. 2020) (citation omitted), but that is far different than saying it is the *only* remedy.

Intervenors' argument that remand without vacatur is a permissible remedy is particularly likely to succeed because *every* circuit to consider the question,[13] and district judges in this Court and this circuit,[14] have repeatedly concluded that courts have discretion to remand without vacatur. *See* Ronald M. Levin, *"Vacation" at Sea: Judicial Remedies and Equitable Discretion in Administrative Law*, 53 Duke L.J. 291, 377 (2003) ("[R]emand without vacation may legitimately be applied, consistently with the APA, in a broadly discretionary fashion."). The

[13] *See Central Maine Power Co. v. FERC*, 252 F.3d 34, 48 (1st Cir. 2001); *Natural Res. Def. Council v. EPA*, 808 F.3d 556, 584 (2d Cir. 2015); *Prometheus Radio Project v. FCC*, 824 F.3d 33, 52 (3d Cir. 2016); *Central & S. W. Servs., Inc. v. EPA*, 220 F.3d 683, 692 (5th Cir. 2000); *Sierra Club v. EPA*, 60 F.4th 1008, 1022-23 (6th Cir. 2023); *U.S. Steel Corp. v. EPA*, 649 F.2d 572, 577 (8th Cir. 1981); *California Cmtys. Against Toxics v. EPA*, 688 F.3d 989, 994 (9th Cir. 2012); *Diné CARE v. Haaland*, 59 F.4th 1016, 1049 (10th Cir. 2023); *Black Warrior Riverkeeper, Inc. v. Army Corps of Eng'rs*, 781 F.3d 1271, 1289 (11th Cir. 2015); *Allied-Signal*, 988 F.2d at 150-151; *National Org. of Veterans' Advocs., Inc. v. Secretary of Veterans Affs.*, 260 F.3d 1365, 1380 (Fed. Cir. 2001).

[14] *See, e.g.*, *Maryland Native Plant Soc'y v. Army Corps of Eng'rs*, 332 F. Supp. 2d 845, 863 (D. Md. 2004); *Makhteshim Agan of N. Am., Inc. v. NMFS*, No. 8:18-cv-00961, 2019 WL 5964526, at *4 (D. Md. Oct. 18, 2019); *Dean v. Martinez*, 336 F. Supp. 2d 477, 492 (D. Md. 2004); *cf, Friends of DeReef Park v. National Park Serv.*, No. 2:13-cv-03453, 2014 WL 6969680, at *3 (D.S.C. Dec. 9, 2014).

Fourth Circuit, when squarely presented with the issue, is likely to follow all of its sister circuits (and many of its district courts) because it "tr[ies] to avoid creating circuit splits." *Scott v. Baltimore Cnty.*, 101 F.4th 336, 348 (4th Cir. 2024). At the very least, the Court should stay its order to allow the Fourth Circuit to decide for itself whether it wants to be alone in categorically refusing to recognize remand without vacatur.

2. The Fourth Circuit is likely to agree that vacatur was not mandatory here under remand-without-vacatur precedent.

The Fourth Circuit is also likely to hold that this Court mistakenly concluded that vacatur would still be "mandatory" even if the Fourth Circuit followed *Allied-Signal*. Op. 79. This Court reasoned that "vacatur is the only permissible remedy when the agency decision is contrary to law." Op. 77. But the D.C. Circuit and other courts have held that remand without vacatur is appropriate even where the agency's decision was "contrary to law," *American Bankers Ass'n v. National Credit Union Admin.*, 934 F.3d 649, 673 (D.C. Cir. 2019); *see also, e.g.*, *Louisiana Env't Action Network v. EPA*, 955 F.3d 1088, 1091, 1100 (D.C. Cir. 2020), including where the agency "violated the ESA," *Center for Food Safety v. Regan*, 56 F.4th 648, 656 (9th Cir. 2022). As the D.C. Circuit has explained, the view that "if the [agency] violated the APA . . . its actions must be vacated" is "simply not the law." *Sugar Cane Growers Co-op. of Fla. v. Veneman*, 289 F.3d 89, 98 (D.C. Cir. 2002).

The Fourth Circuit's decision in *Sierra Club* is not to the contrary. *Contra* Op. 78. *Sierra Club* held that, even if *Allied-Signal* applied, remand without vacatur was inappropriate because the challenged Clean Water Act authorizations "exceeded the Corps' statutory authority" to issue. 909 F.3d at 655. That is consistent with *Allied-Signal*, which considers the possibility that the agency may be able to justify its decision on remand. If the agency "ha[s] no statutory authority to issue the license under review, there is no possibility that [the agency] may

find an adequate explanation for its actions on remand." *Waterkeepers Chesapeake v. FERC*, 56 F.4th 45, 49-50 (D.C. Cir. 2022) (cleaned up). This Court did not hold that the BiOp exceeded NMFS's statutory authority—nor does anyone dispute that NMFS has the authority to issue a programmatic BiOp covering Gulf oil-and-gas activities—so *Sierra Club* is beside the point.

This Court also erred in concluding that "vacatur is the only permissible remedy" when an "agency entirely failed to consider an important aspect of the problem" or "offered an explanation counter to the record." Op. 77. Intervenors cited (*e.g.*, ECF 198 at 11-12 & n.10) numerous cases in which a court of appeals ordered remand without vacatur in the face of an agency's "complete failure to address an important issue," *Shafer*, 992 F.3d at 1096, and where the agency ignored contrary "credible evidence" in the record, *Gulf Restoration Network v. Haaland*, 47 F.4th 795, 803 (D.C. Cir. 2022). This Court did not address those cases, instead citing one that said nothing about remand without vacatur. Op. 77 (citing *SecurityPoint Holdings, Inc. v. TSA*, 867 F.3d 180, 185 (D.C. Cir. 2017)).

Another good indication that vacatur was not mandatory here is that many of the cases this Court cited for its merits decision remanded without vacatur,[15] or vacated only after conducting the *Allied-Signal* inquiry,[16] or initially vacated only to subsequently reverse that decision on rehearing.[17] That these cases recognized remand without vacatur as a permissible remedy in similar circumstances confirms that the Court should have considered it.

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[15] *See, e.g.*, *Western Watersheds Project v. Haaland*, 69 F.4th 689, 722-723 (10th Cir. 2023) (remanding without vacating biological opinion) (cited at Op. 25); *Gerber v. Norton*, 294 F.3d 173, 186 (D.C. Cir. 2002) (remanding without vacating incidental take permit) (cited at Op. 14, 16, 18); *Public Emps. for Envt'l Resp. v. Beaudreau*, 25 F. Supp. 3d 67, 130 (D.D.C. 2014) (similar) (cited at Op. 13-18); *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 655 (9th Cir. 2014) (noting district court remanded without vacating biological opinion) (cited at Op. 40).

[16] *See, e.g.*, *Center for Biological Diversity v. Forest Service*, 687 F. Supp. 3d 1053, 1088-89 (D. Mont. 2023) (cited at Op. 33), *on appeal*, No. 23-2886 (9th Cir.).

[17] *See U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 632, 667 (D.C. Cir. 2016) (vacating portion of Clean Air Act regulation) (cited at Op. 20, 23, 69), *modified on reh'g*, 671 F. App'x 824 (D.C. Cir. 2016) (reversing and

But having erroneously concluded that vacatur was mandatory, this Court never engaged in *Allied-Signal*'s two-step analysis. This Court did not consider whether "[i]t is conceivable" that the deficiencies the Court identified in the BiOp could be remedied on remand. *Allied-Signal*, 988 F.2d at 151. Nor did this Court consider those deficiencies in light of the "disruptive consequences of vacating" the BiOp. *Id*. As Intervenors explained, that proper analysis yields only one outcome: Vacatur is unjustified because all the issues the Court identified with the BiOp are fixable through further explanation, and upending the Gulf of Mexico oil-and-gas regulatory regime while NMFS completes a new BiOp would be tremendously disruptive. *See* ECF 179-1 at 14-15; ECF 198 at 9-15; ECF 182-1 at 18-25; *see also, e.g.*, *Wild Fish Conservancy v. Quan*, No. 23-35322, 2024 WL 3842101, at *1-2 & n.1 (9th Cir. Aug. 16, 2024) (district court abused discretion in "disregard[ing]" and "overlooking" *Allied-Signal* factors and vacating incidental take statement). The Fourth Circuit is likely to agree.

The Fourth Circuit is also likely to agree that this Court abused its discretion by granting Plaintiffs greater relief than they asked for. Plaintiffs repeatedly disclaimed any remedy that would "affect existing permits or activities," "halt or limit existing production," "affect decommissioning activities," or "eliminate any of the BiOp's protective measures." ECF 185 at 45, 52. The Court nonetheless ordered categorical relief doing exactly what Plaintiffs disclaimed—apparently because Intervenors and the Government "argue[d] persuasively" that Plaintiffs' requested relief was functionally unworkable and did "not correspond to the claims they brought." Op. 80; *see* ECF 191 at 28-29 nn. 11-12; ECF 198 at 4-5; ECF 195 at 13-15. That disconnect should have resulted in *remand without vacatur*, not a remedy broader than

remanding without vacatur); *Center for Biological Diversity v. Bureau of Land Mgmt.*, 698 F.3d 1101, 1128 (9th Cir. 2012) (vacating biological opinion) (cited at Op. 25), *modified on reh'g*, No. 10-72356, 2013 WL 12623741, at *1 (9th Cir. Apr. 29, 2013) (reversing vacatur given "pending publication of the revised BiOp").

Plaintiffs requested. Plaintiffs' concessions confirmed that they had not shown the "truly extraordinary circumstances" necessary to justify "an extraordinary remedy like vacatur." *United States v. Texas*, 599 U.S. 670, 702 (2023) (Gorsuch, J., concurring in the judgment). The Fourth Circuit is likely to agree that the Court abused its discretion by declining to "think twice—and perhaps twice again—before granting such sweeping relief." *Id.* at 702 (citation and quotation marks omitted). At a minimum, "there is little doubt" that many of the issues surrounding remand without vacatur "present serious questions of first impression" in the Fourth Circuit that warrant a stay from this Court. *Goldstein*, 488 F. Supp. at 175.

3. The Fourth Circuit is likely to agree it would be an abuse of discretion not to delay vacatur until at least May 2025.

If this Court does not grant reconsideration and delay vacatur until at least May 2025, the Fourth Circuit is likely to find that decision to be an abuse of discretion. Even if vacatur were "require[d]," Op. 78—and it is not—this Court recognized that it "need not order immediate vacatur," but could instead "defer vacatur to a particular date." Op. 80. In light of NMFS's explanation that it cannot complete the new BiOp until May 2025, it would be an abuse of discretion not to defer vacatur until at least that date.

The Fourth Circuit is likely to agree for at least two reasons. First, the Court's vacatur decision was based on the understanding that the new BiOp would be completed around December 2024. NMFS has now explained it "cannot complete the new BiOp" until May 2025. ECF 211-1 at 5-6. This Court previously acknowledged the severe consequences of "[v]acating the BiOp months before a replacement is ready." Op. 81. Those consequences necessitate delaying vacatur until the new BiOp is completed. The Fourth Circuit is likely to agree it would be an abuse of discretion to conclude otherwise.

Second, the Fourth Circuit is likely to agree that it would be an abuse of discretion not to defer to NMFS's projected timeline for completing the BiOp. This Court's vacatur decision (at 81) favorably cited *Montana Environmental Information Center v. Haaland*, which deferred to the Government's requested 19 months for delaying vacatur because "[c]ourts 'routinely defer to the judgment of agencies when assessing timelines that involve complex scientific and technical questions.' " No. 1:19-cv-00130, 2022 WL 4592071, at *13 (D. Mont. Sept. 30, 2022) (quoting *Center for Sci. in the Pub. Int. v. FDA*, 74 F. Supp. 3d 295, 301 (D.D.C. 2014)). There, like here, the agency supported its request with a declaration explaining why it needed the additional time—"insufficient staffing to complete the edits"—and "the requested duration [wa]s consistent with extensions granted by other courts." *Id*. If delaying vacatur by 19 months was appropriate for an environmental review of mining activities on fewer than 7,000 acres, *Montana Env't Info. Ctr.*, 2022 WL 4592071, at *11, delaying vacatur by five additional months for a BiOp covering *all* oil-and-gas activities on *nearly 100 million acres* across the entire Gulf of Mexico, AR0013386-87, is plainly appropriate.

The Government has explained the many complexities necessitating the additional time to complete the BiOp. Among others, the Government must incorporate the Court's 84-page opinion into the next BiOp, as well as the Rice's whale critical habitat final rule anticipated by December 2, 2024, at the same time the Government stares down a looming vacatur date with its attendant regulatory chaos. *See* ECF 191 at 32; *Natural Res. Def. Council v. Raimondo*, No. 1:20-cv-02047 (D.D.C. Aug. 23, 2024), ECF 37 (discussing the anticipated timeline for the Rice's whale critical habitat final rule). "Deadlines become a substantive constraint on what an agency can reasonably do," and no one is "ultimately well-served by the imposition of tight deadlines in a matter of such consequence." *San Luis & Delta-Mendota Water Auth.*, 747 F.3d at

606. The Fourth Circuit is likely to agree it would be an abuse of discretion to disregard the Government's "unrebutted, legally significant evidence" regarding its legitimate need for more time to issue a new BiOp. *In re Search Warrant*, 942 F.3d at 172 (citation omitted).

B. The equitable factors overwhelmingly favor a stay pending appeal.

The three equitable factors confirm the necessity of a stay here. First, Intervenors have demonstrated irreparable harm for the same reasons that reconsideration is warranted. *See supra*, pp. 4-16. Gutting the governing regulatory regime without a replacement "is no mere 'administrative inconvenience,' " but rather "constitutes a 'genuinely extraordinary situation' justifying interim equitable relief." *Coalition for TJ v. Fairfax Cnty. Sch. Bd.*, No. 22-1280, 2022 WL 986994, at *5 (4th Cir. Mar. 31, 2022) (Heytens, J., concurring) (citations omitted). The economic impact on Intervenors would be enormous and unrecoverable. *See Alabama Ass'n of Realtors v. HHS*, 594 U.S. 758, 765 (2021) (per curiam) (recognizing "risk of irreparable harm" from "significant financial cost[s]"); *Mountain Valley Pipeline, LLC v. Western Pocahontas Props. Ltd. P'ship*, 918 F.3d 353, 366 (4th Cir. 2019) (similar). If an estimated $5 million loss in "construction delay" was irreparable harm, *see East Tenn. Nat. Gas Co. v. Sage*, 361 F.3d 808, 829 (4th Cir. 2004), the loss of billions of dollars here is plainly irreparable. The trade associations' member companies that are "under contractual obligation to provide" services would also suffer irreparable harm from being "forced to breach these contracts," *East Tenn. Nat. Gas*, 361 F.3d at 829, and the resulting breach would harm other member companies of more "modest means," *Alabama Ass'n of Realtors*, 594 U.S. at 765. And, of course, the "inability to satisfy these commitments would have negative impacts on [companies'] customers and the consumers they serve." *East Tenn. Nat. Gas*, 361 F.3d at 829.

Second, a stay would not "substantially injure" Plaintiffs, *Nken*, 556 U.S. at 426, who disclaimed this remedy and have consistently refused to explain how they would be injured at all

by maintaining the BiOp during remand. There is no evidence that the BiOp's existing measures are not adequately protecting listed species. This Court acknowledged as much, observing that "immediate vacatur appears likely to disrupt oil and gas activity in the Gulf without necessarily mitigating the dangers to listed species." Op. 81. Plaintiffs have repeatedly confirmed over the last four years of litigation that they are in no rush to see the BiOp vacated. *E.g.*, ECF 162 at 3. They never sought a preliminary injunction and repeatedly cut back their requested remedy in the face of the Government and Intervenors' showings that vacatur would be ruinous.

If anything, Plaintiffs confirmed that they, too, are harmed by vacatur because vacatur threatens environmental hazards from permitting delays, including potential well-control incidents and spills; an inability to inspect and maintain wells, platforms, pipelines and other infrastructure; and an inability to decommission. *See supra*, pp 9-11. Moreover, delaying or halting decommissioning is at odds with Plaintiff Center for Biological Diversity's complaint in other litigation that Gulf "decommissioning is not occurring within the required timeframes." Compl. ¶ 6, *Center for Biological Diversity v. Haaland*, No. 1:24-cv-02014 (D.D.C. July 11, 2024), ECF 1. Courts will remand without vacatur "if vacating would at least temporarily defeat the enhanced protection of the environmental values covered by the [action] at issue." *Center for Biological Diversity v. EPA*, 861 F.3d 174, 188 (D.C. Cir. 2017) (cleaned up). That same policy similarly supports a stay pending appeal.

The Fourth Circuit recognizes that a stay is appropriate "to maintain the status quo pending review" when "years [have] passed" in reliance on the current regulatory regime, and additional "months of previously [agency]-approved practices would have a relatively minor effect." *West Virginia v. EPA*, 90 F.4th 323, 332 (4th Cir. 2024). That is this case. The BiOp has been in place since 2020, and there is no evidence that allowing oil-and-gas activities to

continue through May 2025 under the current BiOp and the wildlife protections it ensures—as they have for the last four-and-a-half years—will have *any* effect on Plaintiffs' interests.

Third, the public interest favors maintaining Gulf of Mexico energy production, economic stability, and national security, and facilitating an orderly transition to the new BiOp. The public has an "interest in the efficient production of electricity and other industrial activity," *West Virginia*, 90 F.4th at 332, which favors avoiding massive disruptions to a critical American industry and the broader U.S. economy. *See supra*, p. 16.

The public also has a strong interest in maintaining the balance Congress struck between economic development and environmental protection in the Gulf of Mexico. *See Virginian Ry. Co. v. System Fed'n No. 40*, 300 U.S. 515, 552 (1937) ("The fact that Congress has indicated its purpose . . . is in itself a declaration of public interest and policy which should be persuasive in inducing courts to give relief."). The Outer Continental Shelf Lands Act mandates that Interior "maintain an oil and gas leasing program" with the goal of "develop[ping] oil and natural gas resources . . . to meet the Nation's energy needs as rapidly as possible," "assure national security, reduce dependence on foreign sources, and maintain a favorable balance of payments in world trade." 43 U.S.C. §§ 1344(a), 1802(1), (2). When Interior purported to "pause" oil-and-gas leasing and a district court vacated a single lease sale, Congress responded by mandating that Interior complete the remaining sales in the 2017-2022 leasing program and conditioning future offshore wind-energy development on Interior offering millions of acres for oil-and-gas leasing.[18] And the ESA is not to the contrary, because "economic consequences are an explicit

[18] *See* Inflation Reduction Act, Pub. L. No. 117-169, 136 Stat. 1,818, 2,059-61, §§ 50264, 50265(b)(2) (2022); *Louisiana v. Haaland*, No. 2:23-cv-01157, 2023 WL 6450134, at *4 (W.D. La. Sept. 21, 2023), *appeal dismissed*, 86 F.4th 663 (5th Cir. 2023); *Friends of the Earth v. Haaland*, No. 22-5036, 2023 WL 3144203, at *1 (D.C. Cir. Apr. 28, 2023).

concern of the ESA." *Bennett*, 520 U.S. at 177. This congressional balance does not countenance shutting down oil-and-gas operations or threatening operators with ruinous liability.

Nor does the public interest favor "the significant logistical difficulties and time constraints associated with" upending the regulatory regime governing Gulf oil-and-gas activities pending a new BiOp. *Coalition for TJ*, 2022 WL 986994, at *1 (Heytens, J., concurring). The Government "would be placed in a difficult position of changing and then re-changing its guidance" to oil-and-gas operators, "causing significant confusion" for all stakeholders. *Fraser v. ATF*, No. 3:22-cv-00410, 2023 WL 5617894, at *4 (E.D. Va. Aug. 30, 2023). "[T]he more prudent course is to allow the current" oil-and-gas development regime "to proceed according to settled expectations." *Coalition for TJ*, 2022 WL 986994, at *6 (Heytens, J., concurring).

III. Expedited Review Is Necessary Because Gulf Operators Require Advance Notice To Demobilize And Are Incurring Costs Now.

Intervenors respectfully request a decision on this motion no later than October 21, 2024, to allow Intervenors sufficient time to seek emergency relief in the Fourth Circuit and, if necessary, the U.S. Supreme Court, and to afford those courts adequate time to consider Intervenors' applications. Gulf operators have already begun to incur substantial costs as a result of this Court's vacatur decision, and they require a final decision on whether the December 20, 2024 vacatur date will be stayed weeks before that occurs. *E.g.*, Gordon Decl. ¶ 23 ("preparation for a prolonged curtailment of offshore activity . . . would require several weeks to execute"). As a result, many operators must decide by early December whether, absent relief, "to suspend drilling activities" and begin demobilization actions, including installing barriers in certain wells, which would require additional advance agency approvals to implement. *Id.* ¶ 33; *see* ECF 211-1 at 9-10 n.6; ECF 211-3 ¶ 17. And all Gulf operators are facing similar dilemmas, underscoring the need for a swift decision.

Expedited review is also appropriate because Gulf operators are currently incurring substantial costs as a result of this Court's decision. Gulf operators must "make important business and operational decisions months in advance of essential planned activities," and "[t]he cloud of a vacatur on December 20, 2024 will negatively influence those decisions, likely causing plans and projects, and associated investments, to be significantly delayed." Hopkins Decl. ¶ 25; *see also* Milito Decl. ¶ 12; Martin Decl. ¶ 14. Gulf operators plan "many geophysical, exploration, production, development, and decommissioning activities a year or more in advance," including "contracting for specialized equipment or services." Gordon Decl. ¶¶ 10, 14. As a result of this Court's order, operators are assessing whether to terminate certain ongoing contract negotiations for equipment to be used in 2025. *See id*. ¶ 12; Ramcharitar Decl. ¶ 7; Milito Decl. ¶ 12. Operators are also currently incurring "significant legal expenses" as they evaluate their options in the "unprecedented scenario" that the BiOp is vacated without a replacement—costs that would not be incurred but for this Court's vacatur order, will not be recouped, and will continue to escalate absent swift relief. Gordon Decl. ¶¶ 11-13; *see also* Milito Decl. ¶¶ 12, 16; Leimkuhler Decl. ¶ 7; Lorino Decl. ¶¶ 8, 14; Ozenne Decl. ¶ 7. Intervenors do not just need relief from the Court's December 20, 2024 vacatur date; they need relief *now*.

CONCLUSION

For the foregoing reasons, the Court should amend its judgment to delay vacatur until at least May 21, 2025. In the alternative, the Court should grant a stay pending appeal.

Respectfully submitted,

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September 16, 2024

CERTIFICATE OF SERVICE

I hereby certify that on September 16, 2024, I electronically filed the foregoing using the CM/ECF system, which will send notification of this filing to the attorneys of record.

/s/ Dana A. Raphael
Dana A. Raphael

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF HOLLY HOPKINS**

DECLARATION OF HOLLY HOPKINS

1. My name is Holly Hopkins. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Vice President of Upstream Policy for the American Petroleum Institute ("API"), and have been employed at API for over 14 years. My work covers, among other things, regulatory and legislative matters related to exploration, development, drilling, and production from offshore oil and gas leases, focusing primarily on the environmental and safety laws, regulations, and policies relevant to those activities. I was employed by the Department of the Interior ("DOI") for over seven years prior to joining API. At DOI, I served as Special Assistant to the Deputy Secretary and as Chief of Staff at the Minerals Management Service, which is now organized into the Bureau of Safety and Environmental Enforcement ("BSEE") and the Bureau of Ocean Energy Management ("BOEM"). In both positions, I performed a wide variety of tasks

that included significant work related to federal offshore leasing and development policies and regulations. I have also authored and co-authored papers related to natural resources issues and served as a guest speaker on multiple occasions.

3. API is the primary national trade association of the oil and gas industry. API represents nearly 600 member companies involved in all aspects of the U.S. oil and gas industry, including explorers, producers, refiners, suppliers, pipeline operators, marine transporters, and service and supply companies.

4. Oil and gas development in the United States is carried out exclusively through oil and gas companies. For federal waters, these companies acquire leases through a sealed bidding process, and then engage in exploration efforts that, if successful, will lead to production. API's members have extensive experience with successful exploration and development of U.S. oil and gas resources, including, in particular, the oil and gas resources of the Gulf of Mexico.

5. Almost all of API's members' Gulf of Mexico activities occur in areas offshore of Texas or Louisiana, with most of the associated vessel traffic to those areas originating from the Port of Galveston, Texas, and the Port of Fourchon, Port of Morgan City, and Port of Iberia, Louisiana. Almost all of those activities are carried out by members who are either headquartered in, or have offices in, Houston, Texas or New Orleans, Louisiana. Overall, API members invest billions of dollars each year to further the exploration and development of the oil and gas resources of the Gulf of Mexico.

6. API's members currently operate many offshore wells in the Gulf of Mexico. API's members are directly engaged in oil and gas exploration in the Gulf of Mexico and have for decades been among the principal developers of offshore leases in the Gulf of Mexico. In

addition to leaseholders and operators, API's members include companies that conduct geophysical and geological exploration activities and provide support services for offshore oil and gas development. These members provide, among other things, material, equipment, and other support services to federal lessees in developing their oil and gas resources, maintaining oil and gas infrastructure, and decommissioning platforms and pipelines.

7. It is difficult to overstate the importance and scale of offshore oil and gas activities in the Gulf of Mexico. As explained in the Second Declaration of Walter D. Cruickshank, Deputy Director of the Bureau of Ocean Energy Management ("BOEM") filed in this case at Dkt.175-4, as of January 1, 2024, there are 2,190 active oil and gas leases on approximately 11.7 million acres in the Gulf of Mexico, managed under the Outer Continental Shelf Lands Act ("OCSLA"). The Gulf of Mexico is the primary source of offshore oil and gas, accounting for 99% of all U.S. offshore oil and gas, including 15% of all domestic oil production and 2% of natural gas production. In fiscal year 2023, operations on the outer continental shelf in the Gulf of Mexico produced 674 million barrels of oil and 795 billion cubic feet of natural gas. These resources are produced by an extensive network of 1,432 active platforms, 7,170 wells, and 3,956 pipelines. All of these activities are supported by a robust and ongoing permitting process, including hundreds of permits issued each year by BOEM and an average of 5,000 permits per year issued by BSEE.

8. A recently completed study confirms the economic importance of the oil and gas operations on the outer continental shelf in the Gulf of Mexico. Attached to this declaration as Exhibit A is a true and correct copy of a 2023 study titled "The Economic Impacts of Gulf of Mexico Oil and Natural Gas Vessel Transit Restrictions." As explained in that document, in 2023 alone, the Gulf of Mexico oil and gas industry is estimated to have supported over 412,000

jobs, contributed over $34.3 billion to the U.S. gross domestic product, and generated $6.1 billion in federal government revenue.

9. Another recent study, titled "The Economic Impacts of the Gulf of Mexico Oil and Natural Gas Industry," demonstrates that at least 2,400 companies across all 50 states are dependent on products derived from Gulf of Mexico oil production to support their supply chains. Attached to this declaration as Exhibit B is a true and correct copy of that study.

10. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). The BiOp addresses, *inter alia*, Gulf of Mexico oil and gas leasing, exploration, development, production, and decommissioning activities authorized by BSEE and BOEM. I am also familiar with the Incidental Take Statement ("ITS") issued with the BiOp, as well as the amended ITS issued in April 2021.

11. The BiOp is the linchpin for oil and gas operations in the Gulf of Mexico. Before BOEM or BSEE can approve the thousands of permits needed each year to maintain the ongoing oil and gas activities in the Gulf of Mexico, Section 7(a)(2) of the ESA requires those agencies to consult with NMFS to ensure that each permit approval is not likely to jeopardize the continued existence of ESA-listed species or adversely modify or destroy designated critical habitat. The BiOp establishes a programmatic framework that allows BOEM and BSEE to comply with ESA Section 7(a)(2) for the thousands of annual federal approvals that are necessary to maintain continued oil and gas operations in the Gulf of Mexico.

12. Equally important, the BiOp is essential for continued operations under permits that have already been issued. The ESA makes it unlawful to "take" threatened or endangered

species. "Take" is broadly defined by the ESA to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. 1532(19). Unauthorized take of ESA-listed species can result in civil and criminal penalties, and the ESA expressly allows for the filing of citizen suits to enjoin the unauthorized take of such species. The ITS, however, operates as an exception to the take prohibition, and is the functional equivalent of a permit. Critical here, the ITS functions to authorize the incidental, unintentional take of certain ESA-listed species in the Gulf of Mexico that can occur in conjunction with routine and ongoing oil and gas activities, such as vessel traffic, seismic surveys, and pile driving. Without the ITS, any take associated with those activities would be prohibited by the ESA.

13. On August 19, 2024, the Court issued an order that vacates the BiOp, effective December 20, 2024. I understand that a new biological opinion will not be completed until May 21, 2025.[1]

14. As a result, the Court's vacatur order will result in gap of many months in which there will be no BiOp (and no ITS) in place for Gulf of Mexico oil and gas operations. This pulls the linchpin, causing the metaphorical wheels to fall off the wagon of the BOEM and BSEE permitting processes for the Gulf of Mexico. The consequences to API members, the 2,400 companies dependent on Gulf of Mexico oil and gas, and the 412,000 workers supported by Gulf of Mexico operations, may be difficult or impossible to precisely quantify. But they are assuredly significant and irreparable.

[1] After the court issued its ruling, the Department of Justice represented that the new biological opinion would not be completed until August 2025. On Sunday, September 15, 2024, the Department of Justice changed the expected BiOp completion date to May 21, 2025. Many of the declarations submitted by API members and others in this case were already signed by that time, and reflect this later August date.

15. At the outset, the ongoing process under which BOEM and BSEE issue the thousands of permits needed each year for Gulf of Mexico operations will immediately grind to a halt. According to Third Declaration of Samuel D. Rauch, Deputy Administrator of Regulatory Programs at NMFS, filed in this case at Docket 175-3, NMFS has no capacity to process that volume of individual ESA consultations, as NMFS currently processes only 20 to 30 consultations per year (nationwide). Because BOEM and BSEE must ensure against likely jeopardy through consulting with NMFS before issuing permits, the result of vacatur is thus a *de facto* permit moratorium. This includes permits to drill new wells, revise wells, sidetrack wells, bypass wells, perform maintenance activities, and decommission wells and pipelines.

16. Gulf of Mexico oil and gas operations are highly regulated activities that require ongoing permit approvals for even minor changes. For example, according to the BSEE website, in 2023, BSEE approved 828 drilling permits in the Gulf of Mexico. *See* https://www.bsee.gov/stats-facts/offshore-information/status-of-gulf-of-mexico-well-permits#types. A true and correct copy of that webpage is attached hereto as Exhibit C. According to BSEE, 713 of those 828 permits in 2023 were for revisions (either revised new, revised sidetrack, or revised bypass wells) that occurred *during* drilling operations and that "may be necessary for safety purposes, such as if an operator determines it necessary to set a liner deeper in the wellbore due to results from a formation integrity test." A permit moratorium caused by vacatur of the BiOp would mean that operators could likely not timely obtain the necessary permit revisions needed for safety purposes. This is untenable for API's members.

17. Additionally, a review of BSEE's permitting website at https://www.data.bsee.gov/Well/APD/Default.aspx shows that API members submit permit requests on a *daily* basis. For example, in the week of August 19, 2024 alone, BSEE's website

shows permit applications (all of which were revisions) from members Shell Offshore Inc., Chevron U.S.A., Inc., Hess Corporation, and LLOG Exploration Offshore LLC, in addition to several others. If API members cannot timely obtain well-drilling permit revisions needed for safety, then they likely cannot drill wells at all because properly drilling a well depends on the ability to obtain a revision, if necessary.

18. In addition to a *de facto* permit moratorium, vacatur of the BiOp and ITS on December 20, 2024, with no new biological opinion and incidental take statement in place, will immediately strip API members operating in the Gulf of Mexico of their "take" protection under the ITS. This will have immediate harmful consequences.

19. For example, existing oil and gas platforms are serviced and supported by vessels that bring crew members, food, fuels, water, and other necessary equipment. The BiOp estimates that between 55,842 and 169,614 vessel trips are made each year in the Gulf of Mexico in support of oil and gas operations. The impact of those trips is evaluated in the BiOp, and the ITS provides protection to vessel operators from civil and criminal liability if the operation of a vessel incidentally takes an ESA-listed species during one of those trips.

20. If the BiOp and ITS are vacated on December 20, 2024, assuming no new biological opinion and incidental take statement have been issued, every company involved in Gulf of Mexico oil and gas operations will be forced to make a difficult choice: (a) halt activities until a new biological opinion and incidental take statement are issued to avoid the possibility of ESA take liability (and, in so doing, suffer severe financial losses, breach of contract claims, and other negative consequences); or (b) proceed with activities at the risk of incurring ESA liability.

21. This is an impossible situation. If an API member halts operations, it risks non-compliance with lease obligations, contractual obligations, and permit conditions. On December

20, 2024, member companies cannot simply walk away from ongoing platform operations, ongoing drilling operations, or required pipeline maintenance activities without incurring massive financial losses and creating public safety issues. But if they choose to proceed with these necessary operations, they can only do so by risking ESA liability and reputational damage. Either way, there is real and significant irreparable damage to API's members.

22. It is impossible to accurately estimate the costs and implications. However, the scale of the problem is enormous. A long-duration outage of 14.5 percent of total U.S. crude oil production would inevitably have numerous and widespread consequences for global and domestic energy markets. Additionally, medium-density crude oil high in sulfur content (medium-sour), like the types of crude oil produced in the Gulf of Mexico, is different than most onshore U.S. production, which is lighter and lower in sulfur. Therefore, there is no readily available alternative domestic source for replacement crude oil. Medium-sour crude oil from the Gulf of Mexico is a good match for refineries along the U.S. Gulf Coast, which is home to 48 percent of U.S. refining capacity. Removing this supply would cause operational difficulties at U.S. refineries with consequences for petroleum product supply chains throughout the nation and force refiners to import similar crude oils from the global market, the supply of which would likely be delayed. The shut-ins may have long lasting consequences even after production resumes. The production wells risk permanent damage from a prolonged shut-in and lack of maintenance, such that they may not be able to produce at the same scale once reactivated. A halt to decommissioning risks exposing aged infrastructure to degradation from the elements and lack of activity, posing multiple environmental and safety risks.

23. Offshore production operations, supply chain management, crude oil distribution, refinery operations, and fuel marketing activities are too wide-ranging, pervasive, and complex

to allow for any realistic way for API's members to meaningfully mitigate the damaging impacts of vacatur before they occur. The timing of a new biological opinion is entirely in the hands of NMFS. Individual API members could, in theory, try to work with BOEM, BSEE, and NMFS to encourage them to quickly initiate and complete ESA consultations on individual permits as they arise, but Mr. Rauch has already explained that such requests would not only be impossible to meet but would also further delay the issuance of a new biological opinion and thus exacerbate the harms. BOEM and BSEE receive multiple permit requests on a daily basis. They all cannot move to the front of the line. Indeed, NMFS adopted the comprehensive and programmatic approach in the BiOp precisely because there simply is no other way to continuously process such a high-volume of consultation requests in such a short period of time.

24. I am aware that the Court's order vacating the BiOp suggested that staying vacatur until December 20, 2024 would allow NMFS an opportunity to "prepare for the transition period" and that regulated parties "may avail themselves of this extra time to prepare for the transition." It is unclear what the Court contemplates by a "transition," but I cannot conceive of any "transition" that could remedy or even alleviate the problems caused by vacatur of the BiOp and ITS before a new biological opinion and incidental take statement are issued. To my knowledge, NMFS has no "transition" plan or process to complete multiple daily requests for consultations on permits required for ongoing operations in the Gulf of Mexico without a biological opinion in place. Nor is it reasonable to assume, based on NMFS's statements, that it could produce the necessary biological opinion for a transition plan in a short period of time. Moreover, it seems almost certain that agency resources used to develop the necessary "transition" biological opinion would preclude the agency from completing the court-ordered remand. I am likewise unaware of any way for industry to "transition" out of the Hobson's

choice presented by vacatur on December 20, 2024. Aside from an Act of Congress, the risk of ESA liability associated with continuing operations will not disappear. And the ongoing need to safely maintain Gulf of Mexico infrastructure, decommission wells, produce oil and gas, and carry out other activities necessary for health and safety, environmental protection, and national security will similarly not disappear.

25. In sum, vacatur of the BiOp or the ITS would have irreparably harmful impacts on API's members, enormously disruptive consequences for the oil and gas industry in the Gulf of Mexico, and attendant negative effects on people, businesses, local and state governments, and the United States. Moreover, these consequences will begin before vacatur occurs on December 20, 2024, as the companies that operate in the Gulf of Mexico will need to make important business and operational decisions months in advance of essential planned activities. The cloud of a vacatur on December 20, 2024 will negatively influence those decisions, likely causing plans and projects, and associated investments, to be significantly delayed.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 16, 2024.

Holly A. Hopkins

EXHIBIT A

The Economic Impacts of Gulf of Mexico Oil and Natural Gas Vessel Transit Restrictions

Prepared By

EIAP
Energy & Industrial Advisory Partners

Key Findings

The Gulf of Mexico offshore oil and natural gas industry plays a major role in domestic energy production, and is expected to continue for decades to come, despite the evolving energy landscape. The offshore oil and natural gas industry relies on a wide variety of supplies to explore for new resources, drill exploration and production wells, develop new projects, and to conduct production operations. These supplies vary greatly, from pipe, to chemicals, to drilling mud, food, fuel, and thousands of other commodities and pieces of equipment. Significantly restricting the movement of the vessels that transport these things is projected to have a major impact on the industry's ability to supply the necessary materials to conduct offshore oil and natural gas development. This reduction in activity is projected to lead to reduced industry spending, supported employment and GDP, government revenues, and oil and natural gas production. (Table 1)

Table 1: Key Findings

		Vessel Transit Restrictions Case Impacts		
Economic Impact	**Base Case Average (2023-2040)**	**Maximum Year Impact**	**Average Impact (2023-2040)**	**Cumulative Impact (2023-2040)**
Capital Investment and Spending ($ Billions)	$29.0	-$9.4	-$4.1	-$74.0
Employment	354,053	-101,469	-44,466	N/A
Contributions to GDP ($ Billions)	$29.9	-$8.7	-$3.9	-$70.9
Government Revenues ($ Billions)	$7.3	-$2.4	-$1.6	-$29.7
Oil and Natural Gas Production (MMBOED)	2.58	-0.92	-0.62	-4.1 Billion Barrells of Oil Equivalent

Source: Energy and Industrial Advisory Partners

Executive Summary

Introduction

As the economy continues to struggle with inflation, and with energy accounting for a material part of inflation, the continued need for domestic oil and natural gas production is clear. Offshore oil and natural gas production, which is a key part of domestic production, is also a significant source of employment, gross domestic product, and government revenues.

Following a lawsuit filed against the National Marine Fisheries Service (NMFS) relating to various marine species, NMFS entered into a settlement with the plaintiffs calling for the implementation of new restrictions applicable to the transit of oil and gas vessels between the 100 to 400 m isobath across the northern Gulf of Mexico on the Outer Continental Shelf (OCS), eastward from the Mexican border with Texas and westward of the Rice's Whale Core Area identified in the 2020 Biological Opinion (Expanded Rice's Whale Area).[1] If implemented, these restrictions would greatly reduce the ability of oil and gas vessels to transit through this area, which would include all vessels transiting to deepwater, drilling and production platforms. Transit through this area would essentially be halted during certain sea state conditions as well as at night. These restrictions only apply to oil and natural gas industry vessels and not to other vessels transiting the area.

These transit restrictions would essentially reduce the capacity of the existing offshore oil and gas supply fleet, as the journey between shore and platforms would be extended. This reduction in transport capacity would reduce the ability to support exploration, drilling, development, and production operations, reducing the industry's ability to explore for, develop and produce oil and natural gas. Given the Jones Act requirement that vessels transporting equipment from US ports to offshore be Jones Act compliant (US built, flagged, and crewed), overcoming these restrictions would take a significant amount of time, as well as putting strain on Gulf Coast ports, and the limited pool of US mariners.

For the purposes of this report, two scenarios were developed, a scenario based on a continuation of current policies as it relates to vessel transit requirements for offshore oil and gas (the Base Case), and a scenario examining the potential impacts of implementation of the transit restrictions described above and the subsequent reduction in the availability of vessels used in the supply of offshore energy projects on these offshore energy activities. (The Vessel Transit Restrictions Case). To develop the Vessel Transit Restrictions Case, forecast demand for supply vessels based on historical activity and vessel demand was calculated. Using data from NMFS's "Opinion on the Federally Regulated Oil and Gas Program activities in the Gulf of Mexico" released in 2020, an estimate of the number of vessels trips and the length of these trips was calculated.[2] An estimate average length of the restricted area was then calculated, which was

[1] These restrictions are reflected in Notice to Lessees No. 2023-G-01, which this report assumes will be implemented under the "Vessel Transit Restrictions Case." Similar restrictions are also reflected in lease stipulations applicable to Lease Sale 261 (which have been preliminarily enjoined by a federal court).
[2] Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, National Marine Fisheries Service

overlayed with data provided by Oceanweather Inc on visibility based on significant wave heights and visibility, and data on monthly sunrise and sunset times to estimate the share of a supply vessel's trip that would be restricted under the Vessel Transit Restrictions Case. These data were then utilized to estimate the reduction of the Gulf of Mexico oil and natural gas supply vessel capacity due to these restrictions. The report assumes that the supply vessel fleet (and thus its capacity would grow over time) will reduce the impact of the restrictions.

Energy and Industrial Advisory Partners (EIAP) was commissioned by The American Petroleum Institute (API) to develop a report forecasting activity levels, spending, oil, and natural gas production, supported employment, GDP, and Government Revenues in these scenarios. The scenarios developed in this report are based solely upon government and other publicly available data, Oceanweather Inc's analysis, and EIAP's expertise and analysis.

The Economic Impacts of the Gulf of Mexico oil and natural gas industry

The Gulf of Mexico oil and natural gas industry supports significant national employment, gross domestic product, and state and Federal Government revenues. To quantify the potential effects of a change in offshore supply vessel availability, this study forecasted a Base Case activity level for U.S. offshore oil and natural gas activity to provide a basis of comparison with potential activity levels and economic impacts under the Vessel Transit Restrictions Case. The study forecasted key activity indicators, including the number of projects executed, oil and natural gas production, and spending based on projected activity levels. These activity and spending forecasts drive the projected employment, GDP, and government revenue forecasts presented in this report.

- In 2023, Gulf of Mexico oil and natural gas production is projected to be nearly 2.4 million barrels of oil equivalent per day. Oil and natural gas production from the Gulf of Mexico is projected to average just under 2.6 million barrels of oil equivalent per day over the 2023 to 2040 forecast period. In 2040 at the end of the forecast period, oil and natural gas production is projected to be slightly over 2.1 million barrels of oil equivalent per day.
- In 2023, Gulf of Mexico oil and natural gas industry spending is projected at around $33.9 billion. Gulf of Mexico offshore oil and natural gas industry spending is projected to average just over $28.9 billion per year over the 2023 to 2040 forecast period.
- In 2023, the offshore oil and natural gas industry is projected to support an estimated 412 thousand jobs in the United States, compared to just over 354 thousand jobs on average across the 2023-2040 forecast period.
- In 2023, the Gulf of Mexico offshore oil and natural gas industry is projected to support an estimated $34.3 billion of U.S. gross domestic product. The industry is projected to contribute an average of just over $29.6 billion of GDP per year over the 2023 to 2040 forecast period.

- In 2023, government revenues due to the Gulf of Mexico oil and natural gas industry are projected to reach nearly $6.1 billion. Government revenues derived from oil and natural gas activities in the Gulf of Mexico (excluding personal and corporate income taxes and property taxes) are projected to average just over $7.3 billion per year over the 2023 to 2040 forecast period.
- The Gulf of Mexico oil and natural gas producing states are projected to receive $375 million of revenues due to revenue sharing under GOMESA in 2023, which is consistent across the forecast period due to caps on state distributions. Contributions to the LWCF from GOMESA and non-GOMESA offshore sources are projected to just over $1.1 billion in 2023, which is consistent with the average across the 2023-2040 forecast period.

Impact of Oil and Natural Gas Industry Vessel Restrictions

Restricting the ability of offshore oil and natural gas supply vessels to transit across the Expanded Rice's Whales Area would likely drastically reduce the capacity of the vessels required to support exploration, development, and production of offshore oil and natural gas projects. This change would likely have a severely negative immediate impact on Gulf of Mexico oil and natural gas development, spending, supported employment and GDP, and government revenues. The Vessel Transit Restrictions Case compares activity levels (project executions, spending, oil, and natural gas production), economic impacts, and government revenues to the Base Case scenario. This study assumes that no other major policy or regulatory changes impacting the Gulf of Mexico oil and natural gas industry would be enacted.

- In the Vessel Transit Restrictions Case, average combined oil and natural gas production across the forecast period is projected to decline from around 2.6 million barrels of oil equivalent per day on average to just under 2 million barrels of oil equivalent per day (about a 24 percent decline).
- In the Vessel Transit Restrictions Case, Gulf of Mexico oil and natural gas industry spending is projected to decline to just over $24.8 billion on average compared to just over $28.9 billion in the Base Case, a 14 percent reduction. In 2024, spending is projected to be reduced by approximately $ 6.8 billion, a 19 percent reduction.
- In the Vessel Transit Restrictions Case, average employment supported by the Gulf of Mexico oil and natural gas industry is projected to decline to just under 310 thousand jobs nationally compared to about 354 thousand jobs each year in the Base Case, a 13 percent decline. In the Vessel Transit Restrictions Case, average yearly contributions to GDP by the Gulf of Mexico oil and natural gas industry are projected at just over $25.9 billion, around a 13 percent reduction compared to around $29.9 billion in the Base Case.
- In the Vessel Transit Restrictions Case, government revenues due to the Gulf of Mexico oil and natural gas industry are projected to average around $5.7 billion annually, a 22 percent reduction from the over $7.4 billion per year projected in the Base Case.

- Contributions to the Land and Water Conservation Fund (LWCF) are projected to average around $1.09 billion per year in the Vessel Transit Restrictions Case, compared to just above $1.13 billion per year in the base case over the forecast period.

Study Limitations

Given the large degree of volatility and uncertainty in energy markets and the global economy, the assumptions and forecasts contained in this report are based on reasonable readings of conditions when this report was developed. Uncertainty around commodity pricing and global economic conditions may significantly affect the forecast contained in this report. EIAP makes no representations as to the impacts of the potential policy environment addressed in this report. These and other policies could impose significantly greater engineering, operational, cost, and other burdens on the energy industry and regulators. The report's projections of the effects of this potential scenario on engineering, operations, and costs are an independent, good faith view derived from reasonable assumptions based on these potential scenarios and the authors' expertise and experience. Energy and Industrial Advisory Partners provided this independent study while expressly disclaiming any warranty, liability, or responsibility for the completeness, accuracy, use, or fitness to any person or party for any reason.

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Introduction

Purpose of the Report

As the economy continues to struggle with inflation, and with energy accounting for a material part of inflation, the continued need for domestic oil and natural gas production is clear. Offshore oil and natural gas production, which is a key part of domestic production, is also a significant source of employment, gross domestic product, and government revenues.

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These transit restrictions would essentially reduce the capacity of the existing offshore oil and gas supply fleet, as the journey between shore and platforms would be extended. This reduction in transport capacity would reduce the ability to support exploration, drilling, development, and production operations, reducing the industry's ability to explore for, develop and produce oil and natural gas. Given the Jones Act requirement that vessels transporting equipment from US ports to offshore be Jones Act compliant (US built, flagged, and crewed), overcoming these restrictions would take a significant amount of time, as well as putting strain on Gulf Coast ports, and the limited pool of US mariners.

For the purposes of this report, two scenarios were developed, a scenario based on a continuation of current policies as it relates to vessel transit requirements for offshore oil and gas (the Base Case), and a scenario examining the potential impacts of implementation of the transit restrictions described above and the subsequent reduction in the availability of vessels used in the supply of offshore energy projects on these offshore energy activities. (The Vessel Transit Restrictions Case). To develop the Vessel Transit Restrictions Case, forecast demand for supply vessels based on historical activity and vessel demand was calculated. Using data from NMFS's "Opinion on the Federally Regulated Oil and Gas Program activities in the Gulf of Mexico" released in 2020, an estimate of the number of vessels trips and the length of these

[3] These restrictions are reflected in Notice to Lessees No. 2023-G-01, which this report assumes will be implemented under the "Vessel Transit Restrictions Case." Similar restrictions are also reflected in lease stipulations applicable to Lease Sale 261 (which have been preliminarily enjoined by a federal court).

trips was calculated.[4] An estimate average length of the restricted area was then calculated, which was overlayed with data provided by Oceanweather Inc on visibility based on significant wave heights and visibility, and data on monthly sunrise and sunset times to estimate the share of a supply vessel's trip that would be restricted under the Vessel Transit Restrictions Case. These data were then utilized to estimate the reduction of the Gulf of Mexico oil and natural gas supply vessel capacity due to these restrictions. The report assumes that the supply vessel fleet (and thus its capacity would grow over time) will reduce the impact of the restrictions.

Energy and Industrial Advisory Partners (EIAP) was commissioned by The American Petroleum Institute (API) to develop a report forecasting activity levels, spending, oil, and natural gas production, supported employment, GDP, and Government Revenues in these scenarios. The scenarios developed in this report are based solely upon government and other publicly available data, Oceanweather Inc's analysis, and EIAP's expertise and analysis.

Report Structure

In this report, EIAP first outlines the study's methodology, including data development, the limitations of this study, and how the two scenarios in this report were developed. The following section discusses activity levels and the economic impacts of the Gulf of Mexico oil and natural gas industry. The next section outlines the potential impacts of the second scenario developed for the report, the Vessel Transit Restrictions Case on the Gulf of Mexico oil and natural gas industry and its economic impacts. The final section concludes. The study also includes appendices including a more detailed explanation of the report's methodology and data tables of the report's findings.

Excluded from Study

This paper has been limited in scope to assessing the potential impacts of the two scenarios developed for the report. Additional changes to regulations or policies outside of the changes assessed in this report would likely have a more significant effect than the impacts laid out in this report. The study also excludes potential domestic supply chain reductions due to reduced activity levels which could lead to reductions in the domestic economic impacts of the Gulf of Mexico oil and natural gas industry by, for example, reducing the growth of local content used in oil and natural gas industry. The impacts projected in this report would likely be more significant if these potential supply chain changes were included. This study also does not attempt to calculate the effects of these changes on the downstream oil and natural gas industry, or subsequent impacts on other industries (for example, due to reduced energy production) other than the impacts directly due to reduced activity in the Gulf of Mexico oil and natural gas sector.

Additionally, the projected government revenue impacts do not account for personal income taxes, corporate income taxes, or local property taxes. Due to the exclusion of these impacts, the economic

[4] Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, National Marine Fisheries Service

impacts presented in this study likely represent conservative projections of the potential impacts of the scenarios developed. Additionally, the impacts presented could be imprecise by as much as 10% or more due to the impacts of the studied scenarios and other factors.

About EIAP

Energy & Industrial Advisory Partners (EIAP) was founded to provide companies and their management teams, investors, and industry associations across the energy and industrial markets with economic and strategic consulting and M&A advisory services from seasoned advisors with significant industry experience. EIAP is a specialist M&A advisory and consulting firm that utilizes its deep industry experience and rigorous analytical methodologies to help stakeholders gain the insights they require to make more informed, data-driven decisions. For more information, please visit **eiapartners.com**

Methodology

Data Development

As part of the development of this report, a detailed review of the potential impacts of the transit restrictions described above for offshore oil and naturals gas vessels was conducted. This study is in no way exhaustive, especially considering the uncertainty around how the Gulf of Mexico oil and natural gas industry would respond to vessel transit restrictions. This report focuses on the potential operational effects of the proposed transit restrictions based on a reasonable reading of these proposals and considers the potential operational changes offshore energy companies and their suppliers could undertake to minimize the effects of these changes on their operations. As such, this analysis is inherently forward-looking and subject to significant changes based on the potential development and implementation of these policy changes by regulators such as the Bureau of Ocean Energy Management, the National Oceanic and Atmospheric Administration and the Coast Guard.

Limitations

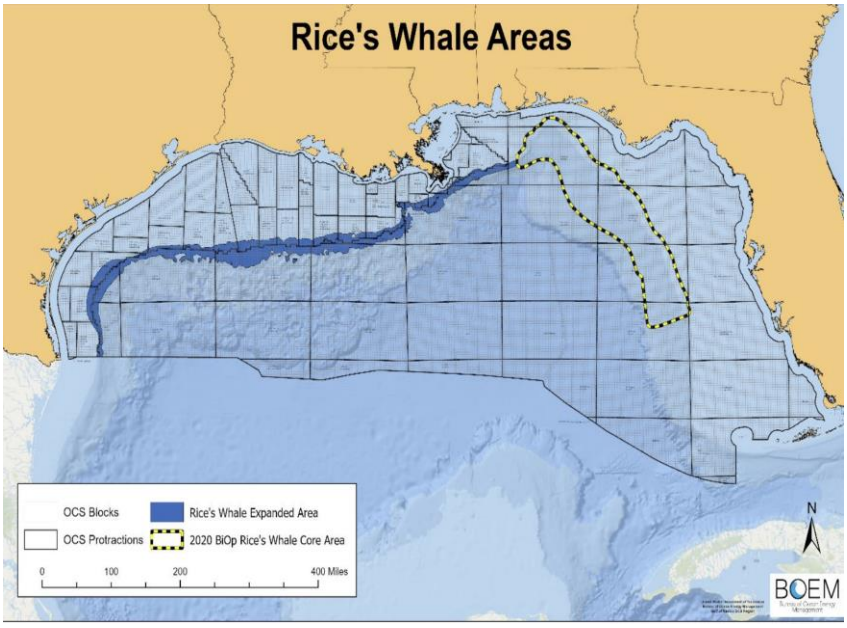
Given the large degree of volatility and uncertainty in energy markets and the global economy, the assumptions and forecasts contained in this report are based on reasonable readings of conditions when this report was developed. Uncertainty around commodity pricing and global economic conditions may significantly affect the forecast contained in this report. EIAP makes no representations as to the impacts of the potential policy environment addressed in this report. These and other policies could impose significantly greater engineering, operational, cost, and other burdens on the energy industry and regulators. The report's projections of the effects of this potential scenario on engineering, operations, and costs are an independent, good faith view derived from reasonable assumptions based on these potential scenarios and the authors' expertise and experience. Energy and Industrial Advisory Partners

provided this independent study while expressly disclaiming any warranty, liability, or responsibility for the completeness, accuracy, use, or fitness to any person or party for any reason.

Offshore Energy Vessels Transit Restrictions

Following a lawsuit filed against the National Marine Fisheries Service (NMFS) relating to various marine species, NMFS entered into a settlement with the plaintiffs calling for the implementation of new restrictions applicable to the transit of oil and gas vessels between the 100 to 400 m isobath across the northern Gulf of Mexico on the Outer Continental Shelf (OCS), eastward from the Mexican border with Texas and westward of the Rice's Whale Core Area identified in the 2020 Biological Opinion (Expanded Rice's Whale Area).[5] If implemented, these restrictions would greatly reduce the ability of oil and gas vessels to transit through this area, which would include all vessels transiting to deepwater, drilling and production platforms. Transit through this area would essentially be halted during certain sea state conditions as well as at night. These restrictions only apply to oil and natural gas industry vessels and not to other vessels transiting the area. (Figure 1)

Figure 1: Rice's Whale Areas



Source: Bureau of Ocean Energy Management

These transit restrictions would essentially reduce the capacity of the existing offshore oil and gas supply fleet, as the journey between shore and platforms would be extended. This reduction in transport capacity would reduce the ability to support exploration, drilling, development, and production operations, reducing the industry's ability to explore for, develop and produce oil and natural gas. Given

[5] These restrictions are reflected in Notice to Lessees No. 2023-G-01, which this report assumes will be implemented under the "Vessel Transit Restrictions Case." Similar restrictions are also reflected in lease stipulations applicable to Lease Sale 261 (which have been preliminarily enjoined by a federal court).

the Jones Act requirement that vessels transporting equipment from US ports to offshore be Jones Act compliant (US built, flagged, and crewed), overcoming these restrictions would take a significant amount of time, as well as putting strain on Gulf Coast ports, and the limited pool of US mariners.

The primary purpose of this report is to estimate the impact that restricting transit of offshore oil and gas vessels would have on vessel capacity availability and the subsequent impacts reduced vessel capacity would have on Gulf of Mexico exploration, project development and operations, and the impact reduced activity levels would be projected to have on the economy.

A large variety of vessels are required to support offshore oil and natural gas exploration, development, and operations. These vessels range from seismic vessels (which identify potential oil and natural gas deposits) and drilling rigs to a variety of installation vessels (such as pipe and cable lay vessels, heavy lifts vessels, and multipurpose support vessels). These transit restrictions would essentially reduce the capacity of the existing offshore oil and gas supply fleet, as the journey between shore and platforms would be extended. This reduction in transport capacity would reduce the ability to support exploration, drilling, development, and production operations, reducing the industry's ability to explore for, develop and produce oil and natural gas. Given the Jones Act requirement that vessels transporting equipment from US ports to offshore be Jones Act compliant (US built, flagged, and crewed), overcoming these restrictions would take a significant amount of time, as well as putting strain on Gulf Coast ports, and the limited pool of US mariners.

Given that the transit restrictions primarily impact vessel transiting to deepwater areas from ports, the largest potential impact of the restrictions are expected to be on supply vessels, which ferry supplies from shore to deepwater drilling rigs, platforms, and other vessels. The number of active vessels in the Gulf of Mexico and the projected needs for these vessels, as well as miles traveled, and number of trips was estimated to form the basis of this report's analysis. (Table 2)

Table 2: Historical Gulf of Mexico Supply Vessel Active Fleet, Trips, and Miles Traveled Estimates[6]

Vessel Trips	2017	2018	2019	2020	2021	2022
Service Vessels	580	597	580	564	537	575
Service Vessel Trips	81,394	83,779	81,394	79,148	75,359	80,692
Service Vessel Miles	5,879,017	6,051,333	5,879,017	5,716,837	5,443,158	5,828,335

Source: EIAP, National Marine Fisheries Service, BOEM, Army Corps of Engineers

For the purposes of this report, two scenarios were developed, a scenario based on a continuation of current policies as it relates to vessel transit requirements for offshore oil and gas (the Base Case), and a scenario examining the potential impacts of implementation of the transit restrictions described above and the subsequent reduction in the availability of vessels used in the supply of offshore energy projects on these offshore energy activities (The Vessel Transit Restrictions Case). To develop the Vessel Transit Restrictions Case, forecast demand for supply vessels based on historical activity and vessel demand was

[6] The oil and gas industry's share of total vessel traffic based on Bureau of Ocean Energy Management and Army Corps of Engineers Data as presented in the "National Marine Fisheries Service Endangered Species Act Section 7 Biological Opinion", March 13th, 2020, Page 338 is between 9.23 and 19.28 percent.

calculated. Using data from the National Marine Fisheries Service's "Opinion on the Federally Regulated Oil and Gas Program activities in the Gulf of Mexico" released in 2020, an estimate of the number of vessels trips and the length of these trips was calculated.[7] An estimate average length of the restricted area was then calculated, which was overlayed with data provided by Oceanweather Inc on visibility based on significant wave heights and visibility, and data on monthly sunrise and sunset times to estimate the share of a supply vessel's trip which would be restricted by the proposed settlement. This data was then utilized to estimate the reduction of the Gulf of Mexico oil and natural gas supply vessel capacity due to the longer trip times for supply vessels due to these restrictions. The report assumes that the supply vessel fleet will grow (and thus its capacity would grow over time) reducing the impact of the proposed restrictions. (Table 3)

Table 3: Estimate of the Initial Impact of Vessel Transit Restrictions

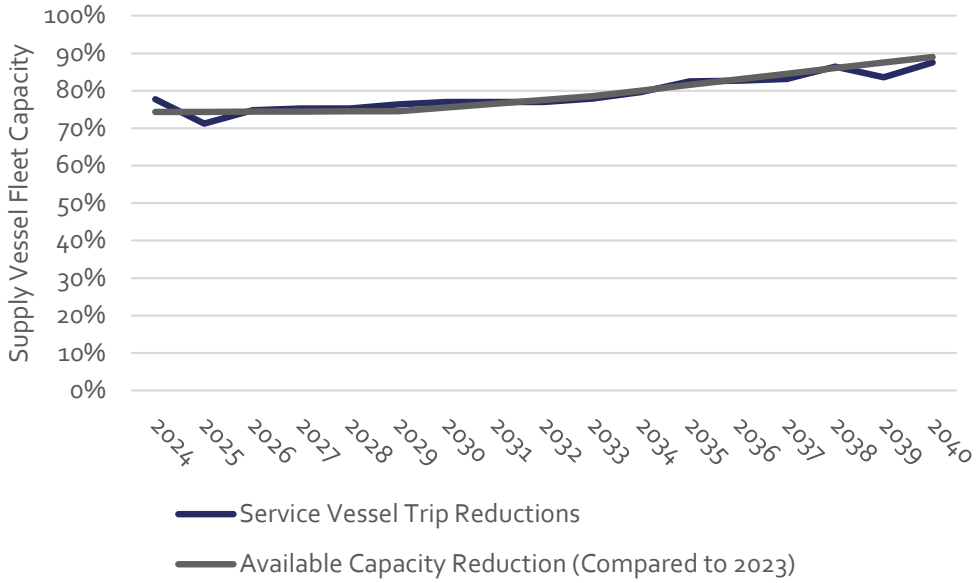
Input	Output
Estimated Length of Area (Miles)	25
Annual Supply Vessel Trips	83,020
Total KM Travelled	9,461,363
Total Miles Travelled	5,879,017
Average Trip Length	71
Rice Whale Area Share of Trip	35.3%
Average Share of Time Outside Weather/Daylight Window	72.7%
Estimated Transit Time Increase	25.7%

Source: Energy and Industrial Advisory Partners

The study assumes that the Gulf of Mexico offshore oil and natural gas industry will take actions over time to reduce the impact of the vessel transit restrictions, by for example ordering additional vessels. These reductions are expected to require time and thus be gradual due to restrictions on domestic shipbuilding capacity, port capacity, and available US mariners. (Figure 2)

[7] Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, National Marine Fisheries Service

Figure 2: Estimate of Reductions in Supply Capacity Overtime



Source: Energy and Industrial Advisory Partners

As the available fleet of supply vessels increases, the vessel transit restrictions impact on offshore oil and naturals gas activity are expected to decline. As such, reductions in spending, employment, GDP, oil and natural gas production and government revenues will also decline. However, lagging indicators such as production and government revenues are projected to continue to be materially below base case levels for most of the forecast period.

Scenario Development

The study's data development was undertaken by developing a model that accounts for all major parts of the offshore oil and natural gas exploration and production lifecycle. The major sections of the offshore oil and natural gas model are: an Activity Model that assesses near term project activity, OCS reserves and production; and the likely project development and drilling activity necessary to meet production targets; a spending model derived from the activities required to develop and operate offshore oil and natural gas projects and reasonable assumptions around the spending levels typically associated with these activities; a government revenue model which uses forecast production levels and other relevant forecasts (leasing, block rentals, etc.), forecast commodity pricing, historical data on actual government revenues and distributions and governmental polices to forecast potential government revenues; and an economic model which utilizes the projected spending and government revenue levels, as well as assumptions about the nature of spending and its geographic distribution to forecast associated economic activity including employment and gross domestic product.

The Base Case model for offshore oil and natural gas was initially developed based on forecast production and pricing levels based on the Energy Information Administration's (EIA) Annual Energy Outlook (AEO)

2023[8] for long-term prices and the EIA's Short-Term Energy Outlook[9] for the near term (2023 and 2024) prices. The Base Case does not consider any potential impacts of the current proposed five- year Leasing Program if the leasing schedule varied from assumptions in AEO 2023. Modifications to near-term pricing and production levels were made based on current market conditions. Although these forecasts were utilized to develop the Base Case model, due to differences in modeling techniques, especially the project-based model developed in this report, the report's forecast production levels vary modestly from those provided in the EIA's forecasts.

Following the creation of the Base Case forecast, the potential effects of the additional scenario (reduced supply vessels capacity due to transit restrictions for Gulf of Mexico oil and natural gas vessels, the "Vessel Transit Restrictions Case") was considered. Amongst other factors, how this scenario would impact new project development of both underway and future projects and existing producing projects were examined. Given the projected reduced carrying capacity of the Gulf of Mexico oil and natural gas industry supply fleet, activity levels were reduced to align supply vessel requirements with the projected available supply vessel fleet. Existing producing platforms were given priority for supply vessels due to typically lower production cost of these projects (as capital spending has already taken place), thus the primary impact is projected on new well drilling and capital projects. As the carrying capacity of the fleet grows due to projected new building of vessels, the impacts on project development and drilling (as well as spending, employment, and GDP) are projected to decline over time.

Gulf of Mexico Oil and Natural Gas Economic Impacts

The Gulf of Mexico oil and natural gas industry supports significant employment, gross domestic product, and state and federal government revenues. To quantify the potential effects on offshore oil and natural gas vessel transit restrictions, this study developed a Base Case activity level for Gulf of Mexico oil and natural gas activity to compare activity levels and subsequent impacts of the transit restrictions described above. The study forecasted key activity indicators, including the number of wells drilled, projects executed, oil and natural gas production, and spending based on projected activity levels. These activity and spending forecasts drive the projected employment, GDP, and government revenue forecasts presented in this report.

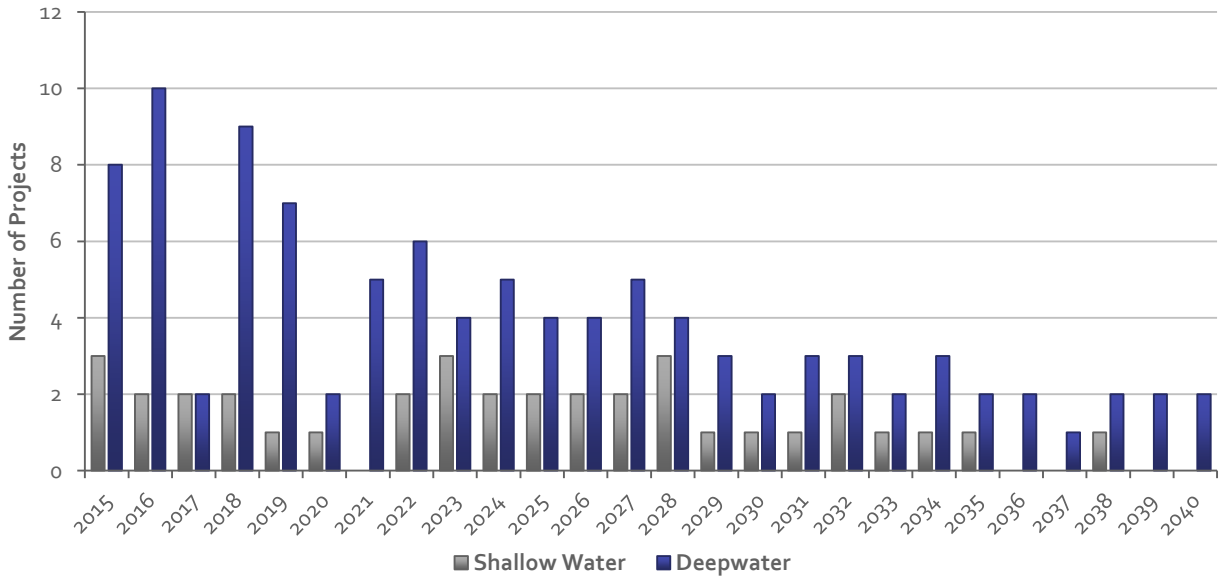
Projects

The development of new Gulf of Mexico oil and natural gas projects is the primary source of industry capital spending, supports national employment and GDP, and is one of the key drivers of Gulf of Mexico oil and natural gas production. In the Base Case, project development is projected to remain steady over

[8] Annual Energy Outlook 2023, Energy Information Administration
[9] Short Term Energy Outlook, August 8th, 2023, Energy Information Administration

the near term, before slowly declining, in line with the EIA's projection of falling oil and natural gas production from the Gulf of Mexico. (Figure 3)

Figure 3: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Project Startups by Year



Source: Energy and Industrial Advisory Partners

Production

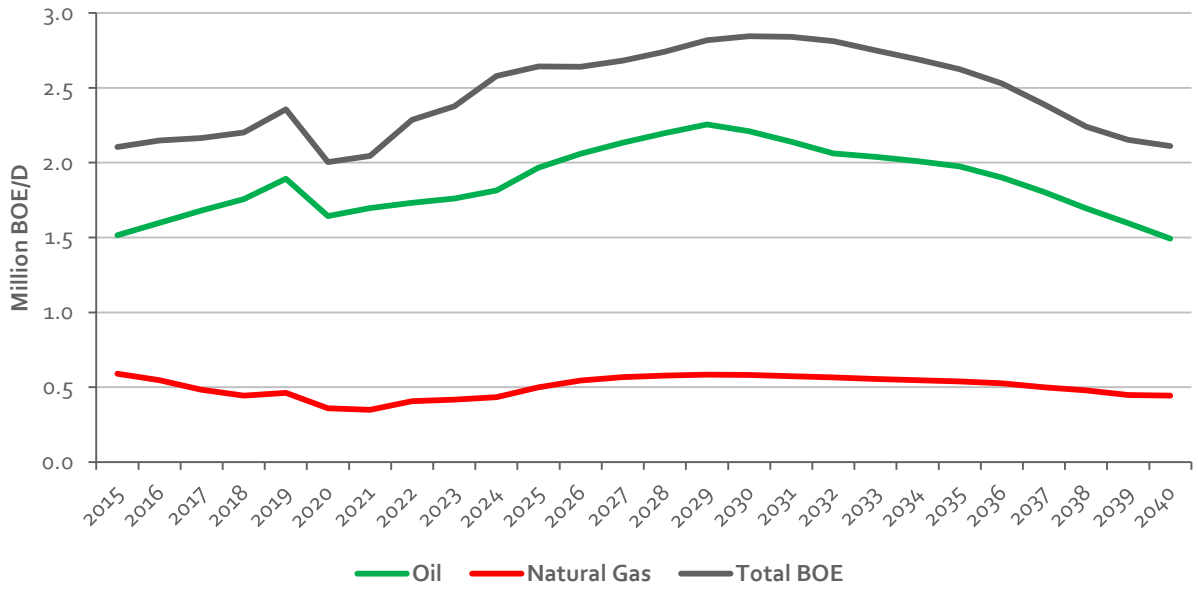
The decline rate of existing producing wells and new project developments are the main determinants of Gulf of Mexico oil and natural gas production. Production is influenced by several factors, including reservoir productivity, oil, and natural gas production ratios, well counts, and operational choices by operators. To prepare the production forecast, the Energy Information Administration's (EIA) production forecasts from the "Annual Energy Outlook 2023"[10]and the EIA's Short Term Energy Outlook[11] were utilized as the primary indicator of forecast production levels. The Base Case production forecast was developed to be relatively in line with the EIA's long-term forecast. The production forecast in this report differs from this forecast due to the project-based methodology used to develop forecasts for the report. To develop the production forecast for this report, project developments (in addition to the existing production base) were modeled utilizing indicators such as the water depth of the project, the number of projected producing wells, projected per well production levels, assumptions on peak production years, and decline rate assumptions.

This study forecasts that combined Gulf of Mexico oil and natural gas production in 2023 will be nearly 2.4 million barrels of oil equivalent per day, with oil and other liquids accounting for around 74 percent of production and natural gas accounting for 26 percent of production. On average, across the 2023-2040

[10] Annual Energy Outlook 2023, Energy Information Administration
[11] Short Term Energy Outlook, August 8th, 2023, Energy Information Administration

forecast period oil and natural gas production is projected at just under 2.6 million barrels of oil equivalent per day. At the end of the forecast period in 2040, the Gulf of Mexico is projected to produce just over 2.1 million barrels of oil equivalent per day. (Figure 4)

Figure 4: Projected Base Case Gulf of Mexico oil and natural gas Production (BOE/D)



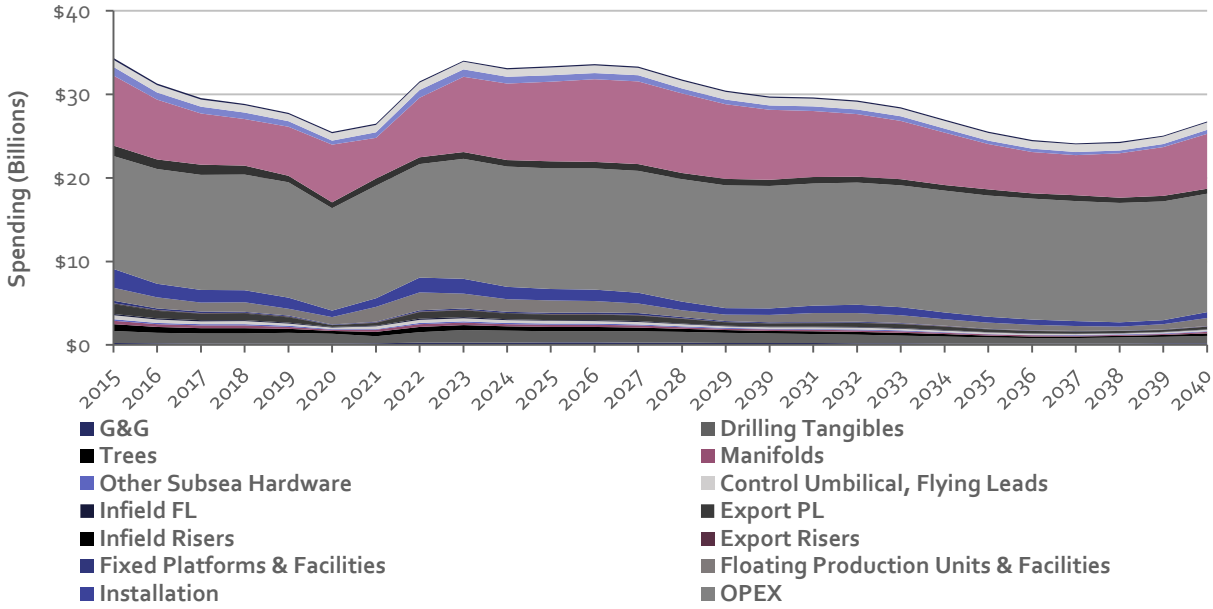
Source: Energy and Industrial Advisory Partners

Spending

Offshore oil and natural gas exploration, development, and operations require significant capital and operational investment. Investment spans activities including geological and geophysical surveys, drilling, engineering, surface and subsea production equipment procurement, installation, operational expenditures, and decommissioning. For this study, spending was modeled in 19 categories, encompassing the full range of activities required to identify, explore for, develop, operate, and decommission offshore oil and natural gas projects.

In the Base Case scenario developed for this report, offshore oil and natural gas spending is projected at around $33.9 billion in 2023. Across the 2023-2040 forecast period, spending is projected to average just over $28.9 billion. (Figure 5)

Figure 5: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending

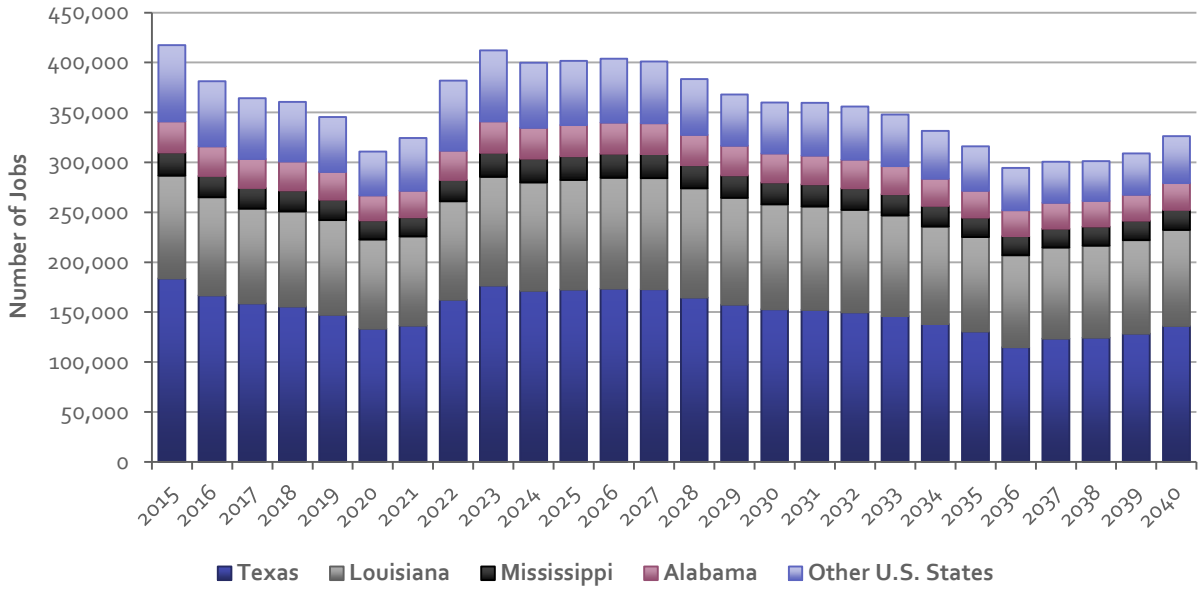


Source: Energy and Industrial Advisory Partners

Employment

The Gulf of Mexico offshore oil and natural gas industry has supported significant levels of employment in the U.S. for decades. While the most significant employment impacts of the industry take place in the Gulf Coast states, almost, if not all, states see employment supported due to the Gulf of Mexico offshore oil and natural gas industry. The Gulf of Mexico offshore oil and natural gas industry directly supports many highly paid jobs, especially blue-collar jobs. The industry also supports significant employment through the industry's supply chain (indirect jobs) and due to increased spending by workers (induced jobs). In 2023, an estimated 412 thousand jobs are projected to be supported by Gulf of Mexico offshore oil and natural gas industry activity. From 2023 to 2040, an average of around 354 thousand jobs are projected to be supported by the Gulf of Mexico offshore oil and natural gas industry. (Figure 6)

Figure 6: Projected Base Case Gulf of Mexico Oil and Natural Gas Supported Employment

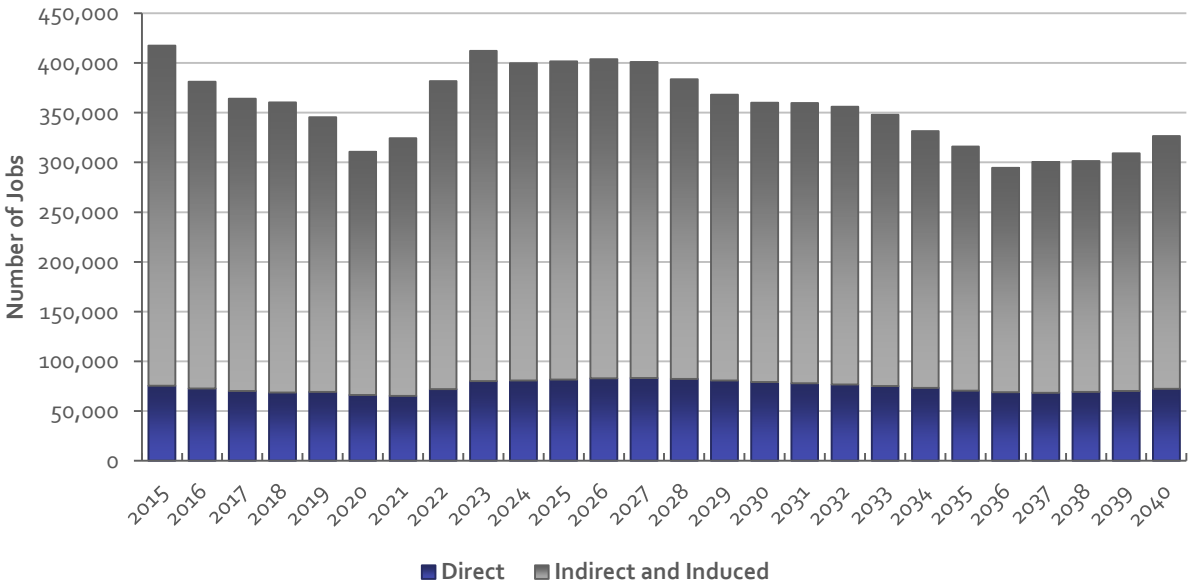


Source: Energy and Industrial Advisory Partners

The most significant employment impacts are projected to be in the Gulf Coast states. An average of about 149 thousand jobs were projected to be supported in Texas across the 2023-2040 forecast period, with just above 101 thousand jobs supported in Louisiana, over 28 thousand jobs supported in Alabama, just over 21 thousand jobs supported in Mississippi, and over 52 thousand jobs supported in other U.S. states.

The Gulf of Mexico offshore oil and natural gas industry supports employment through direct employment by the industry, indirectly through its suppliers and through induced employment due to increased worker spending. Indirect employment occurs through the industry's purchases of goods and services, while induced employment is due to the impact of higher income in the economy. Direct employment by oil and natural gas companies and their suppliers due to Gulf of Mexico oil and natural gas industry activity in 2023 is projected to be just under 80 thousand jobs. Across the 2023 to 2040 forecast period, direct employment is projected to average just over 76 thousand jobs yearly. Indirect and induced employment due to the Gulf of Mexico oil and natural gas industry is projected to be around 332 thousand jobs in 2023. Across the 2023 to 2040 forecast period, supported indirect and induced employment is projected to average just under 278 thousand jobs each year. (Figure 7)

Figure 7: Projected Base Case Gulf of Mexico Oil and Natural Gas Direct vs. Indirect and Induced Supported Employment

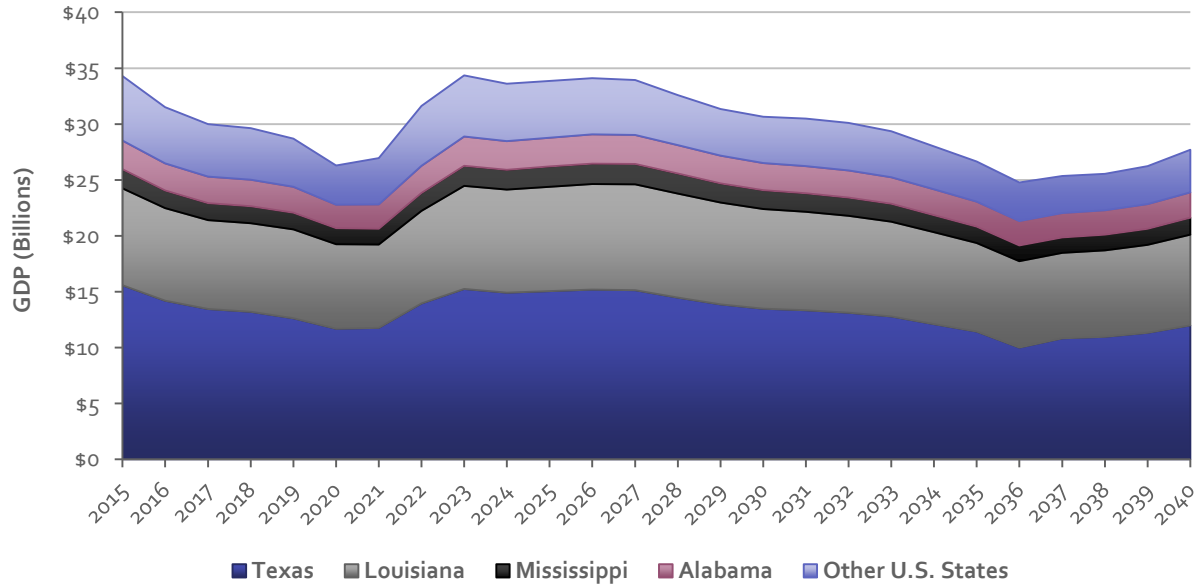


Source: Energy and Industrial Advisory Partners

GDP

Gulf of Mexico oil and natural gas industry activity supports significant levels of gross domestic product nationally. In 2023, the industry is projected to support just under $34.4 billion of U.S. GDP. Over the forecast period from 2023 to 2040, contributions to GDP are projected to average just over $29.9 billion per year. (Figure 8)

Figure 8: Projected Base Case Gulf of Mexico Oil and Natural Gas Contributions to GDP



Source: Energy and Industrial Advisory Partners

Government Revenues

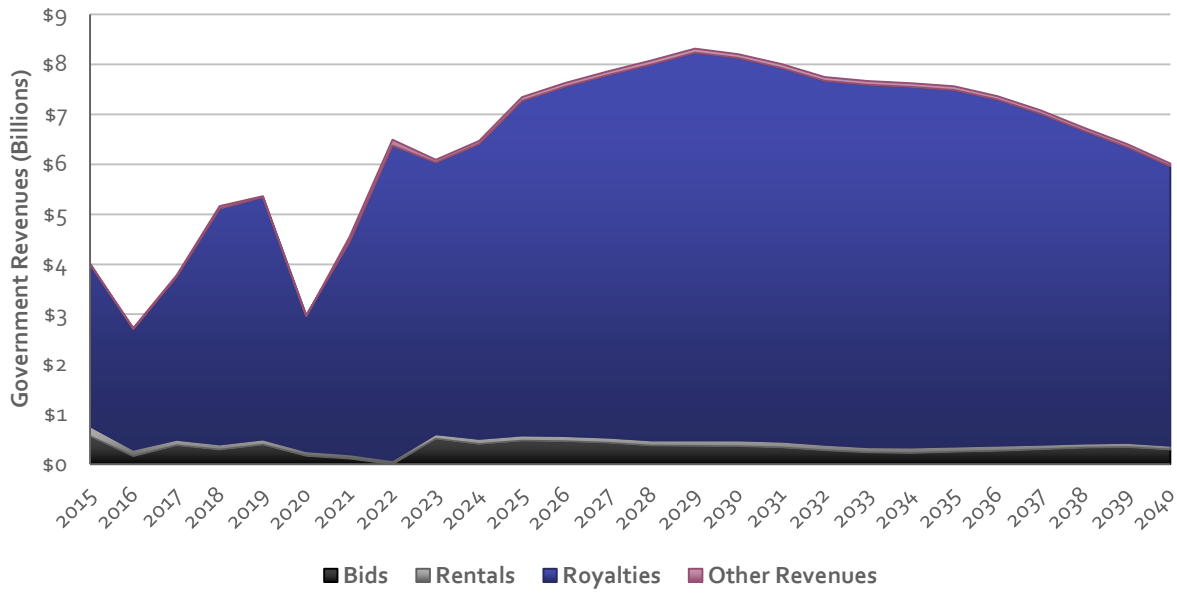
Gulf of Mexico offshore oil and natural gas activity's contributions to government revenues are primarily derived from three main revenue streams; royalties paid on produced oil and natural gas, bonus bids paid to acquire blocks in lease sales, and rents paid for blocks leased by operators. Several policies impact royalties and lease payments received by the Federal Government, including royalty relief for certain blocks depending on production rates, differing rent, and royalty regimes for fields in different water depths, and blocks leased at different times. Additionally, the value of oil and natural gas produced in the Gulf of Mexico differs from commonly published indicators such as West Texas Intermediate (WTI) crude due to transportation costs, long-term sales contracts, and differentials due to product quality and location. To calculate government revenues due to offshore oil and natural gas activities, data from the Office of Natural Resource Revenue[12] (ONRR) as well as oil and natural gas price projections from the Energy Information Administration's Annual Energy Outlook 2023[13] and Short-Term Energy Outlook[14] were utilized as the basis of the forecast. Data on disbursements to states are available as fiscal year data, so for the purposes of this report, fiscal year data was utilized as a stand-in for calendar year data.

In 2023, government revenues due to Gulf of Mexico oil and natural gas activities are projected to reach nearly $6.1 billion. On average, across the 2023 to 2040 forecast period, government revenues due to Gulf of Mexico oil and natural gas activities (excluding personal and corporate income taxes and property taxes) are projected to average just over $7.3 billion annually. The largest source of government revenues

[12] Natural Resources Revenue Data, Office of Natural Resource Revenue, U.S. Department of the Interior
[13] Annual Energy Outlook 2023, Energy Information Administration
[14] Short Term Energy Outlook, August 8th, 2023, Energy Information Administration

from Gulf of Mexico offshore oil and natural gas activities is from royalties paid on produced oil and natural gas. Across the 2023 to 2040 forecast period, average royalty revenues are projected at over $6.8 billion per year. Bid revenues are projected to average about $342 million per year across the forecast period, rental revenues are projected to average just below $103 million per year, and other revenues are projected to average nearly $70 million per year. (Figure 9)

Figure 9: Projected Base Case Gulf of Mexico Oil and Natural Gas Government Revenues by Type[15]

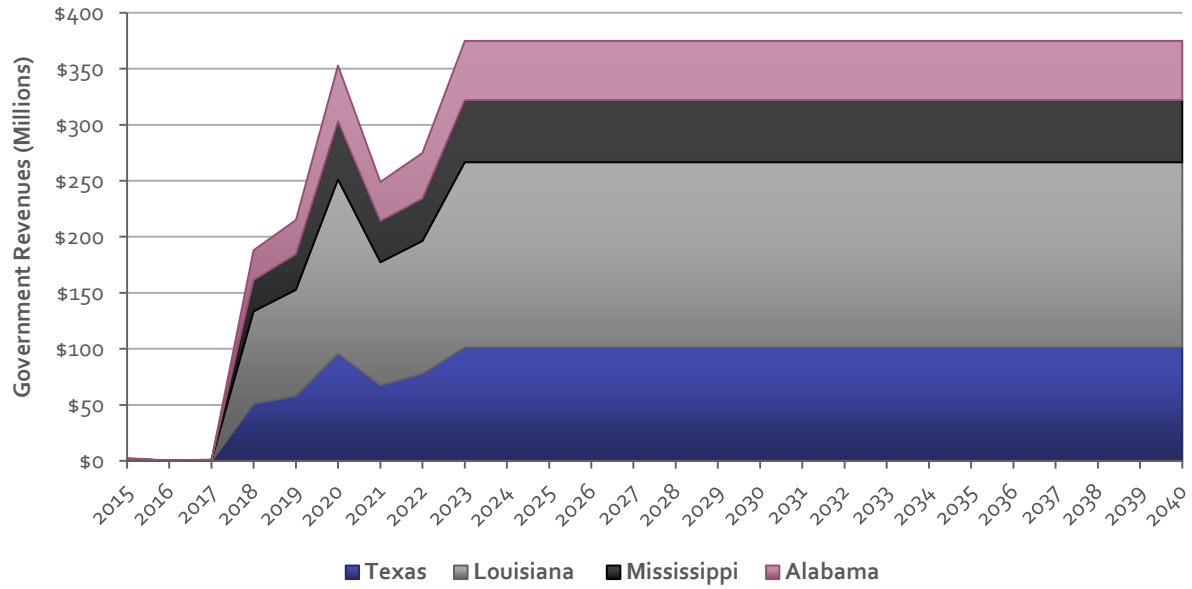


Source: Energy and Industrial Advisory Partners

Congress passed the OCS Energy Security Act (GOMESA) in 2006, which created revenue-sharing provisions for the four Gulf oil and natural gas producing states (Louisiana, Texas, Mississippi, and Alabama) and their coastal political subdivisions. Revenue sharing was enacted in two phases beginning in 2007 and 2017, respectively, with revenue sharing caps of $375 million for fiscal years 2017–2019, $487.5 million for fiscal years 2020 and 2021, and $375 million for fiscal years 2022–2055. Total projected Federal Government revenues, actual fiscal year distribution data from the ONRR, and analysis of the growth of revenue sharing and the revenue sharing caps were utilized to develop the revenue sharing forecasts in this report. In 2023, the Gulf of Mexico oil and natural gas producing states are projected to receive around $375 million due to revenue sharing, with revenue projected to remain flat throughout the forecast period due to the revenue sharing cap. (Figure 10)

[15] No bid revenue was received in 2022 as no Gulf of Mexico lease sales were held that year. Lease sale 259 was held on March 29, 2023.

Figure 10: Projected Base Case Gulf of Mexico Oil and Natural Gas Government Revenues by State



Source: Energy and Industrial Advisory Partners

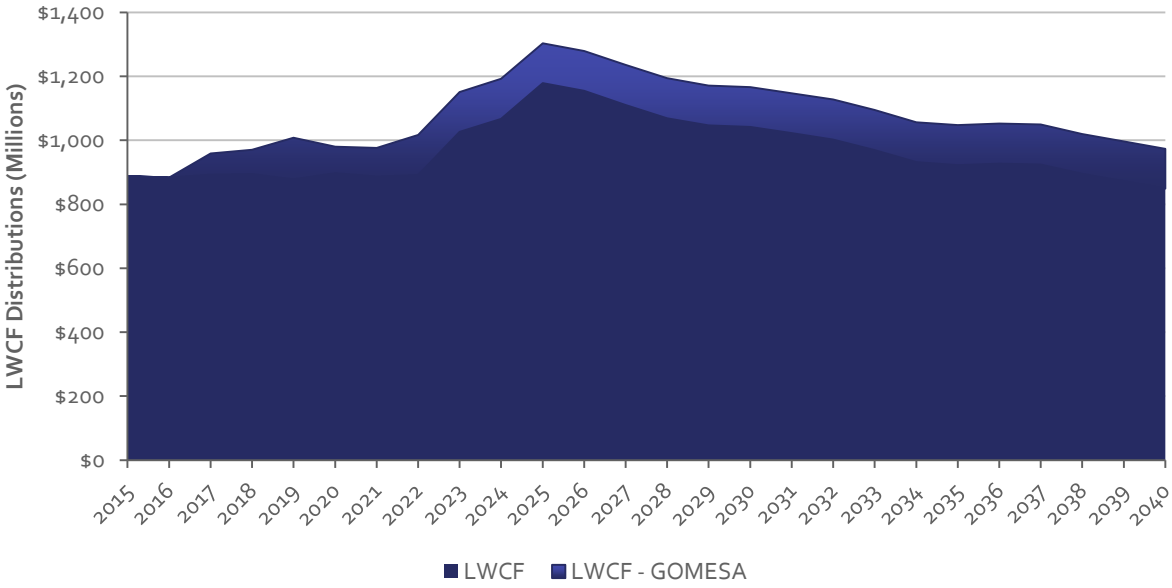
Based on historical distributions, this study projects that Louisiana will see the largest annual distributions due to GOMESA, with distributions averaging around $165million over the 2023-2040 forecast period. Texas is projected to receive the second-highest average distributions, at over $101million per year. Mississippi and Alabama are projected to receive distributions that average around $55 and $53 million annually.

In addition to provisions for revenue sharing with the OCS producing States, GOMESA also included a provision for distributions to the Land and Water Conservation Fund (LWCF). The LWCF "Supports the protection of federal public lands and waters – including national parks, forests, wildlife refuges, and recreation areas – and voluntary conservation on private land. LWCF investments secure public access, improve recreational opportunities, and preserve ecosystem benefits for local communities."[16] In addition to funding from GOMESA, the LWCF also receives significant additional funding due to offshore oil and natural gas activities.

GOMESA distributions to the LWCF are capped at $125 million per year as part of a total cap with state distributions of $500 million. This study projects that distributions to the LWCF due to GOMESA revenue sharing will remain at or around the $125 million cap level for the 2023-2040 forecast period. Non-GOMESA LWCF contributions are projected to average just over $1 billion per year. (Figure 11)

[16] Land and Water Conservation Fund, U.S. Department of the Interior

Figure 11: Projected Base Case LWCF Distributions



Source: Energy and Industrial Advisory Partners

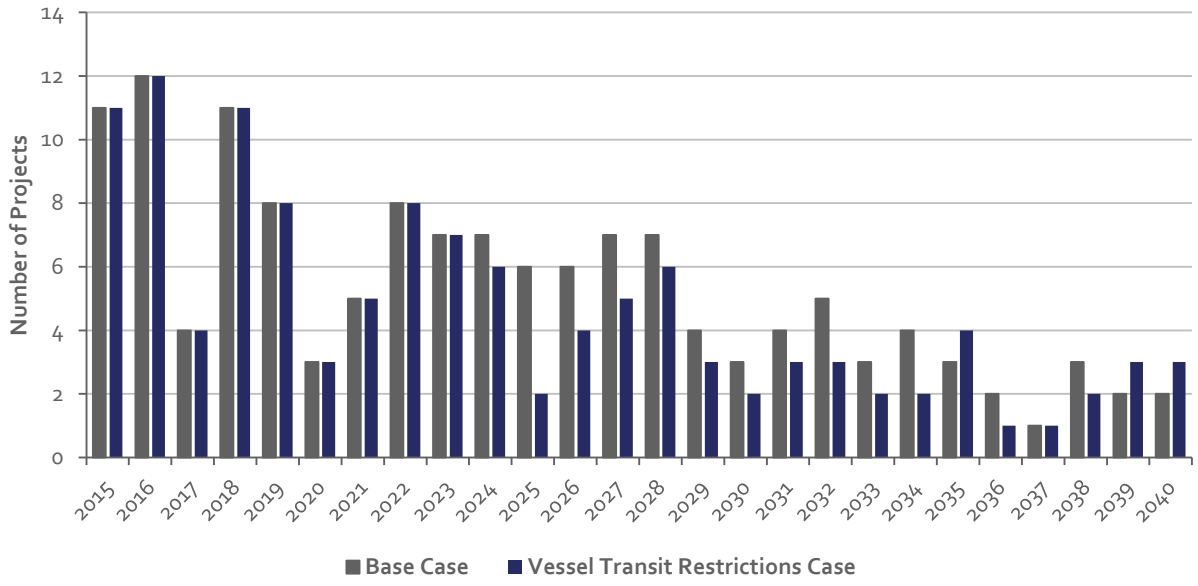
Vessel Transit Restrictions Case Impacts

A reduction in the available capacity to transport equipment and goods to drilling rigs, projects under development, and production platforms would likely have an immediate, long-lasting, negative impact on Gulf of Mexico oil and natural gas project development, spending, supported employment and GDP, and government revenues. For the purposes of this report, a "Vessel Transit Restrictions Case" was developed to compare activity levels (project executions, spending, oil, and natural gas production), economic impacts, and government revenues to the Base Case Scenario. This scenario assumes that beginning in 2024, the transit restrictions on oil and gas vessels in the Proposed Lease Sale 261 Stipulation Language are implemented. This scenario also assumes no other major policy or regulatory changes impacting the Gulf of Mexico oil and natural gas industry would be enacted.

Projects

Development of new offshore oil and natural gas projects in the Gulf of Mexico is a key indicator for capital and operational spending, supported employment, oil and natural gas production, and government revenues due to Gulf of Mexico offshore oil and natural gas activity. Under the Vessel Transit Restrictions Case, project development activity is projected to be reduced as soon as 2024, as the vessel capacity to support drilling rigs and construction vessels required for project development are immediately reduced. Over the 2023-2040 forecast period, new project startups are projected to decline by 22 percent, from 76 to 59. (Figure 12)

Figure 12: Projected Base Case vs. Vessel Transit Restrictions Case Gulf of Mexico Oil and Natural Gas Project Startups by Year



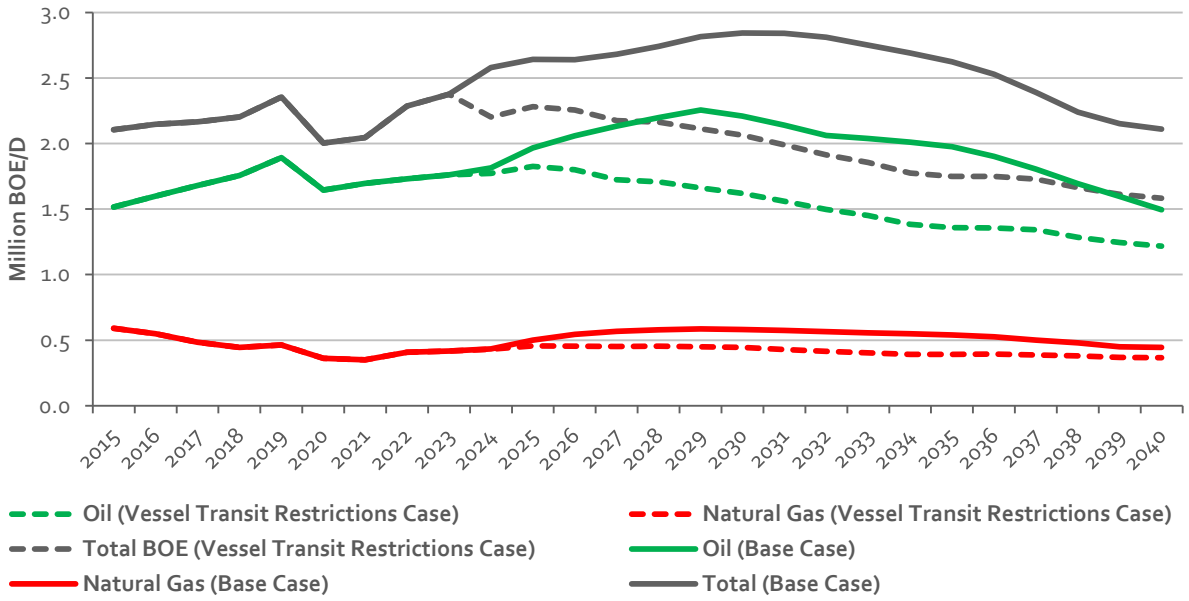
Source: Energy and Industrial Advisory Partners

Production

To develop the production forecasts for this report, project development, in addition to the existing production base was modeled utilizing key indicators such as the water depth of a project, the projected number of producing wells, per well production estimates, and assumptions on peak production years, and decline rates. The Vessel Transit Restrictions Case modeled the impact of reduced and delayed project development due to the proposed vessel restrictions on production.

The average production from 2023 to 2040 in the Base Case is around 2.6 million barrels of oil equivalent per day. The average production in the Vessel Transit Restrictions Case over the same time period is slightly around 2.0 million barrels of oil equivalent per day, a 24 percent reduction. In 2040, production is projected to be just under 1.6 million barrels of oil equivalent per day lower than the base case, around a 25 percent reduction. (Figure 13)

Figure 13: Projected Base Case vs. Vessel Transit Restrictions Case Gulf of Mexico oil and natural gas Production (BOE/D)

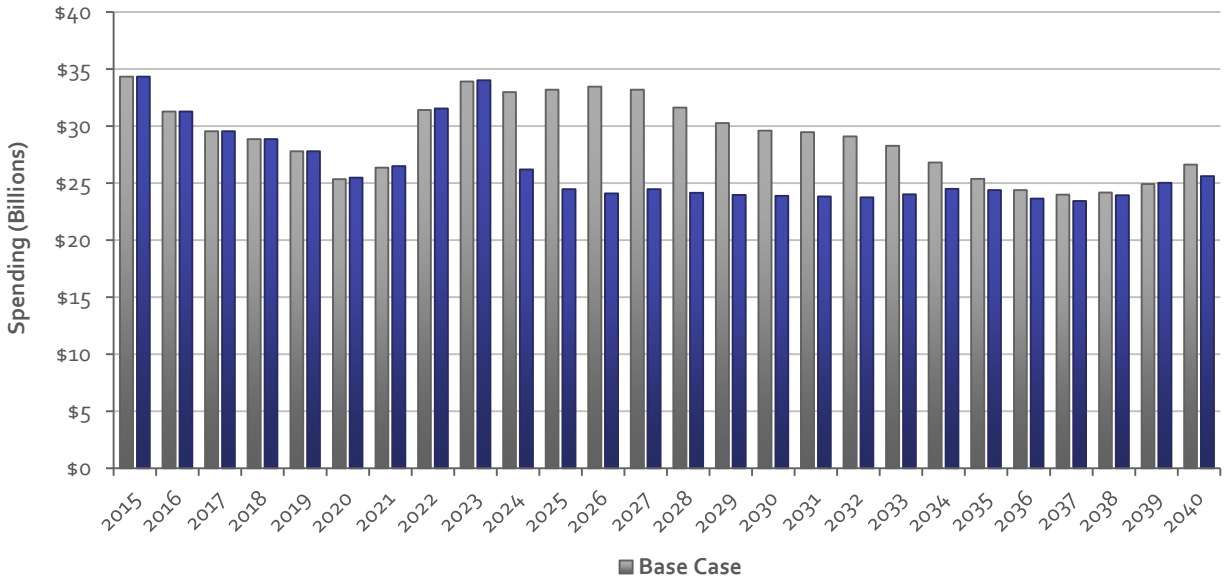


Source: Energy and Industrial Advisory Partners

Spending

In the Vessel Transit Restrictions Case, spending is projected at just under $24.9 billion per year on average from 2023-2040, a 14 percent reduction from the just over $28.9 billion in the Base Case (Figure 14)

Figure 14: Projected Base Case vs. Vessel Transit Restrictions Case Gulf of Mexico Oil and Natural Gas Spending



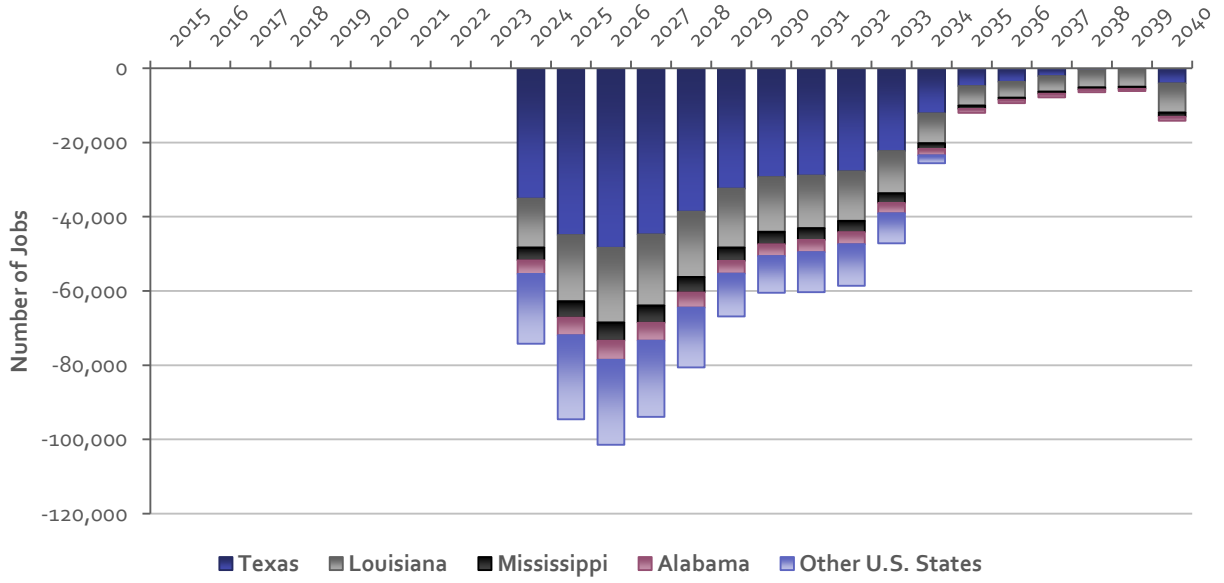
Source: Energy and Industrial Advisory Partners

Employment

In the Base Case, during the 2023 to 2040 forecast period, this study project average annual employment of around 354 thousand nationally will be supported by Gulf of Mexico oil and natural gas activity. In the Vessel Transit Restrictions Case, average employment is projected to decline to just under 310 thousand jobs supported annually (a 13 percent reduction).

In the Vessel Transit Restrictions Case, Texas' average annual supported employment across the forecast period is projected to decline from just above 149 thousand jobs to just over 128 thousand jobs (a 14 percent decline. Louisiana's average supported employment is projected at just over 91 thousand jobs in the Vessel Transit Restrictions Case, compared to about 102 thousand jobs in the Base Case, an 11 percent reduction. Alabama is projected to see average annual supported employment decline from over 28 thousand jobs to about 26 thousand jobs, a 9 percent decline. Mississippi is projected to see average annual supported employment decline from about 21 thousand jobs to slightly over 19 thousand jobs, an 11 percent decline. The rest of the U.S. is projected to see average annual supported employment decline from over 52 thousand jobs to just over 45 thousand jobs, a 14 percent decline. (Figure 15)

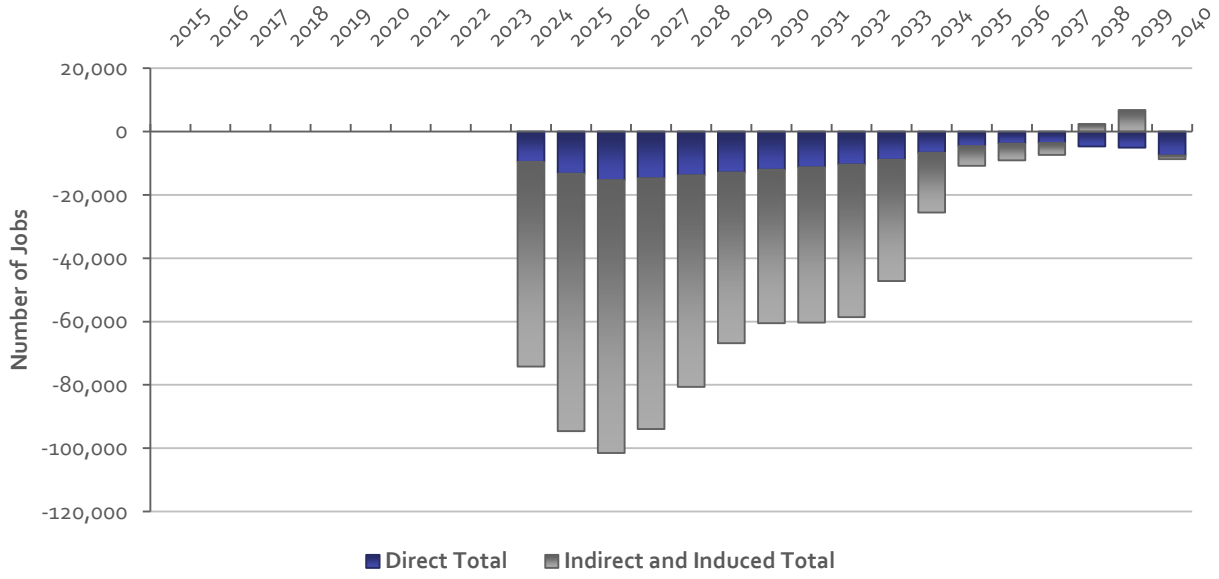
Figure 15: Projected Vessel Transit Restrictions Case Gulf of Mexico Oil and Natural Gas Supported Employment Reductions



Source: Energy and Industrial Advisory Partners

The Gulf of Mexico oil and natural gas industry supports employment through direct employment by the industry, indirect employment by its suppliers, and induced employment due to increased spending by workers. Across the 2023 to 2040 forecast period, direct employment is projected to average around 76 thousand jobs each year in the Base Case. In the Vessel Transit Restrictions Case, average direct employment across the forecast period is projected at just under 68 thousand jobs, a slightly below 11 percent decrease. Across the 2023 to 2040 forecast period, supported indirect and induced employment in the Vessel Transit Restrictions Case is projected at around 242 thousand jobs on average, compared to around 278 thousand jobs in the Base Case, a nearly 13 percent decline. (Figure 16)

Figure 16: Projected Vessel Transit Restrictions Case Gulf of Mexico Oil and Natural Gas Direct and Indirect and Induced Supported Employment Reductions

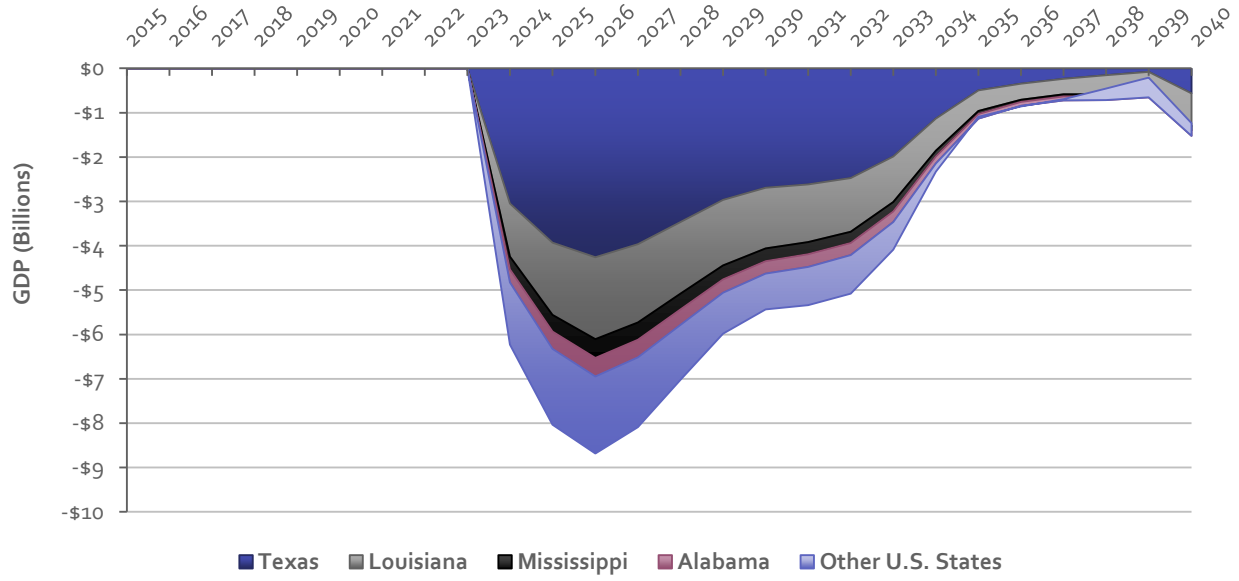


Source: Energy and Industrial Advisory Partners

GDP

The Gulf of Mexico oil and natural gas industry supports significant gross domestic product (GDP) levels in the Gulf Coast states' economies and the national economy through its spending. On average, the Gulf of Mexico offshore oil and natural gas industry is projected to contribute just over $ 29.9 billion to the national GDP annually over the forecast period in the Base Case. In the Vessel Transit Restrictions Case, annual contributions to GDP are projected to average over $25.9 billion, and around 13 percent reduction. (Figure 17)

Figure 17: Projected Vessel Transit Restrictions Case Gulf of Mexico Oil and Natural Gas Contributions to GDP Reductions



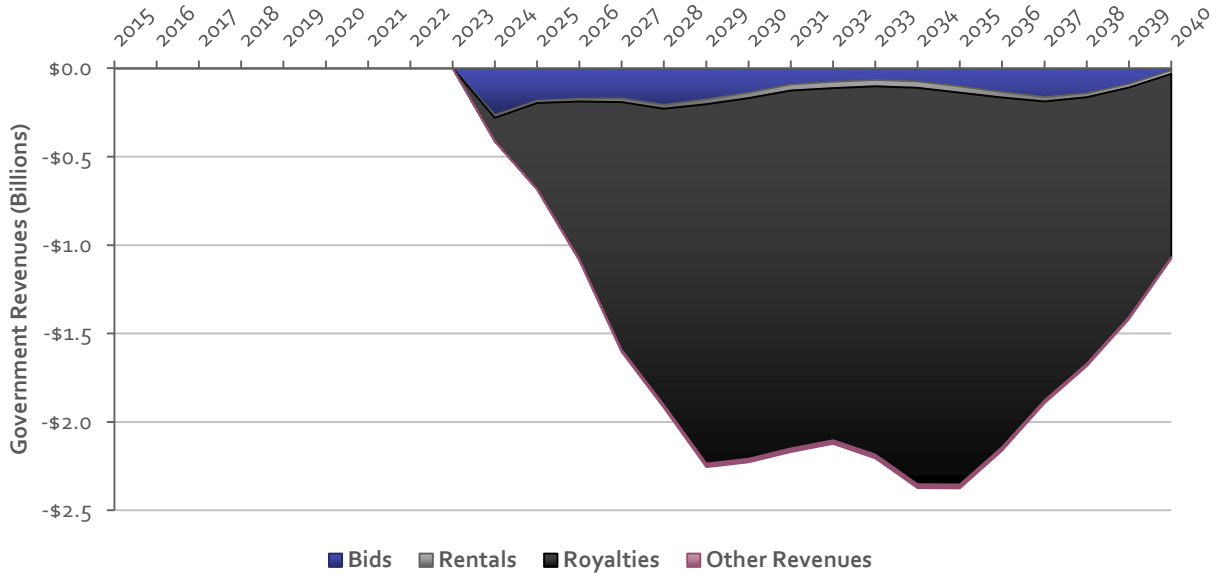
Source: Energy and Industrial Advisory Partners

Government Revenues

In the Base Case developed for this report, average annual government revenues across the 2023 to 2040 forecast period due to Gulf of Mexico offshore oil and natural gas activities (excluding personal and corporate income taxes and property taxes) are projected at over $7.3 billion per year. In the Vessel Transit Restrictions Case, revenues are projected at an average of around $ 5.7 billion annually, a 22 percent reduction.

Across the 2023 to 2040 forecast period, average royalty revenues are projected to be reduced from slightly over $6.8 billion in the Base Case to just over $5.3 billion per year in the Vessel Transit Restrictions Case, a 22 percent reduction. Bid revenues are projected to decline from an average of about $342 million per year in the Base Case to just below $216 million per year in the Vessel Transit Restrictions Case, a 37 percent reduction. Rental revenues are projected to decline from around $102 million per year on average in the Base Case to just above $78 million, a 24 percent reduction. Other revenues are projected to decline to around $54 million per year on average in the Vessel Transit Restrictions Case compared to just over $69 million, a 22 percent reduction from the Base Case. (Figure 18)

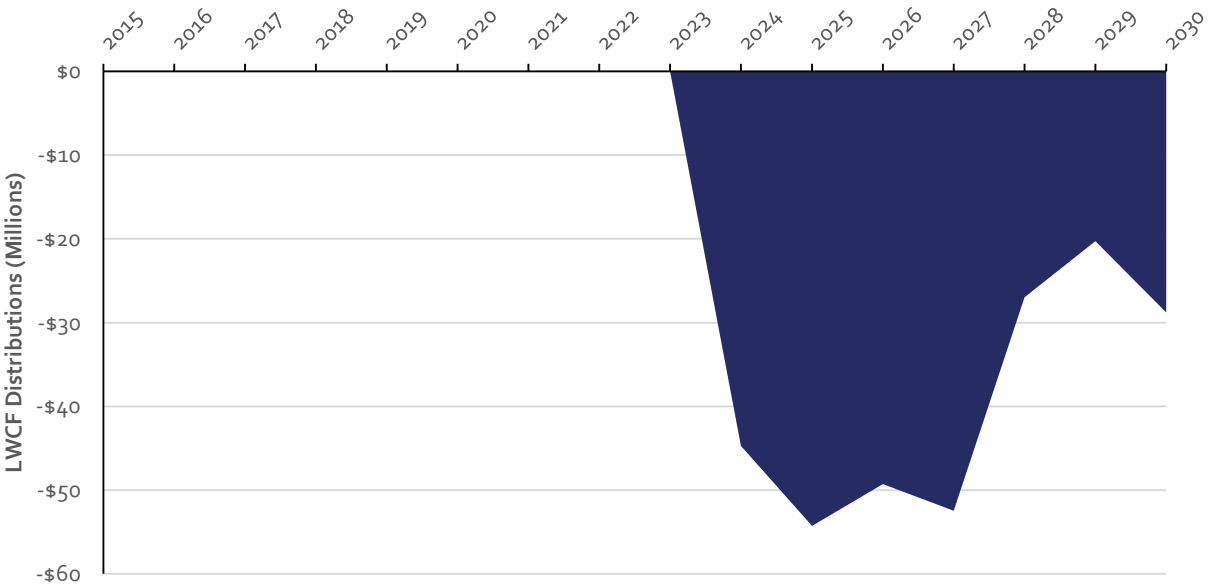
Figure 18: Projected Vessel Transit Restrictions Case Gulf of Mexico Oil and Natural Gas Government Revenue Reductions by Type



Source: Energy and Industrial Advisory Partners

In the Vessel Transit Restrictions Case, distributions to states due to GOMESA are projected to be relatively in line with distributions in the Base Case due to the cap on distributions to states. If this cap were removed or increased, distributions to states would likely be reduced. Distributions to the LWCF due to GOMESA are also projected to be relatively in line with those in the Base Case. Non-GOMESA distributions to the LWCF due to offshore activities are projected to average just over $963 million compared to around $1 billion in the Base Case, a 4 percent reduction. (Figure 19)

Figure 19: Projected Vessel Transit Restrictions Case LWCF Distribution Reductions



Source: Energy and Industrial Advisory Partners

Conclusions

The Gulf of Mexico offshore oil and natural gas industry plays a major role in domestic energy production, and is expected to continue for decades to come, despite the evolving energy landscape. The offshore oil and natural gas industry relies on a wide variety of supplies to explore for new resources, drill exploration and production wells, develop new projects, and to conduct production operations. These supplies very greatly, from pipe, to chemicals, to drilling mud, food, fuel, and thousands of other commodities and pieces of equipment. Significantly restricting the movement of the vessels that transport these things is projected to have a major impact on the industry's ability to supply the necessary materials to conduct offshore oil and natural gas development. This reduction in activity is projected to lead to reduced industry spending, supported employment and GDP, government revenues, and oil and natural gas production. (Table 4)

Table 4: Key Findings

		Vessel Transit Restrictions Case Impacts		
Economic Impact	Base Case Average (2023-2040)	Maximum Year Impact	Average Impact (2023-2040)	Cumulative Impact (2023-2040)
Capital Investment and Spending ($ Billions)	$29.0	-$9.4	-$4.1	-$74.0
Employment	354,053	-101,469	-44,466	N/A
Contributions to GDP ($ Billions)	$29.9	-$8.7	-$3.9	-$70.9
Government Revenues ($ Billions)	$7.3	-$0.7	-$1.6	-$29.7
Oil and Natural Gas Production (MMBOED)	2.58	-0.92	-0.62	-4.1 Billion Barrells

Source: Energy and Industrial Advisory Partners

Appendices

Methodology

Overall Methodology

As part of the development of this report, a detailed review of the potential impacts of a change to offshore energy construction vessel crewing requirements was to take place was conducted. This study is not exhaustive, especially considering the uncertainty around how the Gulf of Mexico oil and natural gas industry would respond to these changes and a subsequent reduction in offshore energy vessel availability. This report focuses on the potential operational effects of these changes based on a reasonable reading of these proposals and considers the potential operational changes energy companies could undertake to minimize the effects of these changes on their operations. As such, this analysis is inherently forward-looking and subject to significant changes based on the potential development and implementation of policy changes by Congress, the executive branch, and regulators such as the Department of Homeland Security and the Coast Guard.

Scenario Development

The study's data development was undertaken by first developing a model that accounts for all major parts of the offshore oil and natural gas exploration and production lifecycle. The major sections of the offshore oil and natural gas model are: an Activity Model that assesses near term project activity, OCS reserves and production; and the likely project development and drilling activity necessary to meet production targets; a spending model derived from the activities required to develop and operate offshore oil and natural gas projects and reasonable assumptions around the spending levels typically associated with these activities; a government revenue model which uses forecast production levels and other relevant forecasts (leasing, block rentals, etc.), forecast commodity pricing, historical data on actual government revenues and distributions and governmental policies to forecast potential government revenues; and an Economic Model which utilizes the projected spending and government revenue levels, as well as assumptions about the nature of spending and its geographic distribution to forecast associated supported economic activity including employment and gross domestic product.

The Base Case model for offshore oil and natural gas was initially developed based on forecast production and pricing levels based on the Energy Information Administration's (EIA) Annual Energy Outlook 2023[17] for long-term prices and the EIA's Short-Term Energy Outlook[18] for the near term (2023 and 2024) prices. However, modifications to near-term pricing and production levels were made based on current market conditions. Although these forecasts were utilized to develop the Base Case model, due to differences in

[17] Annual Energy Outlook 2023, Energy Information Administration
[18] Short Term Energy Outlook, August 8th, 2023, Energy Information Administration

modeling techniques, especially the project-based model developed in this report, the report's forecast production levels vary from those provided in the EIA's forecasts.

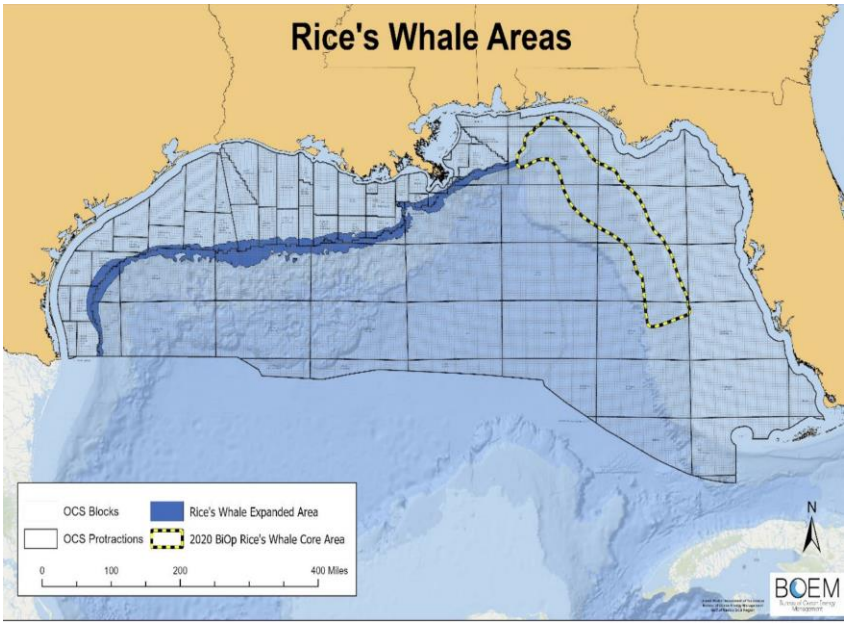
Following the creation of the Base Case forecast, the potential effects of the additional scenario (reduced vessel availability due to attempted changes in crewing requirements for offshore energy vessels, the "Vessel Transit Restrictions Case") was considered. Amongst other factors, how this scenario would impact new project development of both underway and future projects and existing producing projects were examined.

Offshore Energy Vessels Transit Restrictions

Following a lawsuit filed against the National Marine Fisheries Service (NMFS) relating to various marine species, NMFS entered into a settlement with the plaintiffs calling for the implementation of new restrictions applicable to the transit of oil and gas vessels between the 100 to 400 m isobath across the northern Gulf of Mexico on the Outer Continental Shelf (OCS), eastward from the Mexican border with Texas and westward of the Rice's Whale Core Area identified in the 2020 Biological Opinion (Expanded Rice's Whale Area).[19] If implemented, these restrictions would greatly reduce the ability of oil and gas vessels to transit through this area, which would include all vessels transiting to deepwater, drilling and production platforms. Transit through this area would essentially be halted during certain sea state conditions as well as at night. These restrictions only apply to oil and natural gas industry vessels and not to other vessels transiting the area. (Figure 20)

[19] These restrictions are reflected in Notice to Lessees No. 2023-G-01, which this report assumes will be implemented under the "Vessel Transit Restrictions Case." Similar restrictions are also reflected in lease stipulations applicable to Lease Sale 261 (which have been preliminarily enjoined by a federal court).

Figure 20: Rice's Whale Areas



Source: Bureau of Ocean Energy Management

These transit restrictions would essentially reduce the capacity of the existing offshore oil and gas supply fleet, as the journey between shore and platforms would be extended. This reduction in transport capacity would reduce the ability to support exploration, drilling, development, and production operations, reducing the industry's ability to explore for, develop and produce oil and natural gas. Given the Jones Act requirement that vessels transporting equipment from US ports to offshore be Jones Act compliant (US built, flagged, and crewed), overcoming these restrictions would take a significant amount of time, as well as putting strain on Gulf Coast ports, and the limited pool of US mariners.

The primary purpose of this report is to estimate the impact that restricting transit of offshore oil and gas vessels would have on vessel capacity availability and the subsequent impacts reduced vessel capacity would have on Gulf of Mexico exploration, project development and operations, and the impact reduced activity levels would be projected to have on the economy.

A large variety of vessels are required to support offshore oil and natural gas exploration, development, and operations. These vessels range from seismic vessels (which identify potential oil and natural gas deposits) and drilling rigs to a variety of installation vessels (such as pipe and cable lay vessels, heavy lifts vessels, and multipurpose support vessels). These transit restrictions would essentially reduce the capacity of the existing offshore oil and gas supply fleet, as the journey between shore and platforms would be extended. This reduction in transport capacity would reduce the ability to support exploration, drilling, development, and production operations, reducing the industry's ability to explore for, develop and produce oil and natural gas. Given the Jones Act requirement that vessels transporting equipment from US ports to offshore be Jones Act compliant (US built, flagged, and crewed), overcoming these restrictions would take a significant amount of time, as well as putting strain on Gulf Coast ports, and the limited pool of US mariners.

Given that the transit restrictions primarily impact vessel transiting to deepwater areas from ports, the largest potential impact of the restrictions are expected to be on supply vessels, which ferry supplies from shore to deepwater drilling rigs, platforms, and other vessels. The number of active vessels in the Gulf of Mexico and the projected needs for these vessels, as well as miles traveled, and number of trips was estimated to form the basis of this report's analysis. (Table 5)

Table 5: Historical Gulf of Mexico Supply Vessel Active Fleet, Trips, and Miles Traveled Estimates[20]

Vessel Trips	2017	2018	2019	2020	2021	2022
Service Vessels	580	597	580	564	537	575
Service Vessel Trips	81,394	83,779	81,394	79,148	75,359	80,692
Service Vessel Miles	5,879,017	6,051,333	5,879,017	5,716,837	5,443,158	5,828,335

Source: EIAP, National Marine Fisheries Service, BOEM, Army Corps of Engineers

For the purposes of this report, two scenarios were developed, a scenario based on a continuation of current policies as it relates to vessel transit requirements for offshore oil and gas (the Base Case), and a scenario examining the potential impacts of implementation of the transit restrictions described above and the subsequent reduction in the availability of vessels used in the supply of offshore energy projects on these offshore energy activities (The Vessel Transit Restrictions Case). To develop the Vessel Transit Restrictions Case, forecast demand for supply vessels based on historical activity and vessel demand was calculated. Using data from the National Marine Fisheries Service's "Opinion on the Federally Regulated Oil and Gas Program activities in the Gulf of Mexico" released in 2020, an estimate of the number of vessels trips and the length of these trips was calculated.[21] An estimate average length of the restricted area was then calculated, which was overlayed with data provided by Oceanweather Inc on visibility based on significant wave heights and visibility, and data on monthly sunrise and sunset times to estimate the share of a supply vessel's trip which would be restricted by the proposed settlement. This data was then utilized to estimate the reduction of the Gulf of Mexico oil and natural gas supply vessel capacity due to the longer trip times for supply vessels due to these restrictions. The report assumes that the supply vessel fleet will grow (and thus its capacity would grow over time) reducing the impact of the proposed restrictions. (Table 6)

[20] The oil and gas industry's share of total vessel traffic based on Bureau of Ocean Energy Management and Army Corps of Engineers Data as presented in the "National Marine Fisheries Service Endangered Species Act Section 7 Biological Opinion", March 13th, 2020, Page 338 is between 9.23 and 19.28 percent.

[21] Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, National Marine Fisheries Service

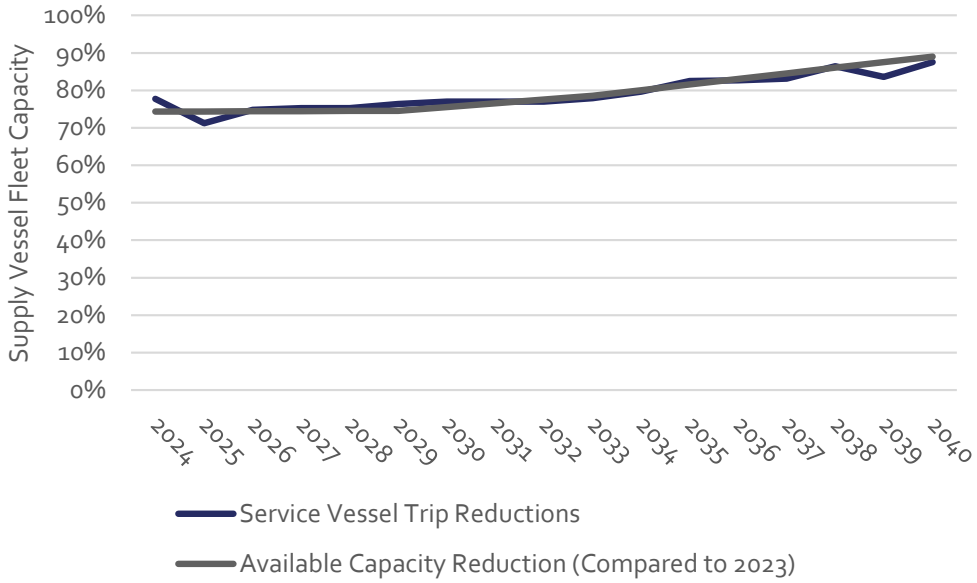
Table 6: Estimate of the Initial Impact of Vessel Transit Restrictions

Input	Output
Estimated Length of Area (Miles)	25
Annual Supply Vessel Trips	83,020
Total KM Travelled	9,461,363
Total Miles Travelled	5,879,017
Average Trip Length	71
Rice Whale Area Share of Trip	35.3%
Average Share of Time Outside Weather/Daylight Window	72.7%
Estimated Transit Time Increase	25.7%

Source: Energy and Industrial Advisory Partners

The study assumes that the Gulf of Mexico offshore oil and natural gas industry will take actions over time to reduce the impact of the vessel transit restrictions, by for example ordering additional vessels. These reductions are expected to require time and thus be gradual due to restrictions on domestic shipbuilding capacity, port capacity, and available US mariners. (Figure 21)

Figure 21: Estimate of Reductions in Supply Capacity Overtime



Source: Energy and Industrial Advisory Partners

As the available fleet of supply vessels increases, the vessel transit restrictions impact on offshore oil and naturals gas activity are expected to decline. As such, reductions in spending, employment, GDP, oil and natural gas production and government revenues will also decline. However, lagging indicators such as production and government revenues are projected to continue to be materially below base case levels for most of the forecast period.

Project and Activity Methodology

When developing this study to forecast activity levels, near-term and longer-term projects not currently under development were considered. Near-term project activity forecasts are based on actual projects operators have stated development plans for or, in some cases, reasonable forecasts for other potential projects when no development decisions have taken place. For long-term activity, project forecasts are based primarily on projected production levels, with project development activity to meet projected production forecasts.

For the Vessel Transit Restrictions Case, the project and activity forecasts presented in the Base Case were used as a baseline for activity levels. For each case, a reasonable reading of this potential scenario's impacts on activity levels was then developed based on the forecast included in this report for offshore energy vessel availability.

Spending Methodology

The spending analysis developed for this report attempts to account for the totality of capital and operational spending associated with offshore oil and natural gas development throughout a project's lifecycle.

Spending for each oil and gas project is divided into nineteen categories. Each category accounts for one general activity type required to find, develop, operate, or abandon an offshore energy project. Costs for each category were developed based on general project sizes (and the associated activity levels and equipment requirements), water depths, and other factors. The distribution of spending overtime for each category for different project sizes and water depths was then developed.

After the overall spending forecast for Gulf of Mexico oil and natural gas activity was developed, spending was allocated to individual states and international suppliers. Domestic spending is allocated based on a category-by-category analysis of supply chains and Bureau of Economic Analysis data to provide state-specific spending allocations. Spending with international suppliers is not analyzed further and accounts for no economic impacts in the report. Oil and natural gas spending distributions are constant throughout the scenarios presented in this report. It is possible that reduced activity levels may lead to changes in supply chains and thus spending distributions.

Economic Methodology

The Bureau of Economic Analysis' RIMS II input-output multipliers were used to develop this report's employment and gross domestic product analysis. These multipliers provide state-level employment and gross domestic product estimates based on industry-specific spending levels. For this report, economic activity was also divided into direct (directly related to industries involved in the offshore energy supply chain) and indirect and induced (industries not directly involved in the offshore energy supply chain and economic activity due to increased wages), employment and gross domestic product.

The following RIMS industry categories were used in the development of the report to account for spending by the Gulf of Mexico oil and natural gas industry (all RIMS categories were used in the output of data):

- Mining and oil and gas field machinery manufacturing
- Steel product manufacturing from purchased steel
- Fabricated metal product manufacturing
- Construction
- Drilling oil and gas wells
- Architectural, engineering, and related services
- Support activities for oil and gas operations
- Natural gas distribution
- Mechanical power transmission equipment manufacturing
- Laminated plastics plate, sheet (except packaging), and shape manufacturing
- Cut stone and stone product manufacturing
- Spring and wire product manufacturing
- Power, distribution, and specialty transformer manufacturing
- Communication and energy wire and cable manufacturing
- Water transportation

Government Revenue Methodology

Government revenues due to offshore oil and natural gas activity are primarily derived from three main revenue streams, royalties paid on produced oil and natural gas, bonus bids paid to acquire blocks in lease sales, and rents for blocks leased by operators. Several policies impact royalty and lease payments received by the Federal Government, including royalty relief for certain blocks depending on production levels and differing rent and royalty regimes for fields in different water depths and blocks leased at different times. Additionally, the value of oil and natural gas produced in the OCS may differ from major indicators such as West Texas Intermediate (WTI) crude due to transportation costs, long-term sales contracts, and differentials due to product quality and location. Data from the Office of Natural Resource Revenue[22] (ONRR) and oil and natural gas price projections from the Energy Information Administration's Annual Energy Outlook 2022[23] and Short-Term Energy Outlook[24] were utilized to calculate government revenues due to offshore oil and natural gas activities. In some cases (especially regarding disbursements to states), calendar year data was unavailable. In these cases, fiscal year data was utilized as a stand-in for calendar year data. Lease sale bid and rental revenues were calculated

[22] U.S. Department of the Interior, Natural Resources Revenue Data, https://revenuedata.doi.gov/
[23] Annual Energy Outlook 2023, Energy Information Administration
[24] Short Term Energy Outlook, August 8th, 2023, Energy Information Administration

through the simulation of yearly lease sales based on the return to a regular leasing schedule in 2025. The number of leases acquired and retained was modeled on the oil price forecasts used to develop the report and historical bid numbers and levels correlated with activity levels.

In 2006 Congress passed the OCS Energy Security Act (GOMESA), which created revenue-sharing provisions for the four Gulf oil and natural gas producing states (Alabama, Louisiana, Mississippi, and Texas) and their coastal political subdivisions. Revenue sharing was enacted in two phases beginning in 2007 and 2017, respectively, with revenue sharing caps of $375 million for fiscal years 2017–2019, $487.5 million for 2020 and 2021, and $375 million for 2022–2055 enacted. Total projected Federal Government revenues, actual revenue distribution data from the ONRR, analysis of the growth of revenue sharing based on eligible leases, and the revenue sharing caps were considered to develop the revenue sharing forecasts in this report.

In addition to provisions for revenue sharing with the OCS producing States, GOMESA also included a provision for distributions to the Land and Water Conservation Fund (LWCF). The LWCF "supports the protection of federal public lands and waters – including national parks, forests, wildlife refuges, and recreation areas – and voluntary conservation on private land. LWCF investments secure public access, improve recreational opportunities, and preserve ecosystem benefits for local communities."[25] LWCF distribution forecasts are based on total projected Federal Government revenues, actual distribution data from the ONRR, and analysis of revenue sharing growth based on eligible leases and revenue sharing caps.

[25] Land and Water Conservation Fund, U.S. Department of the Interior

Data Tables by Case

Gulf of Mexico Oil and Natural Gas Industry Economic Impacts

Table 7: Projected Base Case Gulf of Mexico Oil and Natural Gas Production (BOE/D)

	2015	2016	2017	2018	2019	2020	2021
Oil	1,514,583	1,598,583	1,680,500	1,757,167	1,892,167	1,644,083	1,696,200
Natural Gas	589,930	548,251	484,225	445,142	463,627	360,395	349,089
Total BOE	2,104,513	2,146,834	2,164,725	2,202,309	2,355,794	2,004,478	2,045,289

	2022	2023	2024	2025	2026	2027	2028
Oil	1,731,000	1,760,644	1,814,451	1,966,106	2,059,685	2,133,750	2,196,910
Natural Gas	406,905	417,301	433,645	499,410	544,480	567,060	578,649
Total BOE	2,285,001	2,376,292	2,578,902	2,641,590	2,639,863	2,682,304	2,740,273

	2029	2030	2031	2032	2033	2034	2035
Oil	2,254,803	2,209,216	2,140,401	2,062,071	2,037,863	2,010,061	1,975,380
Natural Gas	584,845	581,944	573,657	565,022	556,344	547,806	539,867
Total BOE	2,816,463	2,843,792	2,840,252	2,810,918	2,749,717	2,690,149	2,622,987

	2036	2037	2038	2039	2040
Oil	1,900,758	1,804,243	1,693,638	1,596,184	1,493,654
Natural Gas	526,550	500,453	479,556	448,625	445,005
Total BOE	2,528,454	2,389,014	2,239,661	2,151,546	2,110,466

Source: Energy and Industrial Advisory Partners

Table 8: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions

	2015	2016	2017	2018	2019	2020	2021
G&G	$215	$189	$167	$160	$156	$176	$192
Drilling Tangibles	$1,448	$1,265	$1,227	$1,211	$1,310	$1,159	$863
Trees	$805	$680	$611	$627	$451	$328	$506
Manifolds	$425	$358	$321	$328	$237	$167	$261
Other Subsea Hardware	$168	$145	$143	$143	$130	$81	$90
Control Umbilical, Flying Leads	$495	$412	$366	$373	$268	$182	$308
Infield FL	$166	$127	$114	$119	$102	$44	$68
Export PL	$1,162	$892	$781	$782	$658	$223	$358
Infield Risers	$85	$66	$60	$61	$53	$22	$33
Export Risers	$44	$33	$29	$30	$25	$8	$14
Fixed Platforms & Facilities	$270	$204	$166	$135	$114	$76	$88
Floating Production Units & Facilities	$1,558	$1,320	$1,082	$1,155	$825	$880	$1,760
Installation	$2,269	$1,640	$1,527	$1,439	$1,328	$752	$1,038
OPEX	$13,502	$13,721	$13,783	$13,816	$13,829	$12,276	$13,474
Decommissioning CAPEX	$1,257	$1,150	$1,212	$1,100	$773	$696	$858
Drilling	$8,363	$7,157	$6,112	$5,560	$5,847	$6,892	$4,882
Engineering CAPEX	$1,063	$874	$808	$792	$663	$506	$679
Engineering OPEX	$844	$858	$861	$863	$864	$877	$886
Natural Gas Processing and Transportation	$199	$189	$172	$163	$157	$144	$124
Total	$34,338	$31,281	$29,542	$28,857	$27,789	$25,344	$26,359

Source: Energy and Industrial Advisory Partners

Table 8: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions (Continued)

	2022	2023	2024	2025	2026	2027	2028
G&G	$252	$275	$284	$292	$291	$282	$267
Drilling Tangibles	$1,286	$1,525	$1,417	$1,361	$1,354	$1,352	$1,297
Trees	$619	$575	$519	$506	$502	$456	$366
Manifolds	$323	$301	$272	$265	$263	$240	$194
Other Subsea Hardware	$143	$151	$137	$134	$136	$134	$118
Control Umbilical, Flying Leads	$395	$367	$327	$317	$315	$287	$228
Infield FL	$127	$126	$105	$98	$98	$96	$78
Export PL	$776	$811	$693	$645	$656	$665	$561
Infield Risers	$61	$61	$52	$49	$49	$48	$40
Export Risers	$31	$32	$27	$25	$25	$25	$21
Fixed Platforms & Facilities	$147	$154	$147	$170	$212	$211	$155
Floating Production Units & Facilities	$2,145	$1,760	$1,503	$1,467	$1,357	$1,173	$807
Installation	$1,769	$1,793	$1,479	$1,368	$1,364	$1,275	$1,067
OPEX	$13,591	$14,334	$14,405	$14,450	$14,525	$14,589	$14,659
Decommissioning CAPEX	$785	$827	$754	$827	$757	$803	$733
Drilling	$7,152	$9,012	$9,174	$9,550	$9,894	$9,921	$9,519
Engineering CAPEX	$917	$902	$792	$773	$756	$720	$603
Engineering OPEX	$894	$896	$900	$903	$908	$912	$916
Natural Gas Processing and Transportation	$131	$127	$135	$141	$145	$148	$152
Total	$31,412	$33,901	$32,987	$33,199	$33,463	$33,190	$31,628

Source: Energy and Industrial Advisory Partners

Table 8: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions (Continued)

	2029	2030	2031	2032	2033	2034	2035
G&G	$251	$236	$222	$206	$186	$165	$151
Drilling Tangibles	$1,214	$1,132	$1,065	$1,015	$949	$855	$737
Trees	$309	$312	$339	$349	$328	$284	$238
Manifolds	$163	$165	$179	$185	$174	$151	$125
Other Subsea Hardware	$99	$93	$95	$98	$94	$84	$71
Control Umbilical, Flying Leads	$191	$196	$216	$225	$211	$182	$152
Infield FL	$58	$55	$62	$69	$68	$60	$49
Export PL	$419	$381	$432	$483	$480	$426	$344
Infield Risers	$30	$28	$32	$35	$34	$31	$25
Export Risers	$16	$15	$17	$19	$19	$17	$14
Fixed Platforms & Facilities	$99	$86	$98	$96	$76	$50	$38
Floating Production Units & Facilities	$788	$880	$1,063	$1,045	$953	$770	$733
Installation	$783	$788	$866	$972	$929	$825	$680
OPEX	$14,677	$14,673	$14,651	$14,645	$14,613	$14,584	$14,535
Decommissioning CAPEX	$781	$710	$758	$688	$736	$667	$715
Drilling	$8,953	$8,398	$7,901	$7,495	$6,981	$6,282	$5,441
Engineering CAPEX	$532	$522	$561	$564	$538	$468	$420
Engineering OPEX	$917	$917	$916	$915	$913	$912	$908
Natural Gas Processing and Transportation	$156	$159	$160	$158	$155	$152	$148
Total	$30,278	$29,589	$29,474	$29,104	$28,282	$26,812	$25,375

Source: Energy and Industrial Advisory Partners

Table 8: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions (Continued)

	2036	2037	2038	2039	2040
G&G	$150	$158	$176	$193	$208
Drilling Tangibles	$664	$648	$714	$776	$876
Trees	$213	$203	$201	$226	$301
Manifolds	$111	$106	$106	$120	$159
Other Subsea Hardware	$62	$60	$61	$64	$76
Control Umbilical, Flying Leads	$136	$127	$123	$139	$191
Infield FL	$44	$42	$38	$35	$45
Export PL	$287	$261	$242	$245	$322
Infield Risers	$22	$20	$19	$19	$24
Export Risers	$11	$10	$9	$9	$13
Fixed Platforms & Facilities	$44	$50	$38	$25	$38
Floating Production Units & Facilities	$678	$587	$458	$623	$990
Installation	$628	$589	$535	$500	$677
OPEX	$14,463	$14,354	$14,274	$14,210	$14,176
Decommissioning CAPEX	$646	$694	$626	$676	$608
Drilling	$4,943	$4,830	$5,323	$5,804	$6,567
Engineering CAPEX	$381	$366	$342	$375	$467
Engineering OPEX	$904	$897	$892	$888	$886
Natural Gas Processing and Transportation	$142	$135	$129	$123	$121
Total	$24,386	$24,002	$24,177	$24,928	$26,622

Source: Energy and Industrial Advisory Partners

Table 9: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment (Number of Jobs)

	2015	2016	2017	2018	2019	2020	2021
Texas	183,868	166,737	158,715	155,767	147,462	133,381	136,682
Louisiana	102,936	98,247	94,932	95,089	94,621	89,432	89,175
Mississippi	23,024	21,524	20,740	20,926	20,415	19,110	19,116
Alabama	31,413	29,595	28,870	29,053	28,011	25,157	26,508
Other U.S. States	76,183	65,041	60,861	59,631	54,989	43,624	52,990
Total	417,424	381,144	364,119	360,465	345,498	310,703	324,472

	2022	2023	2024	2025	2026	2027	2028
Texas	162,509	176,720	171,397	172,677	173,615	172,903	164,651
Louisiana	98,453	108,914	108,640	109,864	111,042	111,307	109,391
Mississippi	21,545	23,872	23,548	23,789	23,968	23,984	23,318
Alabama	29,384	31,580	30,904	31,056	31,144	31,130	30,213
Other U.S. States	69,845	70,935	65,312	64,309	63,926	61,813	55,878
Total	381,735	412,021	399,802	401,695	403,695	401,137	383,451

	2029	2030	2031	2032	2033	2034	2035
Texas	157,438	152,802	152,179	149,840	146,127	138,149	130,689
Louisiana	107,061	105,026	103,753	102,442	100,620	97,657	94,407
Mississippi	22,674	22,166	21,988	21,692	21,294	20,505	19,734
Alabama	29,453	28,952	28,974	28,730	28,360	27,455	26,677
Other U.S. States	51,427	51,109	52,847	53,352	51,559	47,771	44,509
Total	368,052	360,056	359,742	356,057	347,960	331,537	316,016

	2036	2037	2038	2039	2040
Texas	114,868	123,572	124,523	128,598	136,219
Louisiana	92,032	91,145	92,027	93,470	96,173
Mississippi	19,121	18,954	19,088	19,477	20,172
Alabama	25,978	25,771	25,694	26,065	26,807
Other U.S. States	42,443	41,135	39,994	41,418	46,998
Total	294,441	300,577	301,326	309,028	326,369

Source: Energy and Industrial Advisory Partners

Table 10: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Direct vs. Indirect and Induced Supported Employment (Number of Jobs)

	2015	2016	2017	2018	2019	2020	2021
Direct	75,446	72,786	70,085	68,677	69,356	66,074	65,276
Indirect and Induced	341,978	308,358	294,034	291,788	276,142	244,629	259,196
Total	417,424	381,144	364,119	360,465	345,498	310,703	324,472

	2022	2023	2024	2025	2026	2027	2028
Direct	72,155	79,995	80,610	81,791	82,999	83,292	82,368
Indirect and Induced	309,581	332,026	319,192	319,905	320,695	317,845	301,083
Total	381,735	412,021	399,802	401,695	403,695	401,137	383,451

	2029	2030	2031	2032	2033	2034	2035
Direct	80,833	79,306	77,915	76,795	75,250	73,171	70,644
Indirect and Induced	287,219	280,750	281,827	279,261	272,710	258,366	245,372
Total	368,052	360,056	359,742	356,057	347,960	331,537	316,016

	2036	2037	2038	2039	2040
Direct	68,919	68,219	69,214	70,288	72,305
Indirect and Induced	225,522	232,357	232,112	238,741	254,064
Total	294,441	300,577	301,326	309,028	326,369

Source: Energy and Industrial Advisory Partners

Table 11: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Contributions to GDP $ Millions

	2015	2016	2017	2018	2019	2020	2021
Texas	$15,587	$14,208	$13,469	$13,196	$12,638	$11,677	$11,769
Louisiana	$8,675	$8,268	$7,950	$7,929	$7,933	$7,576	$7,453
Mississippi	$1,702	$1,586	$1,515	$1,525	$1,504	$1,436	$1,399
Alabama	$2,562	$2,432	$2,368	$2,381	$2,323	$2,109	$2,198
Other U.S. States	$5,768	$5,017	$4,693	$4,609	$4,291	$3,497	$4,138
Total	$34,294	$31,511	$29,994	$29,640	$28,690	$26,296	$26,957

	2022	2023	2024	2025	2026	2027	2028
Texas	$13,950	$15,263	$14,915	$15,063	$15,191	$15,132	$14,475
Louisiana	$8,286	$9,215	$9,220	$9,338	$9,457	$9,480	$9,320
Mississippi	$1,599	$1,791	$1,775	$1,797	$1,817	$1,818	$1,769
Alabama	$2,426	$2,617	$2,578	$2,593	$2,607	$2,607	$2,542
Other U.S. States	$5,355	$5,473	$5,110	$5,063	$5,044	$4,895	$4,469
Total	$31,616	$34,359	$33,597	$33,855	$34,115	$33,931	$32,574

	2029	2030	2031	2032	2033	2034	2035
Texas	$13,872	$13,472	$13,359	$13,136	$12,782	$12,103	$11,440
Louisiana	$9,112	$8,927	$8,794	$8,670	$8,496	$8,232	$7,931
Mississippi	$1,716	$1,674	$1,653	$1,627	$1,590	$1,527	$1,461
Alabama	$2,483	$2,443	$2,437	$2,416	$2,381	$2,311	$2,244
Other U.S. States	$4,172	$4,140	$4,249	$4,258	$4,112	$3,825	$3,583
Total	$31,356	$30,658	$30,491	$30,106	$29,361	$27,998	$26,659

	2036	2037	2038	2039	2040
Texas	$10,013	$10,829	$10,960	$11,319	$11,992
Louisiana	$7,722	$7,642	$7,741	$7,876	$8,128
Mississippi	$1,412	$1,398	$1,416	$1,450	$1,510
Alabama	$2,190	$2,170	$2,171	$2,200	$2,263
Other U.S. States	$3,425	$3,325	$3,257	$3,385	$3,805
Total	$24,763	$25,363	$25,546	$26,230	$27,697

Source: Energy and Industrial Advisory Partners

Table 12: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenues by Type $ Millions

	2015	2016	2017	2018	2019	2020	2021
Bids	$556	$158	$374	$291	$387	$165	$112
Rentals	$201	$133	$111	$103	$107	$94	$83
Royalties	$3,251	$2,408	$3,262	$4,715	$4,852	$2,716	$4,250
Other Revenues	-$8	$25	$33	$54	$15	-$14	$104
Total	$4,000	$2,723	$3,780	$5,163	$5,361	$2,961	$4,549

	2022	2023	2024	2025	2026	2027	2028
Bids	$0	$504	$402	$466	$454	$426	$367
Rentals	$78	$95	$103	$105	$105	$107	$109
Royalties	$6,299	$5,437	$5,902	$6,704	$7,000	$7,257	$7,526
Other Revenues	$115	$55	$60	$68	$71	$74	$77
Total	$6,492	$6,091	$6,467	$7,344	$7,631	$7,864	$8,079

	2029	2030	2031	2032	2033	2034	2035
Bids	$361	$359	$335	$276	$232	$223	$247
Rentals	$112	$113	$113	$112	$110	$107	$105
Royalties	$7,764	$7,657	$7,481	$7,288	$7,253	$7,219	$7,137
Other Revenues	$79	$78	$76	$74	$74	$74	$73
Total	$8,316	$8,207	$8,005	$7,750	$7,668	$7,623	$7,561

	2036	2037	2038	2039	2040
Bids	$266	$294	$327	$337	$287
Rentals	$101	$95	$89	$86	$84
Royalties	$6,930	$6,624	$6,258	$5,923	$5,592
Other Revenues	$71	$68	$64	$60	$57
Total	$7,368	$7,080	$6,738	$6,406	$6,020

Source: Energy and Industrial Advisory Partners

Table 13: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenues by State $ Millions

	2015	2016	2017	2018	2019	2020	2021
Texas	$0.29	$0.04	$0.12	$50.62	$57.89	$95.28	$67.38
Louisiana	$0.82	$0.10	$0.32	$82.84	$94.73	$155.72	$109.95
Mississippi	$0.67	$0.08	$0.25	$27.75	$31.72	$51.91	$36.52
Alabama	$0.67	$0.09	$0.26	$26.78	$30.60	$50.05	$35.05
Total	$2.44	$0.31	$0.96	$187.99	$214.94	$352.96	$375.00

	2022	2023	2024	2025	2026	2027	2028
Texas	$77.31	$101.23	$101.23	$101.23	$101.23	$101.23	$101.23
Louisiana	$118.88	$165.44	$165.44	$165.44	$165.44	$165.44	$165.44
Mississippi	$37.81	$55.16	$55.16	$55.16	$55.16	$55.16	$55.16
Alabama	$40.89	$53.17	$53.17	$53.17	$53.17	$53.17	$53.17
Total	$274.89	$375.00	$375.00	$375.00	$375.00	$375.00	$375.00

	2029	2030	2031	2032	2033	2034	2035
Texas	$101.23	$101.23	$101.23	$101.23	$101.23	$101.23	$101.23
Louisiana	$165.44	$165.44	$165.44	$165.44	$165.44	$165.44	$165.44
Mississippi	$55.16	$55.16	$55.16	$55.16	$55.16	$55.16	$55.16
Alabama	$53.17	$53.17	$53.17	$53.17	$53.17	$53.17	$53.17
Total	$375.00	$375.00	$375.00	$375.00	$375.00	$375.00	$375.00

	2036	2037	2038	2039	2040
Texas	$101.23	$101.23	$101.23	$101.23	$101.23
Louisiana	$165.44	$165.44	$165.44	$165.44	$165.44
Mississippi	$55.16	$55.16	$55.16	$55.16	$55.16
Alabama	$53.17	$53.17	$53.17	$53.17	$53.17
Total	$375.00	$375.00	$375.00	$375.00	$375.00

Source: Energy and Industrial Advisory Partners

Table 14: Projected Base Case LWCF Distributions $ Millions

	2015	2016	2017	2018	2019	2020	2021
LWCF	$0.89	$0.88	$0.89	$0.89	$0.88	$0.90	$0.89
LWCF - GOMESA	$0.00	$0.00	$0.07	$0.08	$0.13	$0.08	$0.09
Total	$0.89	$0.88	$0.96	$0.97	$1.01	$0.98	$0.98

	2022	2023	2024	2025	2026	2027	2028
LWCF	$0.89	$1.03	$1.07	$1.18	$1.15	$1.11	$1.07
LWCF - GOMESA	$0.13	$0.13	$0.13	$0.13	$0.13	$0.13	$0.13
Total	$1.02	$1.15	$1.19	$1.30	$1.28	$1.24	$1.19

	2029	2030	2031	2032	2033	2034	2035
LWCF	$1.05	$1.04	$1.02	$1.00	$0.97	$0.93	$0.92
LWCF - GOMESA	$0.13	$0.13	$0.13	$0.13	$0.13	$0.13	$0.13
Total	$1.17	$1.17	$1.15	$1.13	$1.09	$1.06	$1.05

	2036	2037	2038	2039	2040
LWCF	$0.93	$0.92	$0.89	$0.87	$0.85
LWCF - GOMESA	$0.13	$0.13	$0.13	$0.13	$0.13
Total	$1.05	$1.05	$1.02	$1.00	$0.97

Source: Energy and Industrial Advisory Partners

Vessel Transit Restrictions Case Impacts

Table 15: Projected Base Case vs. Vessel Transit Restrictions Case Gulf of Mexico Oil and Natural gas Production (BOE/D)

	2015	2016	2017	2018	2019	2020	2021
Oil (Vessel Transit Restrictions Case)	1,514,583	1,598,583	1,680,500	1,757,167	1,892,167	1,644,083	1,696,200
Oil (Base Case)	1,514,583	1,598,583	1,680,500	1,757,167	1,892,167	1,644,083	1,696,200
Natural Gas (Vessel Transit Restrictions Case)	589,930	548,251	484,225	445,142	463,627	360,395	349,089
Natural Gas (Base Case)	589,930	548,251	484,225	445,142	463,627	360,395	349,089
Total BOE (Vessel Transit Restrictions Case)	2,104,513	2,146,834	2,164,725	2,202,309	2,355,794	2,004,478	2,045,289
Total BOE (Base Case)	2,104,513	2,146,834	2,164,725	2,202,309	2,355,794	2,004,478	2,045,289

	2022	2023	2024	2025	2026	2027	2028
Oil (Vessel Transit Restrictions Case)	1,731,000	1,760,644	1,772,801	1,825,240	1,800,860	1,723,091	1,708,209
Oil (Base Case)	1,731,000	1,760,644	1,814,451	1,966,106	2,059,685	2,133,750	2,196,910
Natural Gas (Vessel Transit Restrictions Case)	406,905	417,301	429,970	456,377	453,937	452,248	454,450
Natural Gas (Base Case)	406,905	417,301	433,645	499,410	544,480	567,060	578,649
Total BOE (Vessel Transit Restrictions Case)	2,285,001	2,376,292	2,202,770	2,281,617	2,254,797	2,175,339	2,162,659
Total BOE (Base Case)	2,285,001	2,376,292	2,578,902	2,641,590	2,639,863	2,682,304	2,740,273

	2029	2030	2031	2032	2033	2034	2035
Oil (Vessel Transit Restrictions Case)	1,662,317	1,618,874	1,559,655	1,497,876	1,451,712	1,384,377	1,359,101
Oil (Base Case)	2,254,803	2,209,216	2,140,401	2,062,071	2,037,863	2,010,061	1,975,380
Natural Gas (Vessel Transit Restrictions Case)	450,214	443,667	429,467	414,762	403,277	390,272	390,683
Natural Gas (Base Case)	584,845	581,944	573,657	565,022	556,344	547,806	539,867
Total BOE (Vessel Transit Restrictions Case)	2,112,531	2,062,541	1,989,122	1,912,638	1,854,990	1,774,648	1,749,784
Total BOE (Base Case)	2,816,463	2,843,792	2,840,252	2,810,918	2,749,717	2,690,149	2,622,987

	2036	2037	2038	2039	2040
Oil (Vessel Transit Restrictions Case)	1,355,463	1,341,639	1,283,512	1,244,064	1,216,086
Oil (Base Case)	1,900,758	1,804,243	1,693,638	1,596,184	1,493,654
Natural Gas (Vessel Transit Restrictions Case)	394,585	387,150	379,944	367,432	366,982
Natural Gas (Base Case)	526,550	500,453	479,556	448,625	445,005
Total BOE (Vessel Transit Restrictions Case)	1,750,048	1,728,790	1,663,456	1,611,496	1,583,067
Total BOE (Base Case)	2,528,454	2,389,014	2,239,661	2,151,546	2,110,466

Source: Energy and Industrial Advisory Partners

Table 16: Projected Vessel Transit Restrictions Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions

	2015	2016	2017	2018	2019	2020	2021
G&G	$215	$189	$167	$160	$156	$176	$192
Drilling Tangibles	$1,448	$1,265	$1,227	$1,211	$1,310	$1,159	$863
Trees	$805	$680	$611	$627	$451	$328	$506
Manifolds	$425	$358	$321	$328	$237	$167	$261
Other Subsea Hardware	$168	$145	$143	$143	$130	$81	$90
Control Umbilical, Flying Leads	$495	$412	$366	$373	$268	$182	$308
Infield FL	$166	$127	$114	$119	$102	$44	$68
Export PL	$1,162	$892	$781	$782	$658	$223	$358
Infield Risers	$85	$66	$60	$61	$53	$22	$33
Export Risers	$44	$33	$29	$30	$25	$8	$14
Fixed Platforms & Facilities	$270	$204	$166	$135	$114	$76	$88
Floating Production Units & Facilities	$1,558	$1,320	$1,082	$1,155	$825	$880	$1,760
Installation	$2,269	$1,640	$1,527	$1,439	$1,328	$752	$1,038
OPEX	$13,502	$13,721	$13,783	$13,816	$13,829	$12,276	$13,474
Decommissioning CAPEX	$1,257	$1,150	$1,212	$1,100	$773	$696	$858
Drilling	$8,363	$7,157	$6,112	$5,560	$5,847	$6,892	$4,882
Engineering CAPEX	$1,063	$874	$808	$792	$663	$506	$679
Engineering OPEX	$844	$858	$861	$863	$864	$877	$886
Natural Gas Processing and Transportation	$199	$189	$172	$163	$157	$144	$124
Total	$34,338	$31,281	$29,542	$28,857	$27,789	$25,488	$26,483

Source: Energy and Industrial Advisory Partners

Table 16: Projected Vessel Transit Restrictions Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions (Continued)

	2022	2023	2024	2025	2026	2027	2028
G&G	$252	$275	$153	$145	$145	$147	$143
Drilling Tangibles	$1,286	$1,525	$923	$724	$652	$695	$693
Trees	$619	$575	$270	$230	$247	$245	$219
Manifolds	$323	$301	$142	$120	$129	$129	$116
Other Subsea Hardware	$143	$151	$82	$63	$63	$69	$63
Control Umbilical, Flying Leads	$395	$367	$167	$139	$148	$147	$133
Infield FL	$127	$126	$61	$42	$43	$47	$39
Export PL	$776	$811	$415	$290	$302	$339	$311
Infield Risers	$61	$61	$30	$21	$22	$24	$21
Export Risers	$31	$32	$16	$11	$11	$12	$11
Fixed Platforms & Facilities	$147	$154	$147	$170	$212	$211	$155
Floating Production Units & Facilities	$2,145	$1,760	$678	$495	$550	$403	$422
Installation	$1,769	$1,793	$814	$615	$559	$622	$501
OPEX	$13,591	$14,334	$14,363	$14,324	$14,315	$14,309	$14,337
Decommissioning CAPEX	$785	$827	$754	$827	$757	$803	$761
Drilling	$7,152	$9,012	$5,796	$4,953	$4,662	$4,984	$4,973
Engineering CAPEX	$917	$902	$480	$404	$397	$400	$369
Engineering OPEX	$894	$896	$898	$895	$895	$894	$896
Natural Gas Processing and Transportation	$131	$127	$135	$141	$145	$148	$152
Total	$31,543	$34,028	$26,188	$24,469	$24,108	$24,479	$24,162

Source: Energy and Industrial Advisory Partners

Table 16: Projected Vessel Transit Restrictions Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions (Continued)

	2029	2030	2031	2032	2033	2034	2035
G&G	$139	$136	$137	$140	$143	$145	$145
Drilling Tangibles	$661	$632	$617	$625	$644	$666	$665
Trees	$207	$211	$209	$211	$240	$265	$243
Manifolds	$111	$113	$111	$111	$125	$138	$127
Other Subsea Hardware	$59	$58	$59	$57	$60	$69	$70
Control Umbilical, Flying Leads	$131	$138	$138	$137	$154	$171	$161
Infield FL	$36	$39	$43	$42	$44	$53	$57
Export PL	$294	$305	$327	$301	$298	$340	$354
Infield Risers	$20	$21	$22	$21	$22	$26	$27
Export Risers	$11	$12	$13	$12	$12	$14	$15
Fixed Platforms & Facilities	$99	$86	$98	$96	$76	$50	$38
Floating Production Units & Facilities	$513	$697	$733	$788	$880	$1,008	$953
Installation	$487	$531	$609	$612	$657	$762	$807
OPEX	$14,285	$14,225	$14,119	$14,043	$13,927	$13,842	$13,695
Decommissioning CAPEX	$837	$767	$787	$716	$764	$754	$801
Drilling	$4,798	$4,634	$4,528	$4,562	$4,684	$4,864	$4,904
Engineering CAPEX	$372	$387	$403	$401	$428	$464	$463
Engineering OPEX	$893	$889	$882	$878	$870	$865	$856
Natural Gas Processing and Transportation	$156	$159	$160	$158	$155	$152	$148
Total	$23,952	$23,880	$23,835	$23,753	$24,026	$24,496	$24,382

Source: Energy and Industrial Advisory Partners

Table 16: Projected Vessel Transit Restrictions Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions (Continued)

	2036	2037	2038	2039	2040
G&G	$146	$152	$157	$164	$170
Drilling Tangibles	$651	$654	$675	$724	$713
Trees	$211	$230	$288	$353	$404
Manifolds	$111	$122	$152	$186	$213
Other Subsea Hardware	$62	$59	$69	$82	$94
Control Umbilical, Flying Leads	$140	$149	$183	$226	$262
Infield FL	$47	$42	$49	$61	$77
Export PL	$306	$289	$347	$418	$514
Infield Risers	$22	$21	$25	$31	$39
Export Risers	$13	$11	$14	$17	$21
Fixed Platforms & Facilities	$44	$50	$38	$25	$38
Floating Production Units & Facilities	$770	$788	$935	$1,210	$1,430
Installation	$709	$612	$722	$889	$1,102
OPEX	$13,525	$13,346	$13,210	$13,118	$13,014
Decommissioning CAPEX	$791	$780	$771	$762	$753
Drilling	$4,846	$4,879	$5,030	$5,413	$5,345
Engineering CAPEX	$417	$411	$459	$534	$604
Engineering OPEX	$845	$834	$826	$820	$813
Natural Gas Processing and Transportation	$142	$135	$129	$123	$121
Total	$23,655	$23,430	$23,949	$25,034	$25,606

Source: Energy and Industrial Advisory Partners

Table 17: Projected Vessel Transit Restrictions Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment Reductions (Number of Jobs)

	2015	2016	2017	2018	2019	2020	2021
Texas	183,868	166,737	158,715	155,767	147,462	133,381	136,682
Louisiana	102,936	98,247	94,932	95,089	94,621	89,432	89,175
Mississippi	23,024	21,524	20,740	20,926	20,415	19,110	19,116
Alabama	31,413	29,595	28,870	29,053	28,011	25,157	26,508
Other U.S. States	76,183	65,041	60,861	59,631	54,989	43,624	52,990
Total	**417,424**	**381,144**	**364,119**	**360,465**	**345,498**	**310,703**	**324,472**

	2022	2023	2024	2025	2026	2027	2028
Texas	162,509	176,720	136,265	127,744	125,262	128,129	125,949
Louisiana	98,453	108,914	95,438	92,059	90,919	92,131	91,864
Mississippi	21,545	23,872	20,145	19,316	19,021	19,338	19,181
Alabama	29,384	31,580	27,219	26,323	26,038	26,347	26,079
Other U.S. States	69,845	70,935	46,506	41,649	40,985	41,292	39,785
Total	**381,735**	**412,021**	**325,573**	**307,092**	**302,225**	**307,237**	**302,858**

	2029	2030	2031	2032	2033	2034	2035
Texas	125,025	123,466	123,255	122,050	123,801	125,988	125,870
Louisiana	91,171	90,283	89,616	89,149	89,242	89,648	89,175
Mississippi	19,070	18,856	18,767	18,623	18,733	18,890	18,839
Alabama	25,985	25,764	25,704	25,469	25,580	25,743	25,642
Other U.S. States	39,944	41,182	42,080	42,175	43,433	45,668	45,656
Total	**301,196**	**299,551**	**299,422**	**297,467**	**300,789**	**305,937**	**305,181**

	2036	2037	2038	2039	2040
Texas	111,171	121,476	124,222	129,453	132,126
Louisiana	87,818	86,985	87,188	88,470	88,323
Mississippi	18,489	18,321	18,476	18,893	19,003
Alabama	25,105	24,827	25,011	25,497	25,762
Other U.S. States	42,772	41,640	44,109	48,470	52,425
Total	**285,355**	**293,249**	**299,005**	**310,783**	**317,639**

Source: Energy and Industrial Advisory Partners

Table 18: Projected Vessel Transit Restrictions Case Gulf of Mexico Offshore Oil and Natural Gas Direct and Indirect and Induced Supported Employment Reductions (Number of Jobs)

	2015	2016	2017	2018	2019	2020	2021
Direct	0	0	0	0	0	0	0
Indirect and Induced	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0

	2022	2023	2024	2025	2026	2027	2028
Direct	0	0	-9,620	-13,297	-15,329	-14,756	-13,776
Indirect and Induced	0	0	-64,609	-81,307	-86,140	-79,143	-66,817
Total	0	0	-74,229	-94,603	-101,469	-93,900	-80,593

	2029	2030	2031	2032	2033	2034	2035
Direct	-12,902	-12,029	-11,309	-10,396	-8,946	-6,672	-4,605
Indirect and Induced	-53,954	-48,476	-49,011	-48,194	-38,225	-18,928	-6,230
Total	-66,856	-60,505	-60,320	-58,590	-47,171	-25,599	-10,835

	2036	2037	2038	2039	2040
Direct	-3,793	-3,649	-4,719	-5,048	-7,580
Indirect and Induced	-5,293	-3,679	2,399	6,803	-1,151
Total	-9,086	-7,328	-2,321	1,755	-8,730

Source: Energy and Industrial Advisory Partners

Table 19: Projected Vessel Transit Restrictions Case Gulf of Mexico Offshore Oil and Natural Gas Contributions to GDP Reductions $ Millions

	2015	2016	2017	2018	2019	2020	2021
Texas	$0	$0	$0	$0	$0	$0	$0
Louisiana	$0	$0	$0	$0	$0	$0	$0
Mississippi	$0	$0	$0	$0	$0	$0	$0
Alabama	$0	$0	$0	$0	$0	$0	$0
Other U.S. States	$0	$0	$0	$0	$0	$0	$0
Total	$0	$0	$0	$0	$0	$0	$0

	2022	2023	2024	2025	2026	2027	2028
Texas	$0	$0	-$3,046	-$3,930	-$4,262	-$3,965	-$3,464
Louisiana	$0	$0	-$1,202	-$1,629	-$1,847	-$1,762	-$1,617
Mississippi	$0	$0	-$283	-$375	-$418	-$394	-$354
Alabama	$0	$0	-$298	-$388	-$423	-$399	-$350
Other U.S. States	$0	$0	-$1,401	-$1,710	-$1,733	-$1,572	-$1,234
Total	$0	$0	-$6,231	-$8,032	-$8,682	-$8,091	-$7,020

	2029	2030	2031	2032	2033	2034	2035
Texas	-$2,964	-$2,692	-$2,619	-$2,475	-$1,988	-$1,132	-$495
Louisiana	-$1,478	-$1,369	-$1,299	-$1,206	-$1,025	-$723	-$464
Mississippi	-$314	-$288	-$275	-$256	-$212	-$136	-$74
Alabama	-$303	-$280	-$282	-$277	-$237	-$156	-$101
Other U.S. States	-$928	-$806	-$865	-$862	-$628	-$185	$42
Total	-$5,986	-$5,435	-$5,339	-$5,077	-$4,090	-$2,332	-$1,093

	2036	2037	2038	2039	2040
Texas	-$345	-$234	-$152	-$77	-$567
Louisiana	-$365	-$350	-$432	-$453	-$727
Mississippi	-$51	-$47	-$53	-$53	-$108
Alabama	-$89	-$91	-$81	-$74	-$122
Other U.S. States	-$9	$23	$262	$447	$290
Total	-$858	-$699	-$457	-$209	-$1,234

Source: Energy and Industrial Advisory Partners

Table 20: Projected Vessel Transit Restrictions Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenue Reductions by Type $ Millions

	2015	2016	2017	2018	2019	2020	2021
Bids	$0	$0	$0	$0	$0	$0	$0
Rentals	$0	$0	$0	$0	$0	$0	$0
Royalties	$0	$0	$0	$0	$0	$0	$0
Other Revenues	$0	$0	$0	$0	$0	$0	$0
Total	$0	$0	$0	$0	$0	$0	$0

	2022	2023	2024	2025	2026	2027	2028
Bids	$0	$0	-$266	-$182	-$173	-$171	-$207
Rentals	$0	$0	-$15	-$14	-$15	-$20	-$23
Royalties	$0	$0	-$132	-$484	-$890	-$1,399	-$1,672
Other Revenues	$0	$0	-$1	-$5	-$9	-$14	-$17
Total	$0	$0	-$414	-$686	-$1,087	-$1,605	-$1,919

	2029	2030	2031	2032	2033	2034	2035
Bids	-$176	-$138	-$92	-$76	-$66	-$75	-$103
Rentals	-$28	-$31	-$34	-$36	-$36	-$36	-$35
Royalties	-$2,031	-$2,038	-$2,024	-$1,992	-$2,082	-$2,240	-$2,215
Other Revenues	-$21	-$21	-$21	-$20	-$21	-$23	-$23
Total	-$2,256	-$2,228	-$2,171	-$2,124	-$2,206	-$2,374	-$2,375

	2036	2037	2038	2039	2040
Bids	-$135	-$162	-$141	-$88	-$11
Rentals	-$31	-$26	-$23	-$22	-$21
Royalties	-$1,977	-$1,689	-$1,505	-$1,296	-$1,036
Other Revenues	-$20	-$17	-$15	-$13	-$11
Total	-$2,163	-$1,895	-$1,685	-$1,419	-$1,079

Source: Energy and Industrial Advisory Partners

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EXHIBIT B

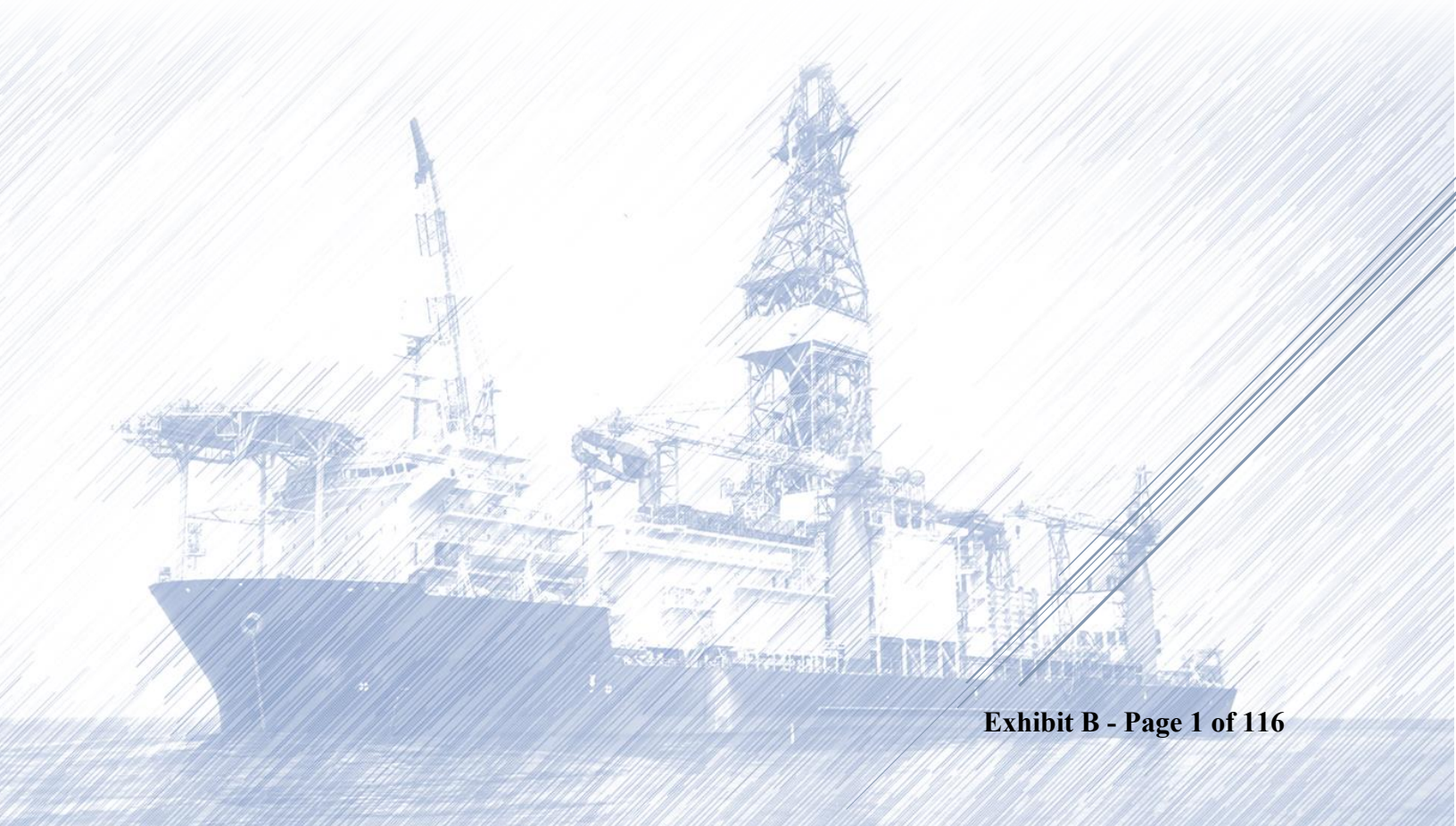
The Economic Impacts of the Gulf of Mexico Oil and Natural Gas Industry

Prepared For

NOIA
America's Offshore Energy Industry

Prepared By

EIAP
Energy & Industrial Advisory Partners



Executive Summary

Introduction

Despite the current difficulties facing the global economy as a whole and the oil and natural gas industry specifically, the Gulf of Mexico oil and natural gas industry will likely continue to be a major source of energy production, employment, gross domestic product, and government revenues for the United States. Several proposals have been advanced recently which would have a major impact on the industry's activity levels, and the economic activity supported by the Gulf of Mexico offshore oil and natural gas industry. The proposals vary widely, but for the purpose of this report three scenarios were developed, a scenario based on a continuation of current policies and regulations, a scenario examining the potential impacts of a ban on new offshore leases, and a scenario examining the potential impacts of a ban on new drilling permits approvals in the Gulf of Mexico.

Energy and Industrial Advisory Partners (EIAP) was commissioned by the National Ocean Industry Association (NOIA) to develop a report forecasting activity levels, spending, oil and natural gas production, supported employment, GDP, and Government Revenues in these scenarios. The scenarios developed in this report are based solely upon government and other publicly available data and EIAP's own expertise and analysis. The study also included profiles of NOIA members to demonstrate the diverse group of companies which make up the offshore Gulf of Mexico oil and natural gas industry as well as a list of over 2,400 suppliers to the industry representing all 50 states.

Economic Impacts of the Gulf of Mexico Oil and Natural Gas Industry

The Gulf of Mexico oil and natural gas industry supports significant employment, gross domestic product and state and Federal Government revenues. To quantify the potential effects of policy changes, this study forecasted a Base Case activity level for Gulf of Mexico Outer Continental Shelf [OCS] oil and natural gas activity to provide a comparison with potential activity and economic impacts if certain policy changes were enacted. The study forecasted key activity indicators including the number of wells drilled, projects executed, oil and natural gas production, and spending based on projected activity levels. These activity and spending forecasts drive the projected employment, GDP, and government revenue forecasts presented in this report.

- In 2019, combined Gulf of Mexico OCS oil and natural gas production was over 2.3 million barrels of oil equivalent per day. Oil and natural gas production from the Gulf of Mexico OCS is projected to average around **2.5 million barrels of oil equivalent per day** over the 2020 to 2040 forecast period.
- In 2019, the Gulf of Mexico offshore oil and natural gas industry supported an estimated 345 thousand jobs in the United States. On average across the forecast period, the Gulf of Mexico offshore oil and natural gas industry is projected to support around **370 thousand jobs per year**.

- In 2019, the Gulf of Mexico oil and natural gas industry contributed an estimated $28.7 billion of to the U.S. economy. The industry is projected to contribute an average of **$31.3 billion of GDP per year** across the forecast period.
- In 2019, government revenues due to the Gulf of Mexico oil and natural gas industry reached nearly $5.4 billon. Government revenues derived from offshore oil and natural gas activities in the Gulf of Mexico (excluding personal and corporate income taxes and property taxes), are projected to average over **$7 billion per year** across the forecast period.
- From fiscal year 2019, the Gulf of Mexico oil producing states received around $353 million of revenues due to revenue sharing while the Land and Water Conservation Fund (LWCF) received over $1 billion of distributions. State revenue sharing under the Gulf of Mexico Energy Security Act (GOMESA) is projected to average around **$374 million per year** across the forecast period. Contributions to the Land and Water Conservation Fund (LWCF) from GOMESA and non-GOMESA offshore are projected to average around **$1.3 billion per year**.

Impact of a Potential Leasing Ban

Although no firm policy proposals have been advanced, one of a number of potential restrictive policy changes that has been discussed related to Gulf of Mexico oil and natural gas activities has been an end to new leasing in the Federal Outer Continental Shelf. For the purpose of this report, a "No Leasing Scenario" was developed to provide a comparison of activity levels (project executions, spending, oil and natural gas production), economic impacts, and government revenues to the Base Case Scenario. This scenario assumes that no new lease sales would be held from 2022, but that existing leases would be unaffected, and that no other major policy or regulatory changes impacting the Gulf of Mexico offshore oil and natural gas industry would be enacted.

- Average combined oil and natural gas production across the forecast period is projected to decline from around 2.5 million barrels of oil equivalent per day to 2 million barrels of oil equivalent per day (an over 20 percent decline). In 2040, combined oil and natural gas production is projected to be around 910 thousand barrels of oil equivalent per day compared to 1.96 million barrels in the Base Case.
- Average employment supported is projected to decline to 268 thousand jobs each year from around 370 thousand jobs each year nationally (a 28 percent decline).
- Average yearly contributions to GDP are projected at $22.1 billion, around a 30 percent reduction compared to annual contributions of $31.3 billion in the Base Case.
- Government revenues are projected at an average of around $5.2 billion per year, a 26 percent reduction from the $7 billion per year projected in the Base Case.
- State revenue sharing under the Gulf of Mexico Energy Security Act (GOMESA) is projected to remain relatively steady compared to the Base Case. Additionally, contributions to the Land and Water Conservation Fund (LWCF) are projected to average around $1 billion per year, compared to $1.3 billion per year in the base case over the forecast period.

Impact of No New Drilling Permits Being Issued

Another potential restrictive policy change that has been advanced for the Gulf of Mexico offshore oil and natural gas industry is that regulatory authorities no longer issue new drilling permits for Gulf of Mexico wells. This scenario assumes that no new drilling permits would be issued from 2022, but that existing permits would be unaffected, and that no other major policy or regulatory changes impacting the Gulf of Mexico offshore oil and natural gas industry would be enacted.

- Average combined oil and natural gas production across the forecast period is projected to decline from around 2.5 million barrels of oil equivalent per day to 1.1 million barrels of oil equivalent per day (an over 55 percent decline). In 2040, combined oil and natural gas production is projected to be around 323 thousand barrels of oil equivalent per day compared to 1.96 million barrels in the Base Case.
- Average annual employment supported is projected to decline to 179 thousand jobs from around 370 thousand jobs nationally (a 52 percent decline).
- Average annual contributions to GDP are projected at $14.2 billion, around a 55 percent reduction compared to contributions of $31.3 billion in the Base Case.
- Government revenues are projected at an average of around $2.7 billion per year, a 61 percent reduction from the $7 billion per year projected in the Base Case.
- State revenue sharing under the Gulf of Mexico Energy Security Act (GOMES) is projected to fall to an average of around $273 million per year, compared to around $374 million in the Base Case (a 27 percent reduction). LWCF funding, including GOMESA and non-GOMESA offshore funding is project to fall to just under $585 million a year compared to $1.3 in the Base Case.

Study Limitations

Given the large degree of volatility and uncertainty in oil and gas markets as well as the global economy, the assumptions and forecasts contained in this report are based on reasonable readings of conditions when this report was developed. Uncertainty around commodity pricing and global economic conditions may have significant effects, especially in the early years of the forecast contained in this report. EIAP makes no representations as to the impacts of the potential policy proposal addressed in this report and assumes that any proposals actually adopted or enacted would differ greatly in language and execution compared to the scenarios developed for this report. These policies could impose significantly greater engineering, operational, cost and other burdens on the oil and natural gas industry and regulators. The report's projections of the effects that these potential scenarios would impose on engineering, operations, and costs are an independent, good faith view arising from reasonable assumptions based on these potential scenarios and the authors' expertise and experience. Energy and Industrial Advisory partners provided this independent study while expressly disclaiming any warranty, liability, or responsibility for completeness, accuracy, use, or fitness to any person or party for any reason.

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Introduction

Purpose of the Report

Despite the current difficulties it is facing, the Gulf of Mexico oil and natural gas industry will likely continue to be a major source of energy production, employment, gross domestic product, and government revenues for the United States. A number of proposals have been advanced recently which would likely have a major impact on the industry's activity levels, and the subsequent energy production, employment, gross domestic product, and government revenues supported by the offshore oil and natural gas industry in the United States. These proposals vary widely, but for the purpose of this report three scenarios were developed, a continuation of current policies and regulations, a ban on new offshore leases in the Gulf of Mexico OCS, and a ban on new drilling permits approvals in the Gulf of Mexico OCS.

Energy and Industrial Advisory Partners (EIAP) was commissioned by the National Ocean Industry Association (NOIA) to develop a report forecasting activity levels, spending, oil and natural gas production, supported employment, contributions to GDP, and Government Revenues in these scenarios. The scenarios developed in this report are based solely upon government and other publicly available data and EIAP's own expertise and analysis.

Report Structure

In this report, EIAP first outlines the study's methodology including data development, the limitations of this study and how the three scenarios in this report were developed. The next section discusses activity levels and economic impacts of the Gulf of Mexico Offshore oil and natural gas industry. The third section outlines the potential impacts of the second scenario developed for the report, the No Leasing Case. The fourth section outlines the potential impact of the third scenario developed for the report, the No Permits Case. The final section concludes. Prior to the appendices, the study also included profiles of NOIA members to demonstrate the diverse group of companies which make up the offshore Gulf of Mexico oil and natural gas industry.

Excluded from Study

This paper has been limited in scope to the assessment of the potential impacts of the three scenarios developed for the report, additional changes to regulations or policies outside of the changes assessed in this report (for example policies that impact already leased blocks or producing projects) could have a greater effect than the impacts laid out in this report. The study also excludes potential domestic supply chain reductions due to reduced activity levels which could lead to further reductions in the domestic economic impacts of the Gulf of Mexico oil and natural gas industry. This study has also excluded the impacts of activity in the Alaskan and Pacific OCS, as well as in Eastern Gulf of Mexico areas not currently

open to exploration and production and the Atlantic OCS. The impacts projected in this report would likely be greater if these areas were included. This study also does not attempt to calculate the effects of the proposed language on the downstream oil and natural gas industry, or subsequent impacts on other industries (for example due to reduced domestic oil and natural gas production), other than the impacts directly due to reduced activity in the offshore oil and natural gas sector. Additionally, the projected government revenue impacts do not account for personal income taxes, corporate income taxes or local property taxes. Due to the exclusion of these impacts, it is likely that the economic impacts presented in this study represent conservative projections of the potential impacts of the scenarios developed. Additionally, the impacts presented could be imprecise by as much as 10% or more due to the actual adoption and implementations of the studied scenarios and other factors.

About EIAP

Energy & Industrial Advisory Partners (EIAP) was founded to provide companies, investors and industry associations across the energy and industrial markets with economic and strategic consulting, as well as M&A and restructuring advisory services from seasoned consultants with significant industry experience. EIAP is a specialist consulting firm that utilizes its deep industry experience and rigorous analytical methodologies to help stakeholders gain the insights they require to make more informed, data driven decisions.

Our team and our subject matter experts have worked in the industries we cover, and we have maintained that focus throughout our consulting careers. This specialism enables us to provide proprietary insights into the perspectives of key customers, suppliers and competitors. Our collective experience amounts to hundreds of engagements alongside some of the world's most sophisticated energy and industrial companies, investors, and industry associations.

Every project is bespoke and focused on identifying and understand the issues facing a business or industry and developing practical solutions. We understand that insight not only comes from the C-Suite but also the shop floor, and we're just as comfortable in the field as we are in the board room.

Methodology

Data Development

As part of the development of this report, a detailed review of the potential implications of certain regulatory and policy changes was conducted. This study is in no way exhaustive, especially considering uncertainty around how the proposed policy changes would be developed and implemented. This report focuses on the potential operational effects of the proposed policies based on a reasonable reading of these proposals and considers the potential operational changes oil and natural gas companies could undertake to minimize the effects of these changes on their operations. As such, this analysis is inherently forward looking and subject to significant changes based on the potential development and implementation of the proposed policy changes by Congress, the executive branch and regulators such as the Department of The Interior, The Bureau of Ocean Energy Management and The Bureau of Safety and Environmental Enforcement.

Limitations

Given the large degree of volatility and uncertainty in oil and gas markets as well as the global economy, the assumptions and forecasts contained in this report are based on reasonable readings of conditions when this report was developed. Uncertainty around commodity pricing and global economic conditions may have a significant impact on the projections developed for this study, especially in the early years of the forecast contained in this report. This report has utilized revised forecasts for 2020 and 2021 oil and natural gas prices and attempted to forecast the impacts of current global economic conditions and commodity prices. EIAP makes no representations as to the impacts of the potential policy proposal addressed in this report and assumes that any proposals actually adopted or enacted would differ greatly in language and execution compared to the scenarios developed for this report. These policies could impose significantly greater engineering, operational, cost and other burdens on the oil and natural gas industry and regulators. The report's projections of the effects that these potential scenarios would impose on engineering, operations, and costs are an independent, good faith view arising from reasonable assumptions based on these potential scenarios and the authors' expertise and experience. Energy and Industrial Advisory partners provided this independent study while expressly disclaiming any warranty, liability, or responsibility for completeness, accuracy, use, or fitness to any person or party for any reason.

Scenario Development

The study's data development was undertaken by developing a model that accounts for all major parts of the offshore oil and natural gas exploration and production lifecycle. The major sections of the model are: an Activity Model that assesses near term project activity, Gulf of Mexico reserves and production;

and the likely project development and drilling activity necessary to meet production targets; a spending model derived from the activities required to develop and operate offshore oil and natural gas projects and reasonable assumptions around the spending levels typically associated with these activities; a government revenue model which uses forecast production levels and other relevant forecasts (leasing, block rentals, etc.), forecast commodity pricing, historical data on actual government revenues and distributions and governmental polices to forecast potential government revenues; and an Economic Model which utilizes the projected spending and government revenue levels, as well as assumptions about the nature of spending and its geographic distribution to forecast associated supported economic activity including employment and gross domestic product.

The Base Case model was developed based on forecast production and pricing levels based on the Energy Information Administration's (EIA) Annual Energy Outlook 2020[1] for long term prices and the EIA's Short-Term Energy Outlook[2] for near term (2020 and 2021) prices. Although these forecasts were utilized to develop the Base Case model, due to differences in modeling techniques, especially the project-based model developed in this report, the report's forecast production levels vary from those provided in the EIA's forecasts.

Following the creation of the Base Case forecast the potential effects of the two additional scenarios (no new leases being sold or the "No Leasing Case", and no new drilling permits being approved or the "No Permits Case") were considered with regards to how these changes would impact exploration drilling, new project development of both underway and future projects, and existing producing projects. For the No Leasing Case, the following potential impacts were noted. (Table 1)

[1] Annual Energy Outlook 2020, Energy Information Administration
[2] Short Term Energy Outlook, April 7, 2020, Energy Information Administration

Table 1: Potential Impacts No Leasing Case

Cause of Impact	Potential Effect
New Lease Sales Stopped beginning in 2022	No new lease sales
No new lease sales	Immediate Reduction in Bid Revenue
Leases expires and are not refreshed	Continuous Reduction in Lease Revenue
Steady reduction in leases available for exploration	Steady reduction in exploration drilling and reserves discovered
As leases expire an increasing portion of the Gulf is not open to activity	Steady reduction in new projects
Project economics are impacted by an inability to lease nearby blocks to tie in new production	Steady reduction in new projects
Reduced tie ins to existing facilities	Reduced production at existing facilities decreases facility life spans
Increased shut ins of existing facilities	Reduced operational spending, increased decommissioning spending
Operators will be less likely to allow leases to expire	Higher retention rate for existing leases

Source: Energy and Industrial Advisory Partners

For the No Permits Case the following potential impacts were considered. (Table 2)

Table 2: Potential Impacts No Permits Case[3]

Cause of Impact	Potential Effect
Immediate halt to new lease sales	Immediate Reduction in Bid Revenue
Undeveloped leases are allowed to expire	Continuous Reduction in Lease Revenue
No new unpermitted exploration wells	Drastic reduction in reserves discovered
New projects without drilling permits are halted	Rapid reduction in new projects after existing permits are used
New projects where economics are tied to unpermitted wells or tiebacks are halted	Rapid reduction in new projects due to project economics
Production at existing facilities declines rapidly	Inability to drill or tie in new wells leads to production decline
Declining production at existing facilities	Facilities shut in early than designed for
Increased shut ins of existing facilities	Reduced operational spending, increased decommissioning spending

Source: Energy and Industrial Advisory Partners

In addition to the potential impacts above, additional impacts due these potential policy changes are possible due to potential increased costs and changes or reductions in the supply chain as activity in the Gulf of Mexico declines.

The potential impacts listed above were examined to develop assumptions on how near-term projects, longer term projects, existing projects, drilling and decommissioning would be impacted. It was assumed that operators would modify their behavior to minimize the impacts of the potential changes by, for example, being more likely to retain leases and by being more likely to drill already permitted wells. The potential impacts were then applied to the Base Case Scenario to develop the two additional scenarios. These changes in activity levels and subsequent spending levels were then applied to the remaining parts of the model to develop modified production, government revenue, and economic forecasts.

[3] The study assumes no future leasing under this scenario. Even if leasing were authorized, there would be very low interest if no further permits for drilling were to be issued.

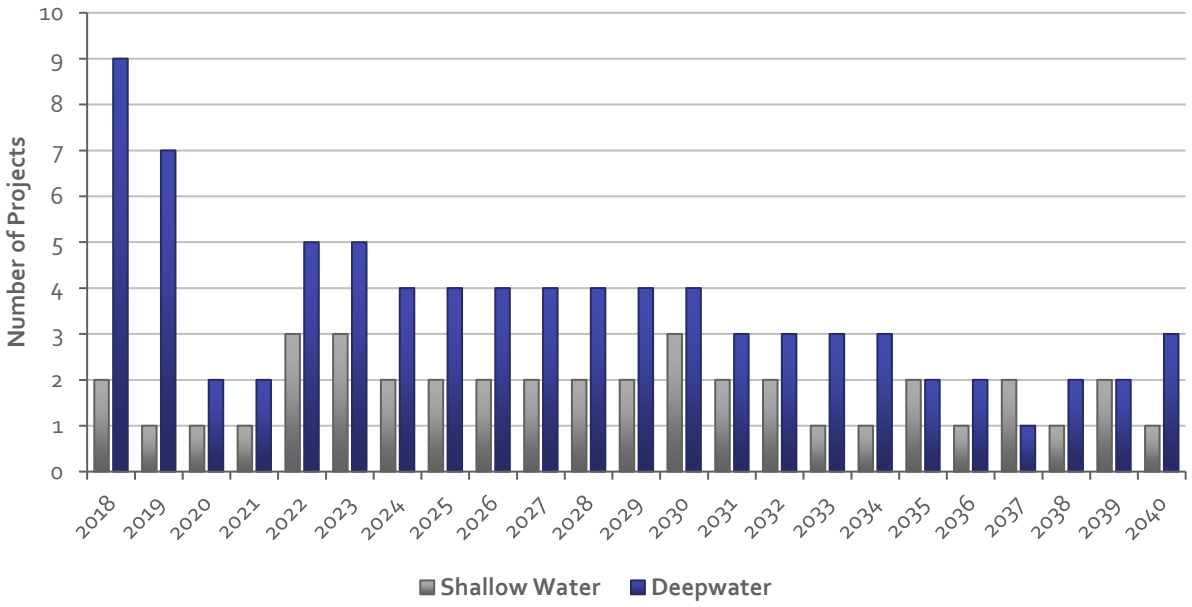
Gulf of Mexico Economic Impacts

The Gulf of Mexico oil and natural gas industry supports significant employment, gross domestic product and state and Federal Government revenues. To quantify the potential effects of policy changes, this study forecasted a Base Case activity level for Gulf of Mexico OCS oil and natural gas activity to provide a comparison with activity levels and subsequent impacts if potential policy changes were enacted. The study forecasted key activity indicators including the number of wells drilled, projects executed, oil and natural gas production, and spending based on projected activity levels. These activity and spending forecasts drive the projected employment, GDP, and government revenue forecasts presented in this report.

Projects

Development of new offshore oil and natural gas projects drives both capital and operational spending as well as oil and natural gas production. Offshore oil and natural gas projects are complex, and require significant planning, engineering, and procurement activities as well as long lead times. New project executions are a key indicator for activity and thus spending levels (and subsequent economic activity) in the Gulf of Mexico. Although Gulf of Mexico project executions have declined in recent years due to lower energy prices and competition from onshore unconventional resources, and near-term activity levels will likely be impacted by current conditions, project executions are expected to recover (albeit not necessarily to levels seen early in the 2010s). (Figure 1)

Figure 1: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Project Startups by Year



Source: Energy and Industrial Advisory Partners

Over the long term, in line with the EIA's forecast for steadily declining production towards the end of the forecast period, project executions are expected to decline with some year to year fluctuations over the last decade of the forecast. Additionally, larger, deepwater projects are expected to account for a higher share of project executions. These projects are associated with higher spending and production levels on a per project basis compared to both smaller and shallow water projects.

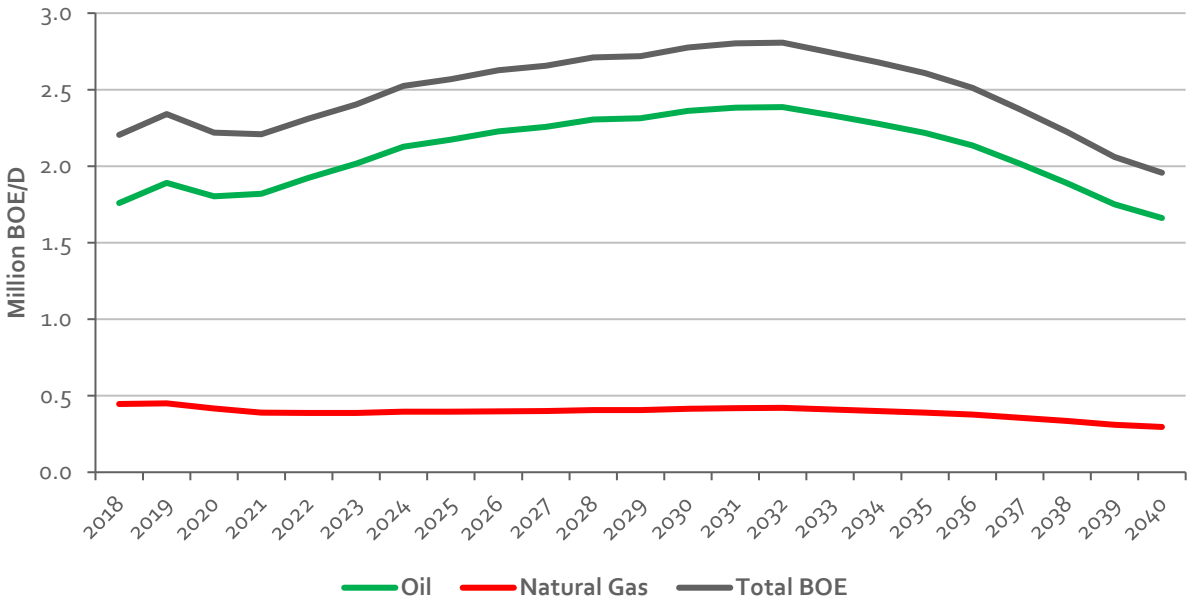
Production

The decline rate of existing production, along with production from new projects are the primary drivers for Gulf of Mexico oil and natural gas production. Production is influenced by a number of factors including reservoir productivity, oil and natural gas ratios, well counts, and operational choices by exploration and production companies. To prepare the production forecast, the Energy Information Administration's production forecast from the "Annual Energy Outlook 2020"[4] was utilized as the primary indicator of forecast production levels, with revisions to near term levels due to current market conditions. The Base Case production forecast was developed to be relatively in line with this forecast, although the production forecast in this report differs from this forecast due to the project-based methodology used to develop forecasts for the report. To develop the production forecast for this report, project development (in addition to the existing production base) was modeled utilizing key indicators such as the water depth of the project, the number of producing wells, per well production levels, assumptions on peak production years, and decline rates.

This study forecasts that combined Gulf of Mexico oil and natural gas production in 2020 will be around 2.2 million barrels of oil equivalent per day, with oil and other liquids accounting for around 81 percent of production and natural gas accounting for 19 percent of production. The study forecasts that total production will, after declining in 2020 through 2020, steadily increase through 2032, before beginning to decline. At the end of the forecast period in 2040, the Gulf of Mexico OCS is projected to produce just under 2 million barrels of oil equivalent per day, with around 84 percent of production projected to be oil and other liquids and the remainder natural gas. (Figure 2)

4 Annual Energy Outlook 2020, Energy Information Administration

Figure 2: Projected Base Case Gulf of Mexico Oil and Natural Gas Production (BOE/D)



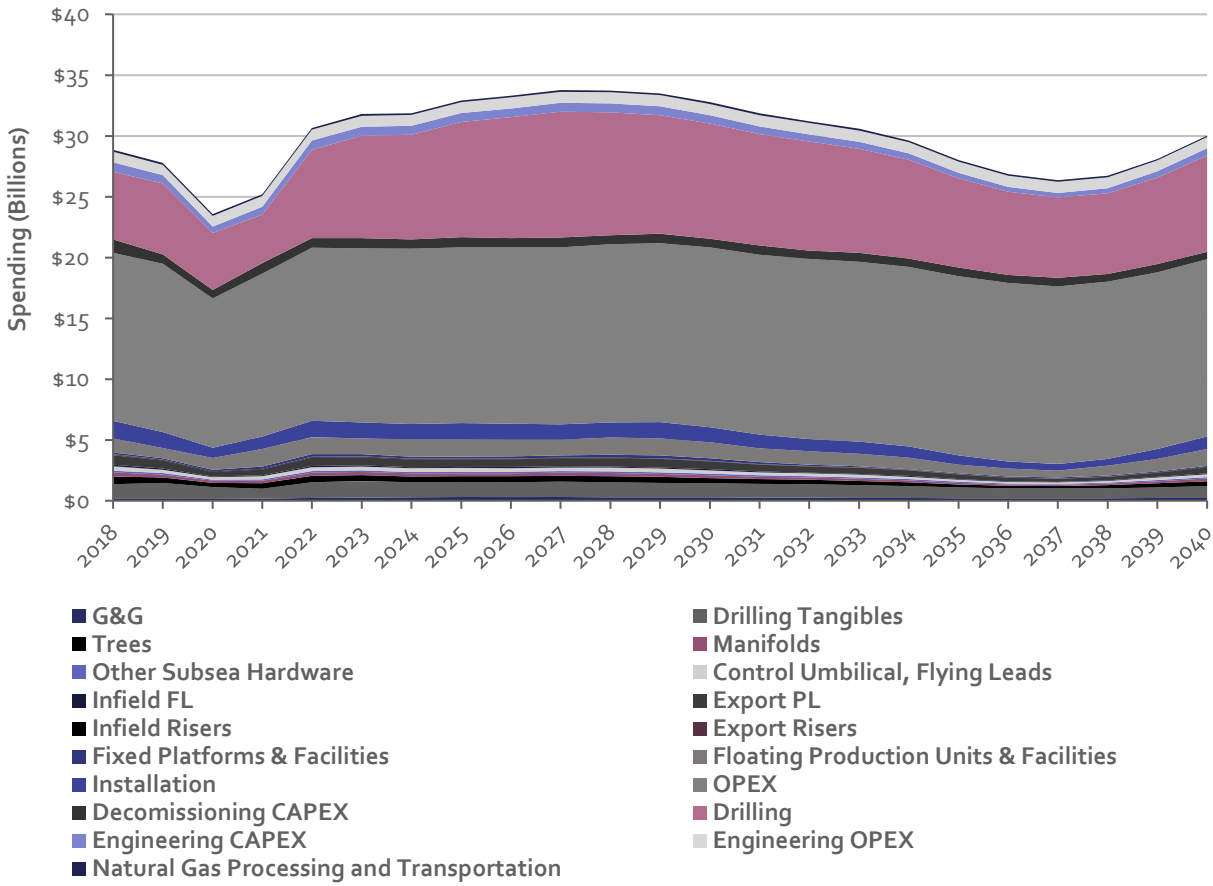
Source: Energy and Industrial Advisory Partners

Spending

Offshore oil and natural gas exploration, development and operations require large amounts of spending across a large variety of activities ranging from geological and geophysical surveys, drilling, surface and subsea production equipment, engineering, operational expenditures, and decommissioning. For this study, spending was modelled in 19 categories, encompassing the full range of activities required to explore for, develop, operate, and decommission offshore oil and natural gas projects.

In the Base Case scenario developed for this report, offshore oil and natural gas spending is projected at just over $23.4 billion in 2020 (compared to $27.5 in 2019), with spending projected to grow steadily to a peak of over $33 billion from 2026 to 2029. Spending is then projected to steadily decline with year to year fluctuations through 2038, before rising slightly towards the end of the forecast period. On average, from 2020 to 2040 annual spending is projected at nearly $30 billion. (Figure 3)

Figure 3: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending

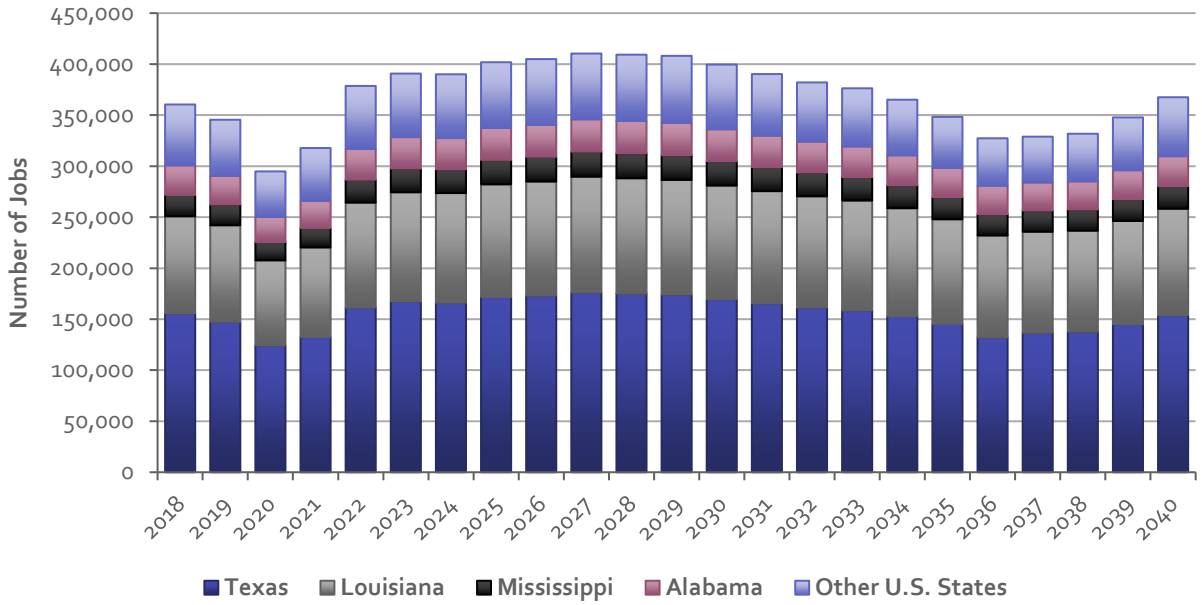


Source: Energy and Industrial Advisory Partners

Employment

The Gulf of Mexico offshore oil and natural gas industry has supported significant levels of employment in the U.S. for decades. While the employment impact of the industry is focused on the Gulf Coast states, almost all, if not all states see employment supported due to the industry. The Gulf of Mexico offshore oil and gas industry supports a large number of highly paid jobs directly, especially highly paid blue collar jobs, and additionally supports significant employment through the industry's supply chain (indirect jobs), and due to increased spending by workers (induced jobs). In 2019, it is estimated that the industry supported around 345 thousand jobs. Due to current economic conditions and low commodity prices, this study projects that in 2020, the Gulf of Mexico offshore oil and natural gas industry will support around 295 thousand jobs. (Figure 4)

Figure 4: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment

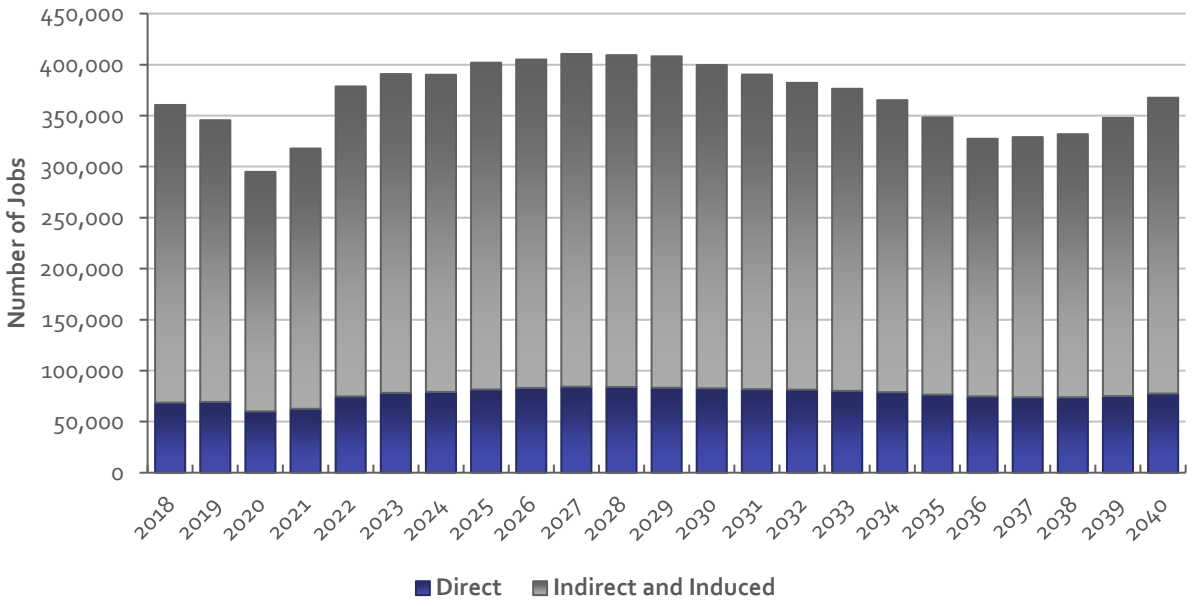


Source: Energy and Industrial Advisory Partners

Employment supported by the Gulf of Mexico offshore oil and natural gas industry is expected to steadily rise through the end of the decade, with an average of around 405 thousand jobs supported from 2025 to 2030. In line with the EIA's forecast for reduced production, employment is projected to slowly fall (with year to year fluctuations) for the last decade of the forecast period. On average from 2031 to 2040 around 357 thousand jobs are projected to be supported by the Gulf of Mexico offshore oil and natural gas industry. The largest employment impact is projected in the Gulf Coast states, with an average of 156 thousand jobs supported in Texas across the 2020-2040 forecast period, around 105 thousand jobs in Louisiana, over 30 thousand jobs in Alabama, over 22 thousand jobs in Mississippi, and around 57 thousand jobs in the rest of the U.S.

The Gulf of Mexico Offshore Oil and Natural Gas industry supports employment both through direct employment by the industry, but also indirectly. Indirect employment occurs through the purchases of goods and services by the industry, while induced employment is due to the impact of greater income in the economy. Direct employment by oil and natural gas companies and their suppliers in 2019 was estimated at 70 thousand jobs. In 2020, direct employment is projected to fall to around 60 thousand jobs. Across the 2020 to 2040 forecast period, direct employment is projected to average around 78 thousand jobs each year. Indirect and induced employment due to the Gulf of Mexico offshore oil and natural gas industry was estimated at around 276 thousand jobs in 2019. In 2020, supported indirect and induced employment is project to fall around 235 thousand jobs. Across the 2020 to 2040 forecast period supported indirect and induced employment is projected to average just under 292 thousand jobs each year.

Figure 5: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Direct vs. Indirect and Induced Supported Employment

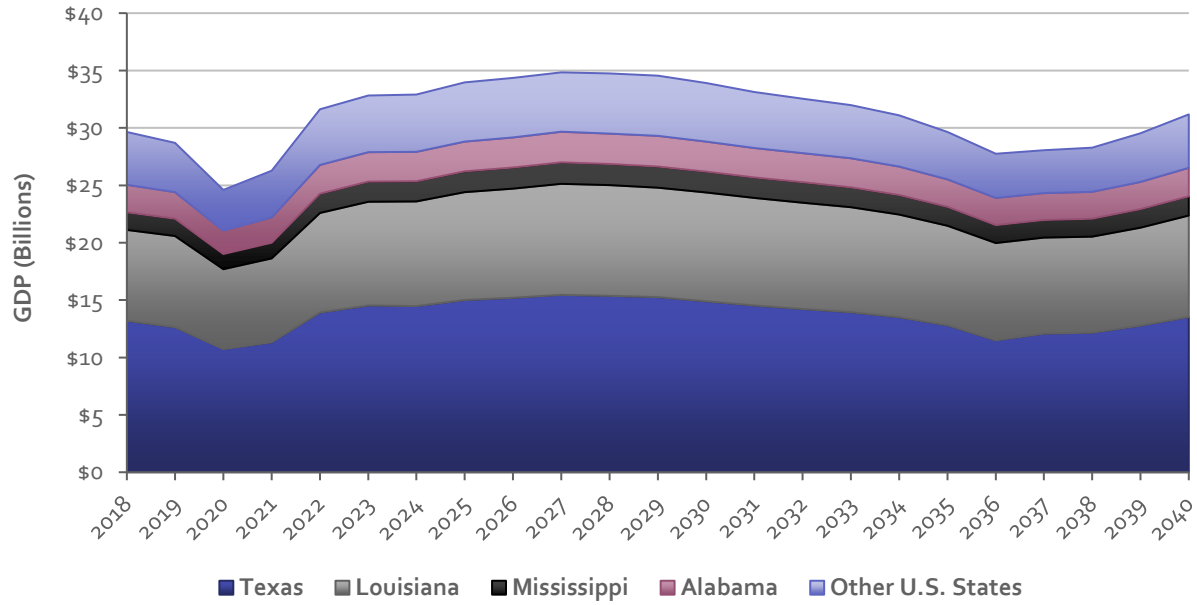


Source: Energy and Industrial Advisory Partners

GDP

The Gulf of Mexico offshore oil and natural gas industry contributes significantly to the gross domestic product (GDP) of the Gulf Coast states as well as the nation as a whole. In 2019, the industry is estimated to have contributed nearly $28.7 billion to U.S. GDP. In 2020 the industry is projected to contribute nearly $24.6 billion per year of GDP nationally. Over the ten-year period from 2021 to 2030, contributions to GDP are projected at just under $33 billion per year on average. From 2031 to 2040, projected contributions to GDP average at just under $30.3 billion. (Figure 6)

Figure 6: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Contributions to GDP



Source: Energy and Industrial Advisory Partners

Government Revenues

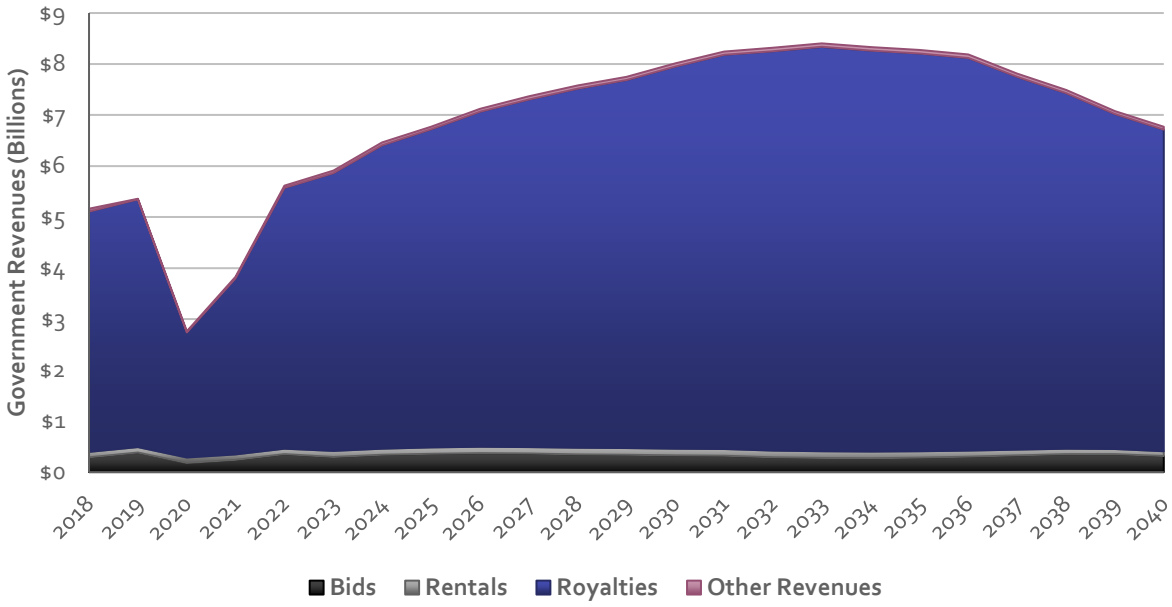
Government revenues due to Gulf of Mexico offshore oil and natural gas activity are primarily derived from three main revenue streams; royalties paid on produced oil and natural gas, bonus bids paid to acquire blocks in lease sales, and rents for blocks leased by operators. There are a number of policies which impact royalties and lease payments received by the Federal Government, including royalty relief for certain blocks depending on production levels, and differing rent and royalty regimes for fields in different water depths, and blocks leased at different times. Additionally, the value of oil and natural gas produced in the Gulf of Mexico may differ from major indicators such as West Texas Intermediate (WTI) crude due to transportation costs, long term sales contracts, and differentials due to product quality. To calculate government revenues due to offshore oil and natural gas activities data from the Office of Natural Resource Revenue[5] (ONRR) as well as oil and natural gas price projections from the Energy Information Administration's Annual Energy Outlook 2020[6] and Short-Term Energy Outlook[7] were utilized. In some cases (especially regarding disbursements to states) calendar year data was unavailable. In these cases, fiscal year data was utilized as a stand in for calendar year data.

In 2019, government revenues derived from offshore oil and natural gas activities in the Gulf of Mexico were just under $5.4 billion. This study forecasts that on average across the forecast period, government revenues derived from offshore oil and natural gas activities in the Gulf of Mexico (excluding personal

[5] Natural Resources Revenue Data, Office of Natural Resource Revenue, U.S. Department of the Interior
[6] Annual Energy Outlook 2020, Energy Information Administration
[7] Short Term Energy Outlook, April 7, 2020, Energy Information Administration

and corporate income taxes and property taxes), will average over $7 billion per year. In general, the largest source of government revenues from Gulf of Mexico offshore oil and natural gas activities is derived from royalties paid on produced oil and natural gas. Across the forecast period, average royalty revenues are projected at around $6.6 billion per year. Bid revenues are projected to average over $315 million per year across the forecast period, rental revenues are projected to average around $120 million per year, and other revenues are projected to average around $57 million per year. (Figure 7)

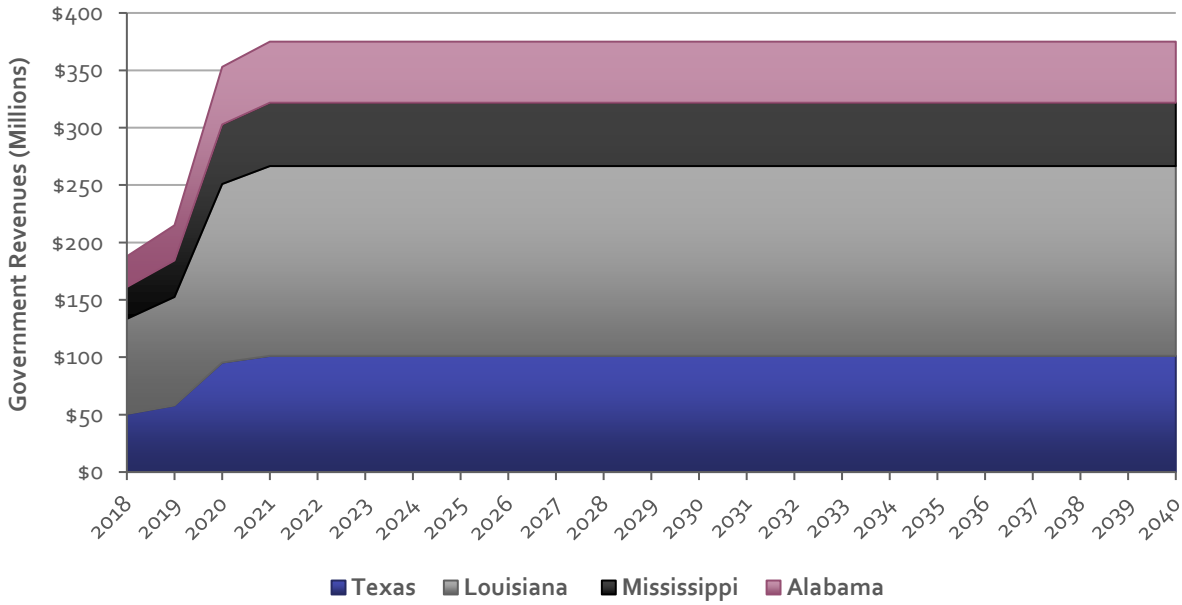
Figure 7: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenues by Type



Source: Energy and Industrial Advisory Partners

In 2006 Congress passed the Gulf of Mexico Energy Security Act (GOMESA) which created revenue sharing provisions for the four Gulf oil and gas producing States (Alabama, Louisiana, Mississippi and Texas), and their coastal political subdivisions. Revenue sharing was enacted in two phases beginning in 2007 and 2017 respectively, with revenue sharing caps of $375 million for fiscal years 2017–2019, $487.5 million for fiscal years 2020 and 2021, and $375 million for fiscal years 2022–2055 enacted. To develop the revenue sharing forecasts in this report, total projected federal revenues, actual distribution data from the ONRR, analysis of the growth of revenue sharing and the revenue sharing caps were considered. In 2020, the Gulf of Mexico oil and natural gas producing stated received around $352 million due to revenue sharing. This study projects that in 2021 the Gulf Coast states will receive around $375 million of revenue from GOMESA, the $375 million revenue sharing cap would be maintained through 2040. (Figure 8)

Figure 8: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenues by State



Source: Energy and Industrial Advisory Partners

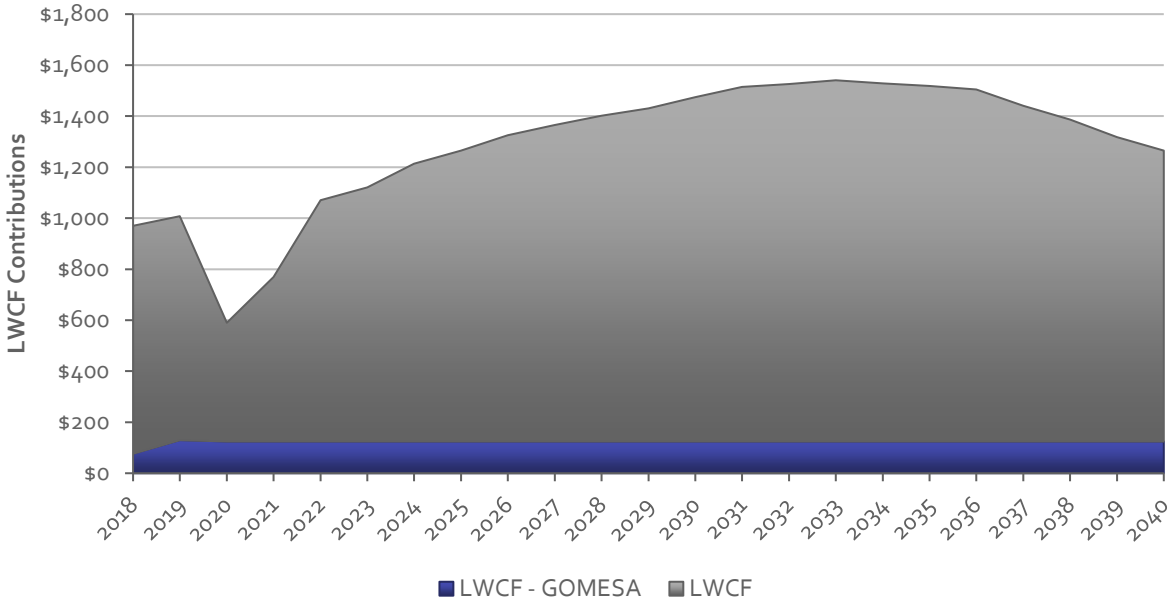
Based on historical distributions, this study projects that Louisiana will see the largest annual distributions due to GOMESA, with distributions averaging around $165 million over the forecast period. Texas is projected to receive the second highest average distributions, at nearly $101 million per year. Mississippi and Alabama are projected to receive distributions of an average of around $55 and $53 million respectively annually.

In addition to provisions for revenue sharing with Gulf of Mexico producing States, GOMESA also included a provision for distributions to the Land and Water Conservation Fund (LWCF). The LWCF, "supports the protection of federal public lands and waters – including national parks, forests, wildlife refuges, and recreation areas – and voluntary conservation on private land. LWCF investments secure public access, improve recreational opportunities, and preserve ecosystem benefits for local communities."[8] In addition to funding due to GOMESA, the LWCF also receives significant additional funding due to offshore oil and natural gas activities.

GOMESA distributions to the LWCF are capped at $125 million per year as part of a total cap with state distributions of $500 million, although in FY 2019 nearly $130 million was distributed to the LWCF. This study projects that distributions to the LWCF due to GOMESA revenue sharing will remain at or around the $125 million level for the remainder of the study period, though distributions in 2020 and 2021 may be lower, non-GOMESA LWCF contributions are projected to average just under $1.2 billion per year. (Figure 9)

[8] Land and Water Conservation Fund, U.S. Department of the Interior

Figure 9: Projected Base Case LWCF Distributions



Source: Energy and Industrial Advisory Partners

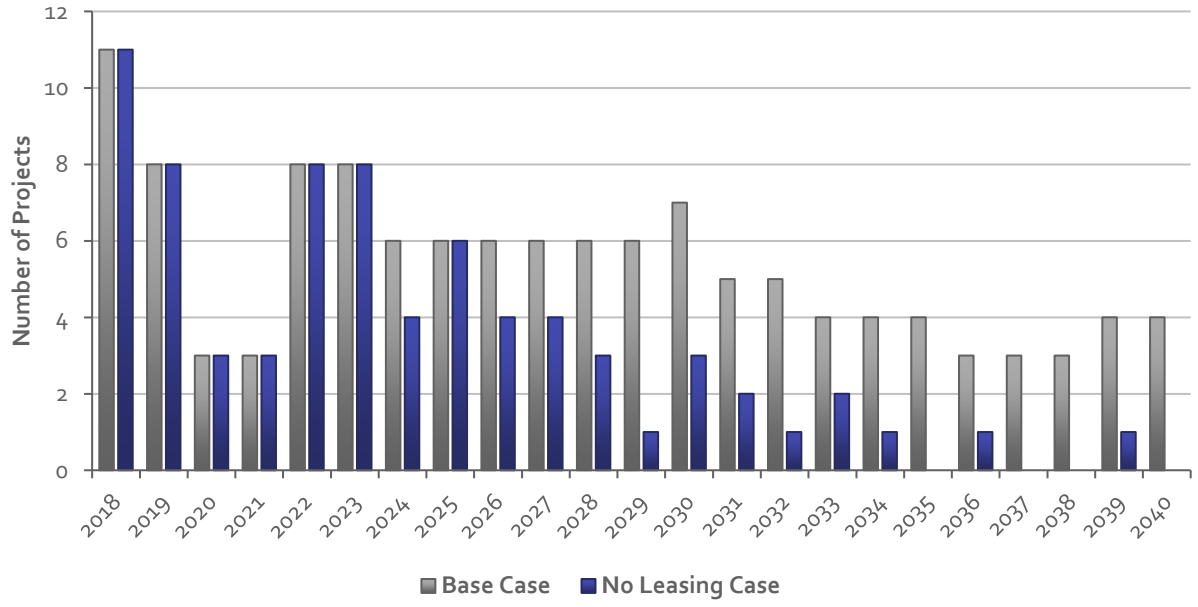
No Leasing Case Impacts

Although no firm policy proposals have been advanced, one of a number of potential restrictive policy changes that has been advanced related to the Gulf of Mexico offshore oil and natural gas industry has been an end to new leasing in the Federal Offshore Continental Shelf. For the purposes of this report, the "No Leasing Scenario" was developed to provide a comparison of activity levels (project executions, spending, oil and natural gas production), economic impacts, and government revenues to the Base Case. This scenario assumes that no new lease sales would be held from 2022, but that existing leases would be unaffected, and that no other major policy or regulatory changes impacting the Gulf of Mexico offshore oil and natural gas industry would be enacted.

Projects

Development of new offshore oil and natural gas projects drives both capital and operational spending as well as oil and natural gas production. Under the No Leasing Case, project development activity is projected to be reduced as soon 2024, as projects which would require tiebacks from adjacent unleased blocks to be economic are the first to be impacted. Over the 2020-2040 forecast period, new project startups are projected to decline by over 47 percent, from 104 to 55. The largest impact to new project startups is projected in the last decade of the forecast period, when projects are projected to decline by around 80 percent from 39 to 8. (Figure 10)

Figure 10: Projected Base Case vs. No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Project Startups by Year



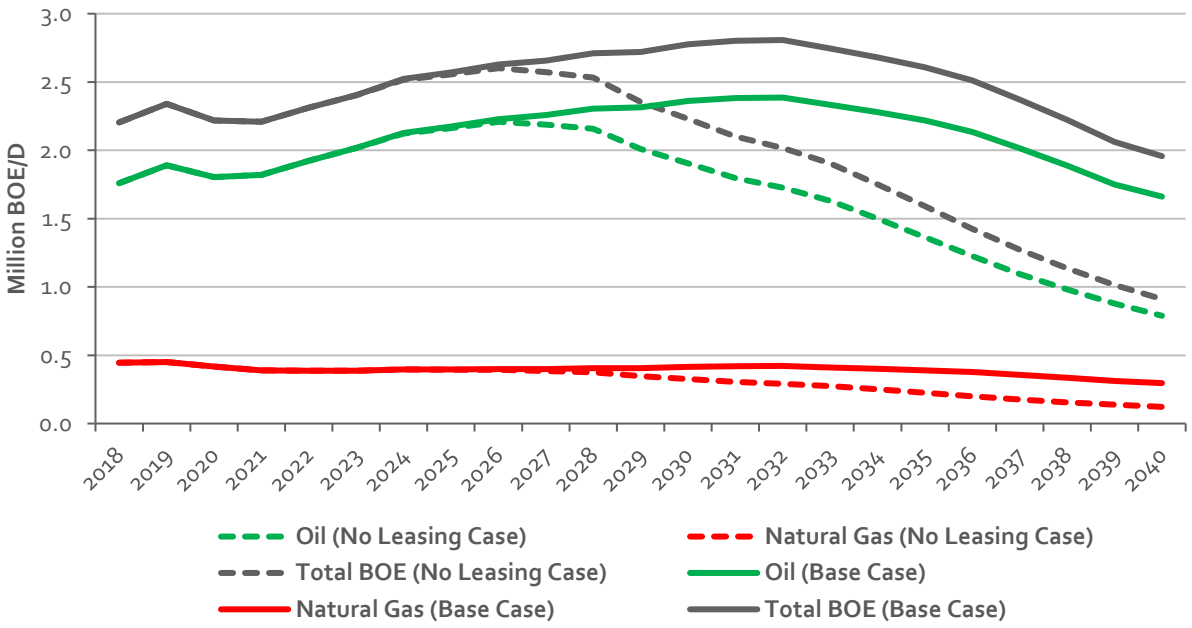
Source: Energy and Industrial Advisory Partners

Production

To develop the production forecasts for this report, project development (in addition to the existing production base) was modeled utilizing key indicators such as the water depth of the project, the number of producing wells, per well production, assumptions on peak production years, and decline rates. In the No Leasing Case, the impact of reduced project development on production was modelled.

This study forecasts that in the No Leasing Case, average combined oil and natural gas production across the 2020 to 2040 forecast period will decline from around 2.5 million barrels of oil equivalent per day to just under 2 million barrels of oil equivalent per day (an around 20 percent decline). Over the last decade of the forecast period, production is projected to decline from around 2.5 million barrels of oil equivalent per day to 1.5 million barrels of oil equivalent per day (a just under 40 percent decline). In 2040, combined oil and natural gas production is projected to be around 910 thousand barrels of oil equivalent per day compared to 1.96 million barrels in the Base Case. (Figure 11)

Figure 11: Projected Base Case vs. No Leasing Case Gulf of Mexico Oil and Natural Gas Production (BOE/D)

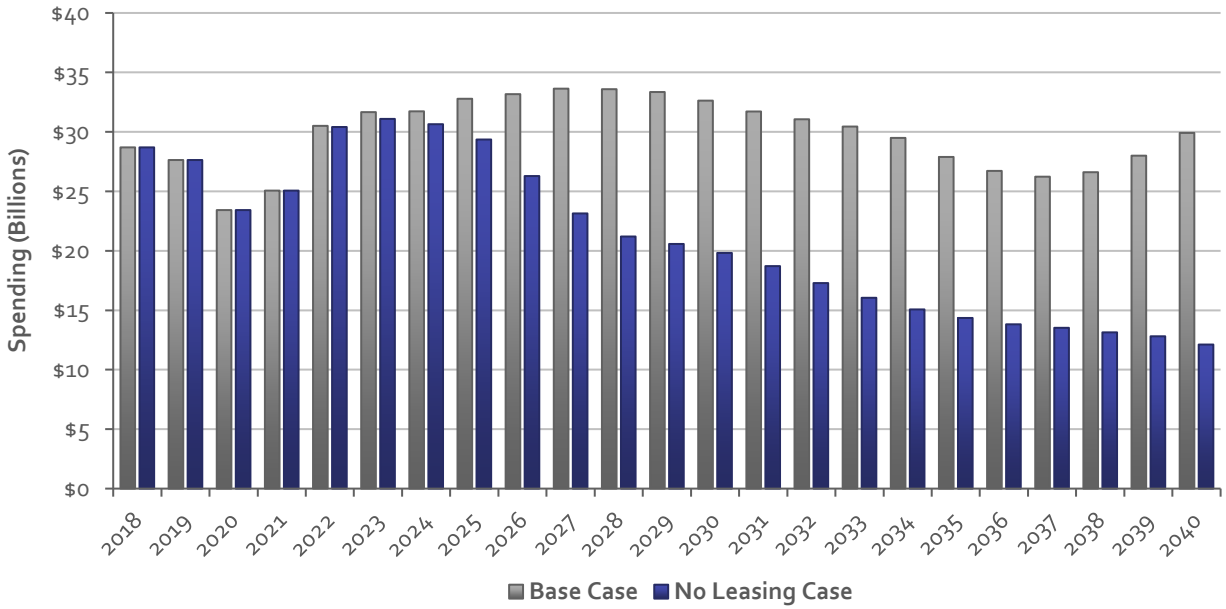


Source: Energy and Industrial Advisory Partners

Spending

In the Base Case scenario developed for this report offshore oil and natural gas spending is on average from 2020 to 2040 projected at nearly $30 billion per year. In the No Leasing Case spending is projected at around $20.4 billion on average per year, a 32 percent decline. Over the last decade of the forecast period spending is projected to fall from an average of around $28.8 billion to $14.7 billion per year, a 49 percent decline. (Figure 12)

Figure 12: Projected Base Case vs. No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Spending



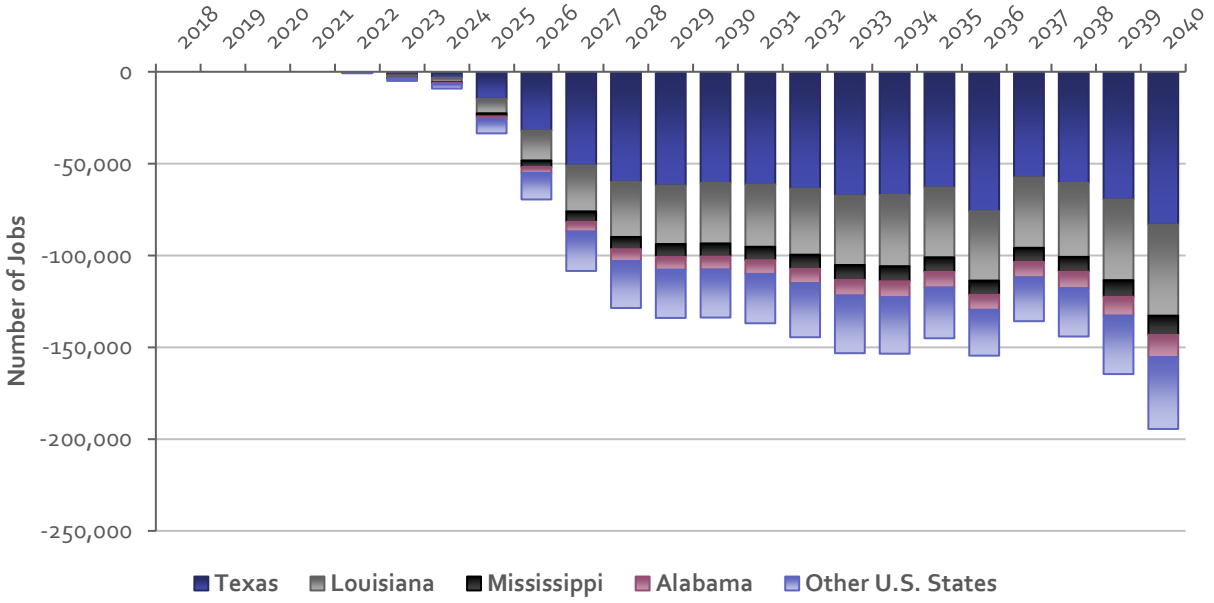
Source: Energy and Industrial Advisory Partners

Employment

This study projects that in the Base Case an annual average of around 370 thousand jobs nationally will be supported by the Gulf of Mexico Offshore oil and natural gas industry across the forecast period. In the No Leasing Case average employment is projected to decline to 268 thousand jobs supported annually (a 28 percent decline). Over the last decade of the forecast period, average employment supported by the offshore oil and natural gas industry is projected to decline to just under 204 thousand jobs supported on average annually in the No Leasing Case, from 357 thousand jobs in the Base Case.

In the No Leasing Case, Texas' average annual supported employment across the forecast period is projected to decline from 154 thousand jobs to 111 thousand jobs (a 29 percent decline), from around 104 thousand jobs to 79 thousand jobs in Louisiana (a 25 percent decline), from over 29 thousand jobs in Alabama to 24 thousand jobs (a 19 percent decline), from over 22 thousand jobs in Mississippi to 17 thousand jobs (a 24 percent decline), and from nearly 57 thousand jobs in the rest of the U.S to 37 thousand jobs (a 35 percent decline). Employment declines are projected to accelerate towards the end of the forecast period, with reduced employment approaching 195 thousand jobs nationally in 2040. (Figure 13)

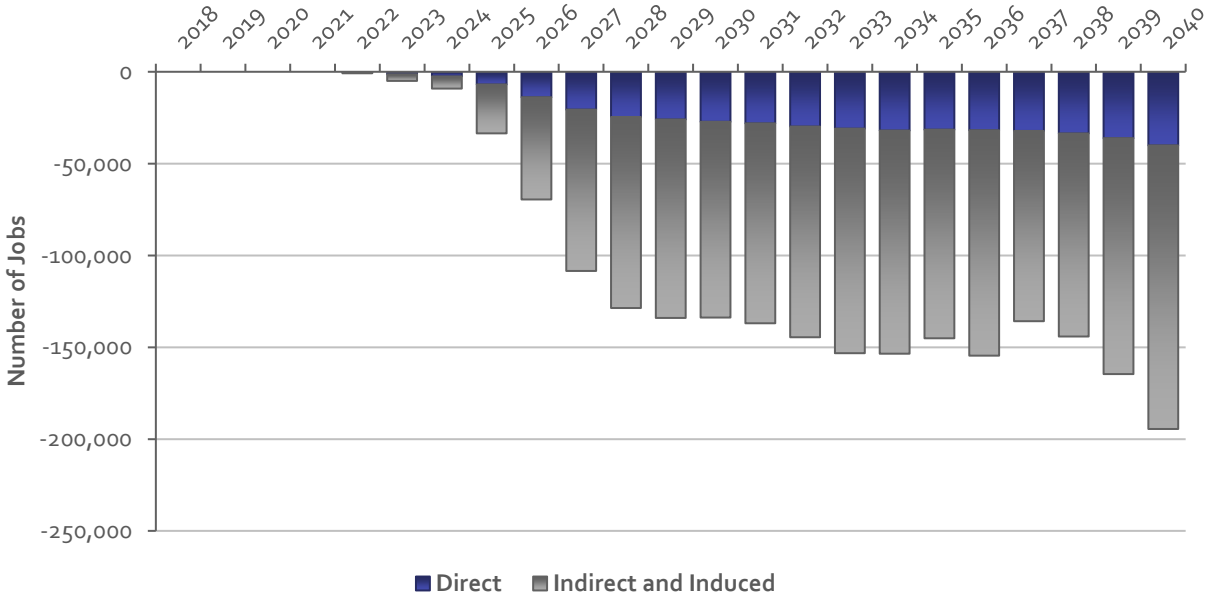
Figure 13: Projected No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment Reductions



Source: Energy and Industrial Advisory Partners

The Gulf of Mexico Offshore Oil and Natural Gas industry supports employment both through direct employment by the industry, but also indirectly. Across the 2020 to 2040 forecast period, direct employment is projected to average around 78 thousand jobs each year in the Base Case. In the No Leasing Case, average direct employment across the forecast period is projected at around 56 thousand jobs, a nearly 28 percent decrease. Across the 2020 to 2040 forecast period, supported indirect and induced employment in the No Leasing Case is projected at around 212 thousand jobs on average, compared to around 293 thousand jobs in the Base Case (also around a 28 percent decrease).

Figure 14: Projected No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Direct and Indirect and Induced Supported Employment Reductions

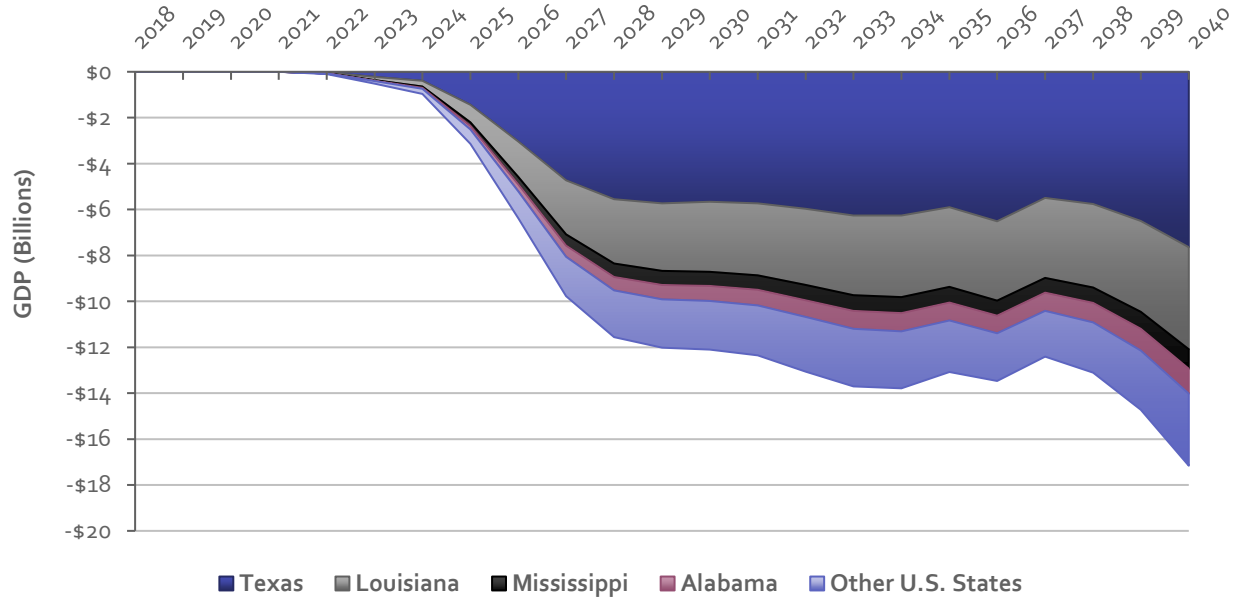


Source: Energy and Industrial Advisory Partners

GDP

The Gulf of Mexico offshore oil and natural gas industry contributes significant levels of gross domestic product (GDP) to the Gulf Coast states' economies as well as the national economy. On average, the Gulf of Mexico Offshore Oil and Natural Gas Industry is projected to contribute $31.3 billion to national GDP annually over the forecast period. In the No Leasing Case, annual contributions to GDP are projected at an average of around $22.1 billion, around a 30 percent reduction. In the last decade of the forecast period, contributions to GDP in the No Leasing Case are projected at around an annual average of $16.6 billion, compared to $30.3 billion in the Base Case, around a 45 percent reduction. (Figure 15)

Figure 15: Projected No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Contributions to GDP Reductions



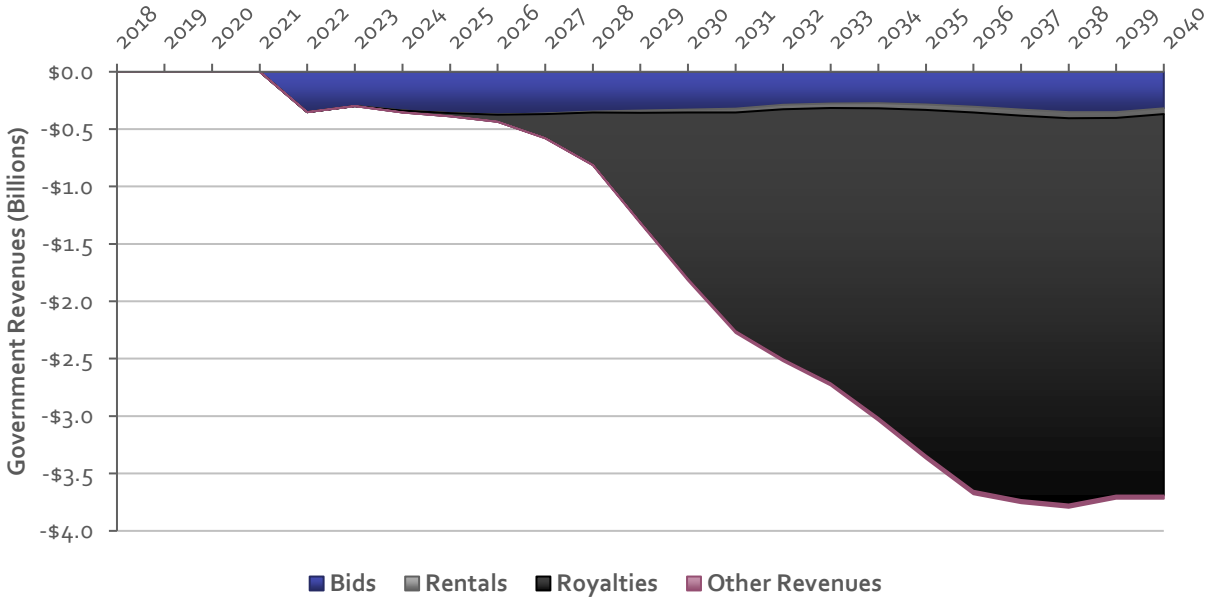
Source: Energy and Industrial Advisory Partners

Government Revenues

This study forecasts that in the Base Case across the forecast period, government revenues derived from offshore oil and natural gas activities in the Gulf of Mexico (excluding personal and corporate income taxes and property taxes), will average over $7 billion per year. In the No Leasing Case revenues are projected at an average of around $5.2 billion per year (a 26 percent reduction). Over the last decade of the forecast period, government revenues are projected at around $4.6 billion per year, compared to $7.9 billion in the Base Case, a 41 percent reduction.

Across the forecast period, average royalty revenues are projected to decline from over $6.6 billion to $5 billion per year (a 23 percent reduction). Bid revenues are projected to decline from an average of $315 million per year to $20 million per year (a 94 percent reduction), rental revenues are projected to decline from around $120 million per year to $95 million (a 21 percent reduction), and other revenues are projected to decline to around $44 million per year compared to $57 million in the Base Case. (Figure 16)

Figure 16: Projected No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenue Reductions by Type



Source: Energy and Industrial Advisory Partners

In the No Leasing Case, distributions to states due to GOMESA are projected to be relatively inline with distributions in the Base Case. Distributions to the LWCF due to GOMESA are also projected to be relatively in line with those in the Base Case. Non- GOMESA distributions to the LWCF due to offshore activities are project at just over $900 million compared to around $1.2 billion in the Base Case.

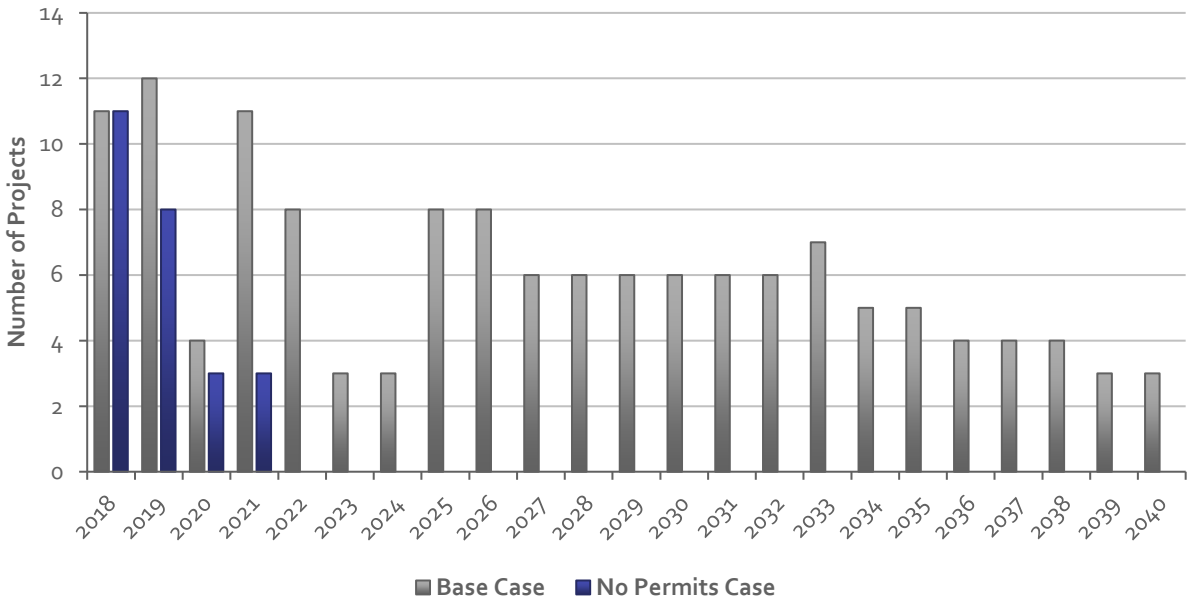
No Permits Case Impacts

Although no firm policy proposals have been advanced, one of a number of potential restrictive policy changes that has been advanced for the Gulf of Mexico OCS is that regulatory authorities no longer issue new drilling permits for Gulf of Mexico wells. For the purposed of this report, the "No Permits Case" was developed to provide a comparison of activity levels (project executions, spending, oil and natural gas production), economic impacts, and government revenues to the Base Case. This scenario assumes that no new drilling permits would be issued from 2022, but that existing permits would be unaffected, and that no other major policy or regulatory changes impacting the Gulf of Mexico offshore oil and natural gas industry would be enacted.

Projects

Under the No Permits Case, project development activity is projected to be reduced as soon 2022, as projects which are already under development which would require unpermitted wells to be economic are the first to be impacted. Over the 2020-2040 forecast period, new project startups are projected to decline by nearly 95 percent, from 104 to 6. (Figure 18)

Figure 17: Projected Base Case vs. No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Project Startups by Year



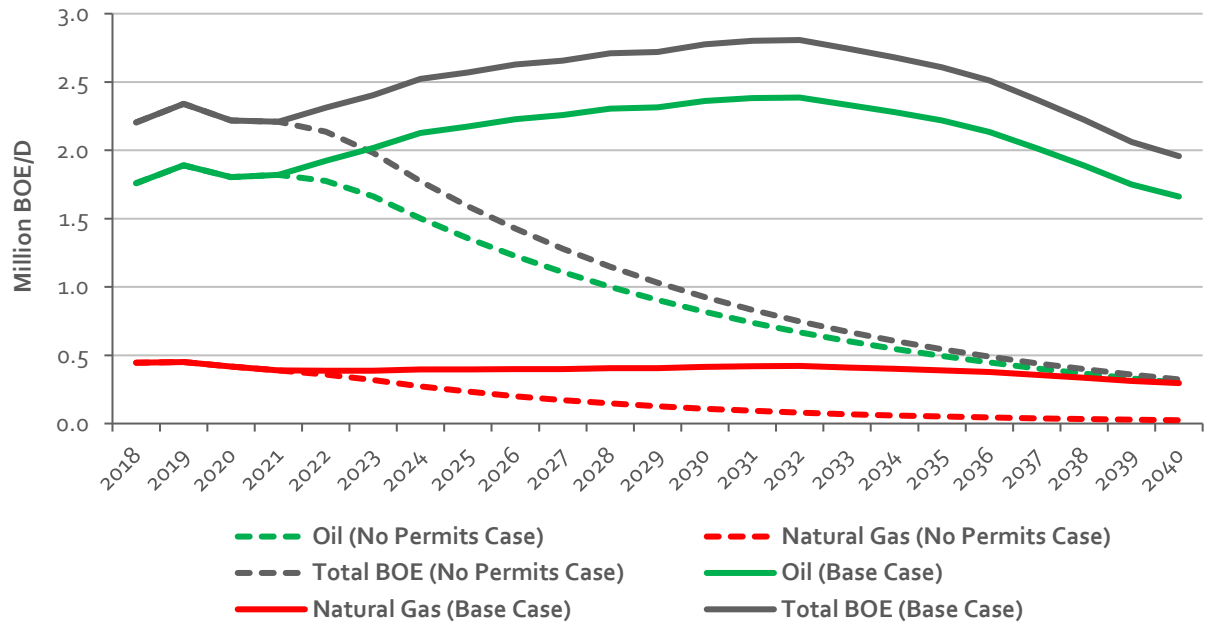
Source: Energy and Industrial Advisory Partners

Production

To develop the production forecasts for this report, project development (in addition to the existing production base) was modeled utilizing key indicators such as the water depth of the project, the number of producing wells, per well production, assumptions on peak production years, and decline rates. In the No Permits Case, the impact of reduced project development and drilling on production was modelled.

This study forecasts that in the No Permits Case, average combined oil and natural gas production across the 2020 to 2040 forecast period will decline from around 2.5 million barrels of oil equivalent per day to 1.1 million barrels of oil equivalent per day (an over 55 percent decline). Over the last decade of the forecast period, production is projected to decline from nearly 2.5 million barrels of oil equivalent per day to around 540 thousand barrels of oil equivalent per day (an around 78 percent decline). In 2040, combined oil and natural gas production is projected to be around 323 thousand barrels of oil equivalent per day compared to 1.96 million barrels in the Base Case. (Figure 19)

Figure 18: Projected Base Case vs. No Permits Case Gulf of Mexico Oil and Natural Gas Production (BOE/D)

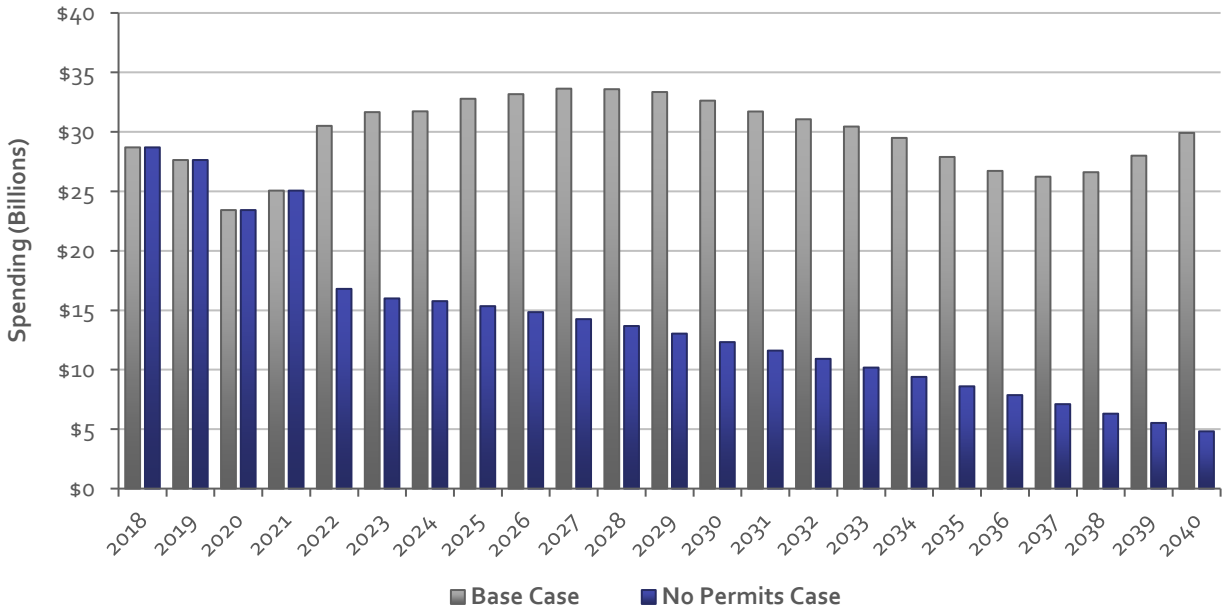


Source: Energy and Industrial Advisory Partners

Spending

In the Base Case scenario developed for this report, offshore oil and natural gas spending is projected to average nearly $30 billion per year from 2020 to 2040. In the No Permits Case spending is projected at an annual average of $12.5 billion, an approximately 58 percent decline. Over the last decade of the forecast period, spending is projected to fall from an average of around $28.8 billion to $8.2 billion per year, a 72 percent decline. (Figure 20)

Figure 19: Projected Base Case vs. No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Spending



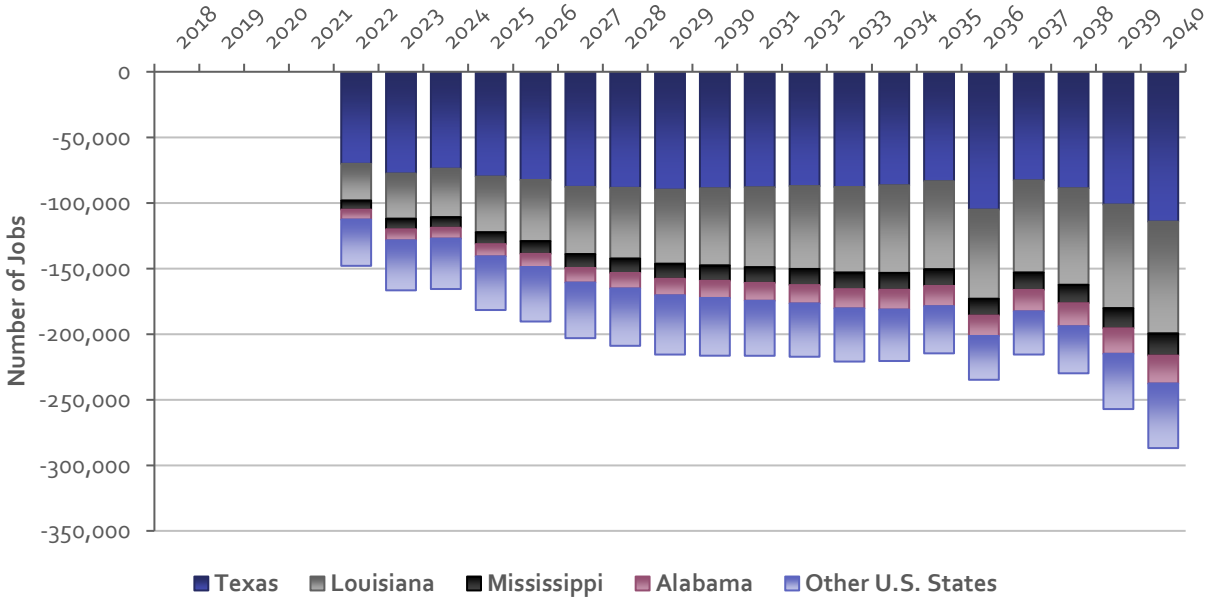
Source: Energy and Industrial Advisory Partners

Employment

This study projects that in the Base Case an average of around 370 thousand jobs nationally will be supported by the Gulf of Mexico Offshore oil and natural gas industry across the forecast period. In the No Permits Case employment is projected to decline to around 179 thousand jobs on average (a 52 percent decline). Over the last decade of the forecast period, average employment supported by the offshore oil and natural gas industry is projected to decline to just over 125 thousand jobs in the No Permits Case, from 357 thousand jobs in the Base Case.

In the No Permits Case, in Texas, average supported employment across the forecast period is projected to decline from 156 thousand jobs to 77 thousand jobs (a 51 percent decline), from around 105 thousand jobs to 52 thousand jobs in Louisiana (a 50 percent decline), from over 30 thousand jobs in Alabama to 17 thousand jobs (a 41 percent decline), from over 22 thousand jobs in Mississippi to 12 thousand jobs (a 47 percent decline), and from over 57 thousand jobs in the rest of the U.S to 21 thousand jobs (a 64 percent decline). Employment declines are projected to accelerate towards the end of the forecast period, with reduced employment approaching 287 thousand jobs nationally in 2040. (Figure 21)

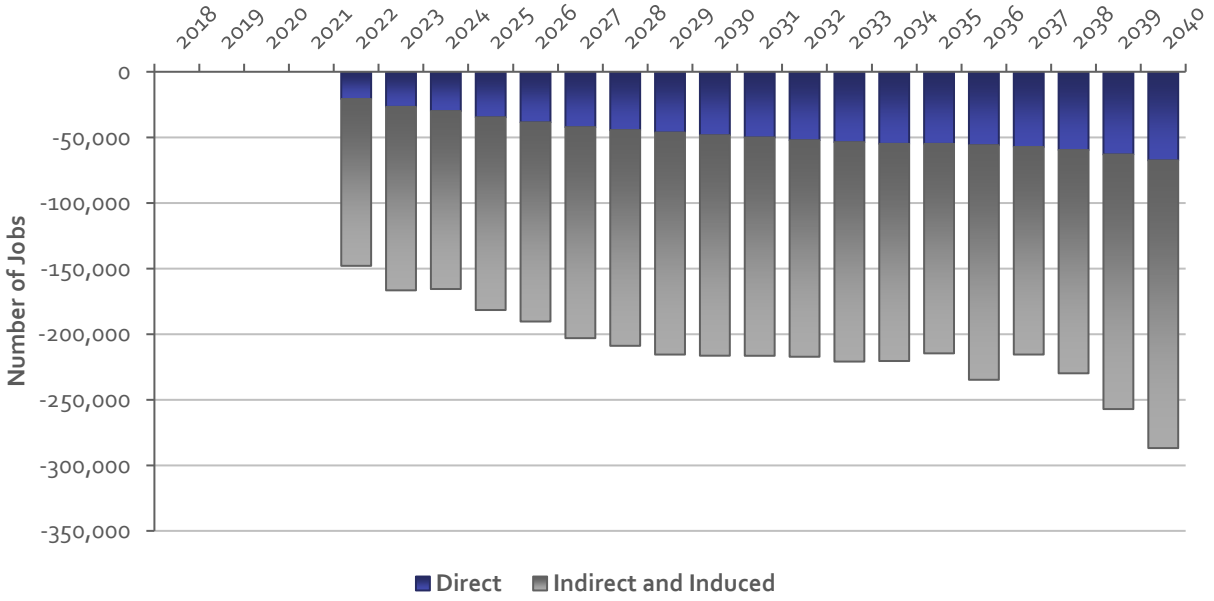
Figure 20: Projected No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment Reductions



Source: Energy and Industrial Advisory Partners

Across the 2020 to 2040 forecast period, direct employment is projected to average around 78 thousand jobs each year in the Base Case. In the No Permits Case, average direct employment across the forecast period is projected at around 35 thousand jobs, an over 55 percent decrease. Across the 2020 to 2040 forecast period, supported indirect and induced employment in the No Permits Case is projected at around 145 thousand jobs on average, compared to around 293 thousand jobs in the Base Case (around a 51 percent decrease).

Figure 21: Projected No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment Reductions

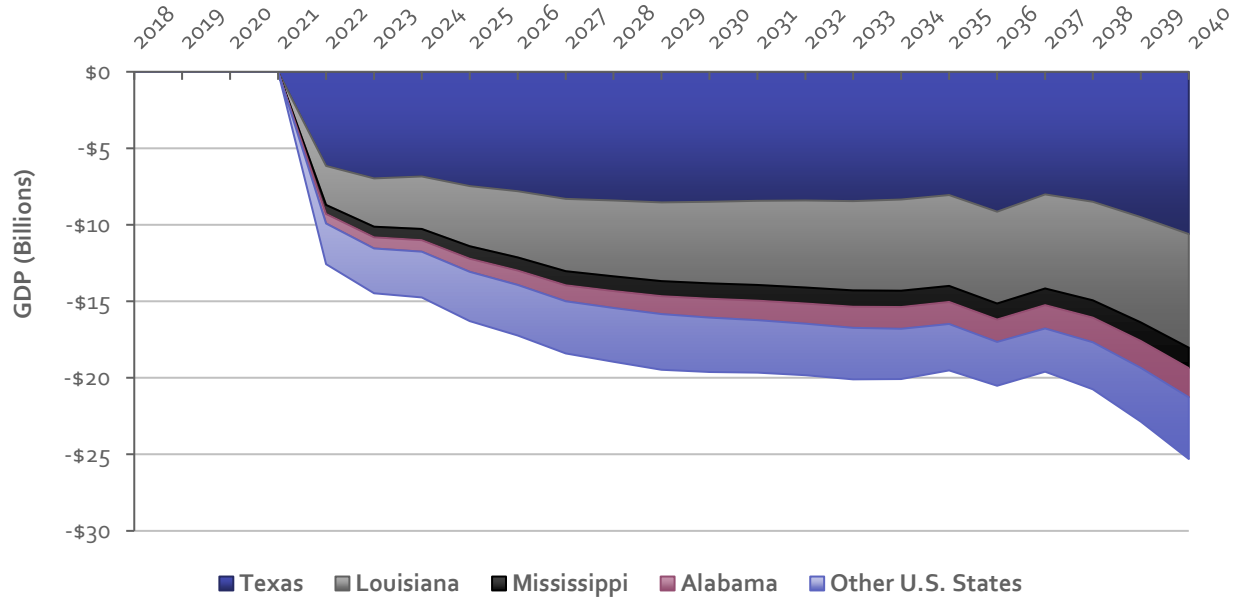


Source: Energy and Industrial Advisory Partners

GDP

The Gulf of Mexico offshore oil and natural gas industry contributes significant levels of gross domestic product (GDP) to the Gulf Coast states' economies as well as the national economy. On average, the Gulf of Mexico Offshore Oil and Natural Gas Industry is projected to contribute $31.3 billion annually to national GDP over the forecast period. In the No Permits Case, average contributions to GDP are projected at $14.2 billion per year, around a 55 percent reduction. In the last decade of the forecast period, contributions to GDP in the No Permits Case are projected at around $9.5 billion per year, compared to an average of $30.3 billion in the Base Case (around a 69 percent reduction). (Figure 23)

Figure 22: Projected No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Contributions to GDP Reductions



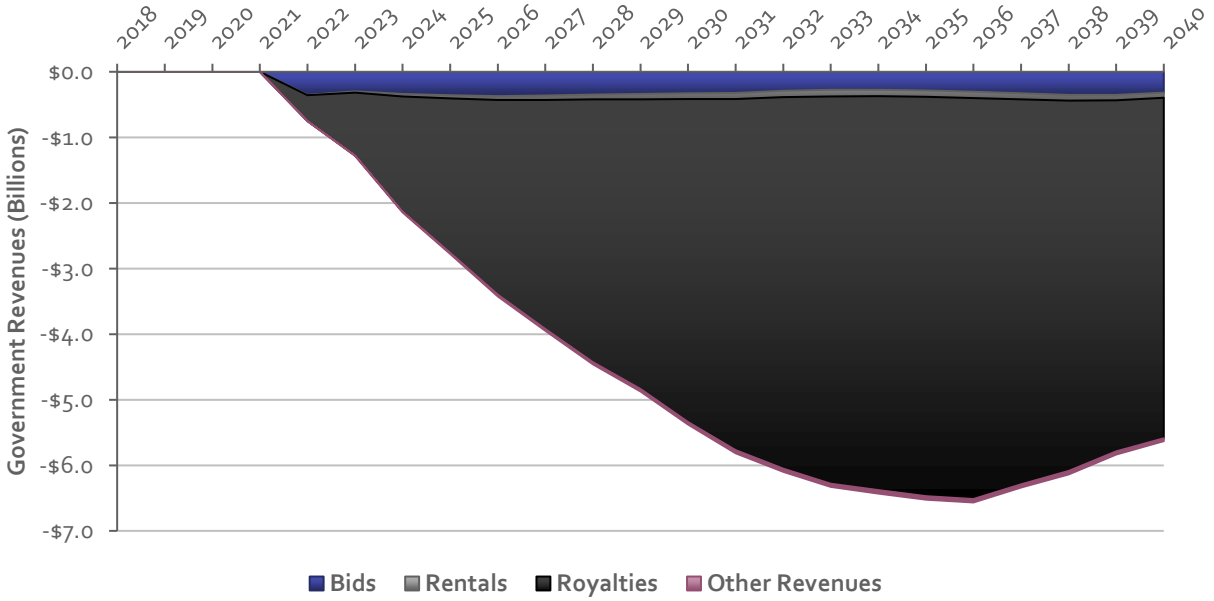
Source: Energy and Industrial Advisory Partners

Government Revenues

This study forecasts that in the Base Case, across the forecast period, government revenues derived from offshore oil and natural gas activities in the Gulf of Mexico (excluding personal and corporate income taxes and property taxes), will average over $7 billion per year. In the No Permits Case revenues are projected at an average of around $2.7 billion per year (a 61 percent reduction). Over the last decade of the forecast period, government revenues are projected at around $1.7 billion per year, compared to $7.9 billion in the Base Case, a 78 percent reduction.

Across the forecast period, average royalty revenues are projected to decline from over $6.6 billion to $2.6 billion per year (a 56 percent reduction). Bid revenues are projected to decline from an average of $315 million per year to $20 million per year (a 94 percent reduction), rental revenues are projected to decline from an average of around $120 million per year to $53 million (a 56 percent reduction), and other revenues are projected to decline to an average of around $23 million per year compared to around $57 million in the Base Case. (Figure 24)

Figure 23: Projected No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenue Reductions by Type

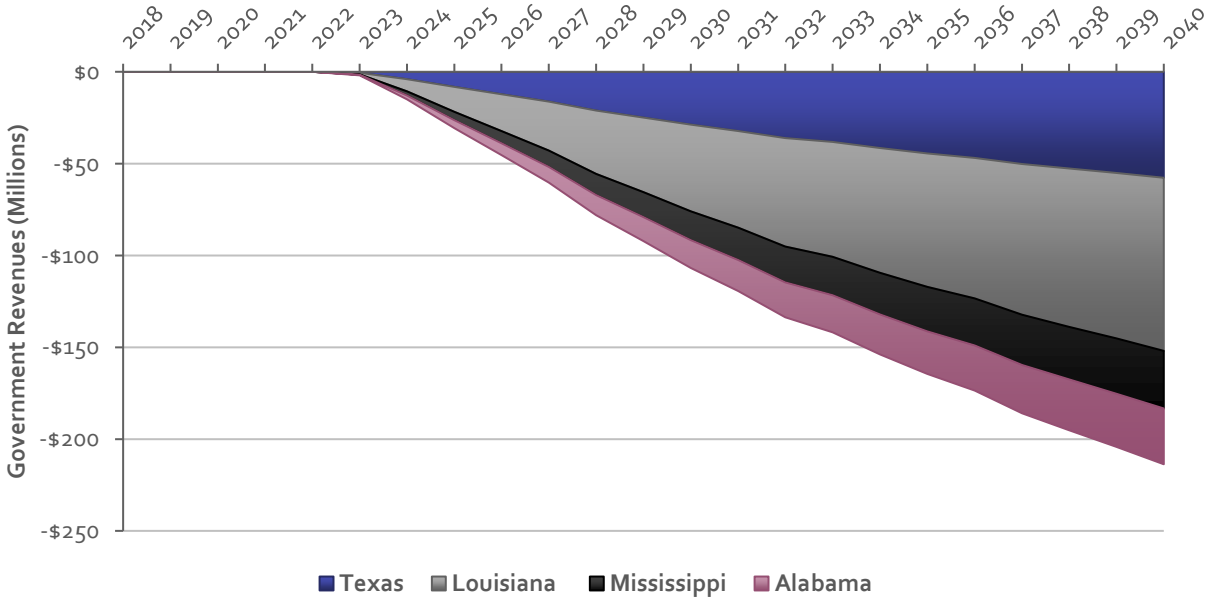


Source: Energy and Industrial Advisory Partners

In the Base Case this study projects on average the Gulf Coast States would receive around $374 million per year of revenue distributions due to GOMESA. In the Base Case, Louisiana will see the largest annual distributions due to GOMESA, with distributions averaging around $165 million over the forecast period. Texas is projected to receive the second highest average distributions, at around $101 million per year. Mississippi and Alabama are projected to receive distributions of an average of around $55 and $53 million respectively annually.

In the No Permits Case, distributions to Gulf Coast States are projected to fall to an average of $273 million per year (around a 27 percent reduction). Distributions to Louisiana are projected to average around $121 million per year. Texas is projected to receive distributions averaging around $74 million per year. Mississippi and Alabama are projected to receive distributions of on average around $40 and $39 million respectively annually. (Figure 25)

Figure 24: Projected No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenues Reductions by State



Source: Energy and Industrial Advisory Partners

In the No Permits Case, distributions to states due to GOMESA are projected to be relatively inline with distributions in the Base Case. Distributions to the LWCF due to GOMESA are also projected to be relatively in line with those in the Base Case. Non- GOMESA distributions to the LWCF due to offshore activities are project at just under $585 million compared to around $1.2 billion in the Base Case.

Conclusions

Despite the challenges currently facing the industry due to global economic conditions and low commodity prices, under current policies the Gulf of Mexico oil and natural gas industry should continue to be a major source of energy production, employment, gross domestic product, and government revenues for the United States. Several proposals have been advanced recently which would have a major impact on the industry's activity levels, and the subsequent energy production, employment, gross domestic product, and government revenues that the industry provides to the United States. The proposals vary widely, but for the purpose of this report three scenarios were developed, a continuation of current policies and regulations, a ban on new offshore leases, and a ban on new drilling permits approvals in the Gulf of Mexico OCS.

Economic Impacts of the Gulf of Mexico Oil and Natural Gas Industry

The Gulf of Mexico oil and natural gas industry supports significant employment, gross domestic product and state and Federal Government revenues.

- In 2019, combined Gulf of Mexico OCS oil and natural gas production was over 2.3 million barrels of oil equivalent per day. Oil and natural gas production from the Gulf of Mexico OCS is projected to average around 2.5 million barrels of oil equivalent per day across the 2020-2040 forecast period.
- In 2019, the Gulf of Mexico offshore oil and natural gas industry supported an estimated 346 thousand jobs in the United States. On average, across the 2020-2040 forecast period, the Gulf of Mexico offshore oil and natural gas industry is projected to support around 370 thousand jobs.
- In 2019, the Gulf of Mexico oil and natural gas industry contributed an estimated $28.7 billion of to the U.S. economy. The industry is projected to contribute an average of $31.3 billion of GDP per year across the forecast period.
- In 2019, government revenues due to the Gulf of Mexico oil and natural gas industry reached nearly $5.4 billon. Government revenues derived from offshore oil and natural gas activities in the Gulf of Mexico (excluding personal and corporate income taxes and property taxes), are projected to average over $7.2 billion per year over the forecast period.
- From FY 2019, the Gulf of Mexico oil producing states received around $352 million of revenues due to revenue sharing while the Land and Water Conservation Fund (LWCF) received nearly $130 million of distributions due to GOMESA. State revenue sharing under the Gulf of Mexico Energy Security Act (GOMESA) is projected to average around $374 million per year. Additionally, contributions to the Land and Water Conservation Fund (LWCF) due to GOMESA are projected to average $125 million per year. Total LWCF distributions due to offshore activity are projected at around $1.3 billion across the forecast period.

Impact of a Potential Leasing Ban

Although no firm policy proposals have been advanced, one potential restrictive policy changes that has been advanced for the Gulf of Mexico oil and natural gas industry is an end to new leasing in the Federal Outer Continental Shelf. For the purpose of this report, the "No Leasing Scenario" was developed to provide a comparison of activity levels (project executions, spending, oil and natural gas production), economic impacts, and government revenues.

- Average combined oil and natural gas production across the forecast period is projected to decline from around 2.5 million barrels of oil equivalent per day to under 2 million barrels of oil equivalent per day (an over 20 percent decline) across the 2020 to 2040 forecast period.
- Average employment supported is projected to decline to 268 thousand from around 370 thousand jobs nationally (a 28 percent decline).
- Average contributions to GDP are projected at $22.1 billion per year, around a 30 percent reduction compared to average contributions of $31.3 billion in the Base Case.
- Government revenues are projected at an average of around $5.3 billion per year, a 26 percent reduction from the $7.2 billion per year projected in the Base Case.
- Contributions to the LWCF including GOMESA and non-GOMESA offshore contributions are projected to fall from over $1.3 billion on average in the Base Case to just over $1 billion.

Impact of No New Drilling Permits Being Issued

Another potential restrictive policy change that has been proposed for the Gulf of Mexico OCS has been that regulatory authorities no longer issue new drilling permits for Gulf of Mexico wells. This scenario assumes that no new drilling permits would be issued from 2022, but that existing permits would be unaffected, and that no other major policy or regulatory changes impacting the Gulf of Mexico offshore oil and natural gas industry would be enacted.

- Average combined oil and natural gas production across the forecast period is projected to decline from around 2.5 million barrels of oil equivalent per day to 1.1 million barrels of oil equivalent per day (an over 55 percent decline) across the 2020 to 2040 forecast period.
- Average employment supported by the Gulf of Mexico oil and natural gas industry is projected to decline to 179 thousand jobs from around 370 thousand jobs nationally in the Base Case (a 53 percent decline).
- Average contributions to GDP are projected at $14.2 billion per year, around a 55 percent reduction compared to contributions of $31.3 billion in the Base Case.
- Annual government revenues are projected at an average of around $2.9 billion, a 66 percent reduction from the $7.2 billion per year projected in the Base Case.

- State revenue sharing under the Gulf of Mexico Energy Security Act (GOMESA) is projected to fall to an average of around $273 million per year, compared to around $374 million in the Base Case (a 27 percent reduction).
- Contributions to the LWCF including GOMESA and non-GOMESA offshore contributions are projected to fall from over $1.3 billion on average in the Base Case to just over $585 million.

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NOIA Member Profiles

In addition to the quantitative report, EIAP conducted interviews with NOIA member companies to gain a better understanding of the Gulf of Mexico offshore oil and natural gas industry, its supply chain, and the employment impacts of the industry. Ten companies, ranging from independent operators, to public companies, to small private companies which are representative of the diverse companies involved in the Gulf of Mexico Offshore oil and natural gas industry, were interviewed. In the profiles the NOIA members discuss their companies, how they were founded and began to work in the offshore oil and natural gas industry, their company's and the industry's employment impacts, the impact of their supply chains, and the future of the industry. These ten companies, and NOIA's membership as whole account for only a small percentage of the Gulf of Mexico Offshore oil and natural gas industry supply chain. As an appendix to this report a list of over 2,400 companies which supply goods and services to the industry is included. Even this list likely greatly underestimates the number of industry suppliers.

PRODUCING CONFIDENCE

We spoke to Paul Danos, Owner – Executive at Danos.

About Danos

Danos, based in Houma Louisiana, offers land-based and offshore customers an extensive range of oil and gas production related services, including: automation, coatings, construction, fabrication, instrumentation and electrical, mechanical maintenance, production workforce, project management, regulatory compliance, scaffolding, shorebase and logistics, specialized consultants and valve wellhead. Danos has 11 offices across Louisiana, Pennsylvania, Texas.

When was Danos founded?

We were founded in 1947, by my grandfather and his brother in law. They started with one little supply boat and 72 years later, we're completely US-focused, with 3,000 employees.

Where are most of Danos' employees located?

A lot (of our employees) come from the Gulf Coast; Texas, Louisiana, Mississippi, Alabama, even some from Florida, and then there's a handful that will come from Washington state, Tennessee and other states that catch a plane and fly into their hitch. When you think about our 3,000 employees and the flexibility that comes with the way we work offshore on a 14 and 14 rotation, these are really good jobs for people who may not have a college education, but have a good technical background or are willing to work hard. These are really good paying jobs. We have a lot of people making $60 thousand, $70 thousand, $80 thousand, to over $100 thousand a year with an associate's degree or a high school diploma who are providing for their families, enjoying a high quality of life and living in places where, if you make $80,000 a year, that's a very good living.

What about the impact of Danos on the communities where it is located?

We have a pretty significant impact on our community, when I am out on a weekend, at church, or at restaurants, I'm constantly seeing people that work for us, and that work for companies that we do business with. Raw material suppliers like metals and fittings, companies that provide services like safety training, companies that provide our protective equipment and uniforms. Because we're pulling people from all along the Gulf Coast and throughout the US, the pay that our guys take home and spend impacts all of their communities as well.

How important is the Gulf of Mexico offshore industry to the economy?

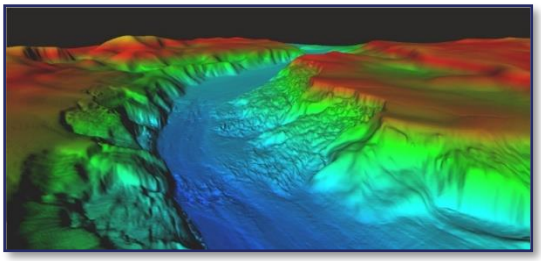
For our local community where we live, in Houma, Louisiana on the Gulf Coast, our community is very much dominated and dependent upon the oil and gas sector. So many of the people here work for companies that are involved in the sector. We're very heavily reliant upon it. More broadly, our industry keeps the lights on, provides the energy, literally and figuratively for everything, for all goods and services and it's just what drives our economy. We're keeping their lights on by electricity generation and petrochemical inputs that are going into products that people who might not think about it are dependent upon. Almost every product that they're touching has some sort of input from our industry. It's a huge driver for our economy.

What about the future of the industry?

In a long, long time frame we will still be very much dependent on oil and gas as a big part of our energy supply. It's going to be critically important as a percentage of the total energy supply. We're going to diversify. We're going to get better at generating energy from renewable sources, that's going to be good for the environment. You have companies like Shell, Equinor and BP who are making investments in those areas and a company like ours has relationships, understands how they do business, and has competencies that transfer well to those areas. Companies that are full of engineers and that know how is very transferable from oil and gas over to offshore wind for example.

We spoke to Tony Gray, Executive Vice President at Fugro in the US.

About Fugro



Geo-Referenced Bathymetric Map of The Seabed at a Future Drill Center Location

Fugro is a global company headquartered in Leidschendam, the Netherlands. We are the world's leading Geo-data specialist, collecting and analyzing comprehensive information about the Earth and the structures built upon it.

Fugro was founded in 1962 as an onshore geotechnical engineering firm and grew to our current size during an active acquisition period to obtain cutting-edge technology. Our talented workforce now operates in 60 countries across the world. We acquired McClelland, in 1987, which moved us into the offshore industry, primarily oil and gas.

In the US, we have consolidated multiple different companies into one business entity to provide our clients with a seamless "One Fugro" offering. Fugro in the US compromises seven service lines that aid oil companies in streamlining their operations throughout the entire life of field.

We acquire data from the ocean bottom and its sub-bottom that allow our clients to understand the characteristics of the area they are exploring and make informed decisions on their projects. Once a project moves further into the development phase, Fugro provides asset management services such as accurate positioning of vessels and infrastructure, monitoring and remote systems technologies, environmental management, and more. Our goal is always to plan and execute our activities with the highest focus and attention on safety

Onboard Laboratory Testing

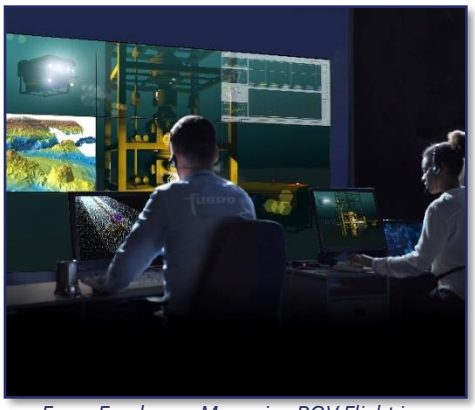
How important is offshore oil and gas to Fugro?

Up until about 2 years ago, most of our revenue derived from oil and gas. A recent uptake in offshore wind has been great for our Gulf of Mexico marine site characterization fleet, with many vessels now working on the East coast. Today, globally, around half of our revenue is derived from oil and gas. In the Americas, oil and gas still account for most of our Regional offshore business.

How many employees does Fugro have in the U.S.?

We have approximately 1200 employees in the US, including land and marine. Strictly on the marine side, employees work on a wide variety of projects and industries, including oil and gas, offshore wind,

hydrography, coastal resilience, government-academic-industry partnerships and funded research. We hire geochemists, geophysicists, geologists, geoconsultants and people with civil and environmental engineering backgrounds. Our offshore surveyors typically come from a land surveying background from various universities and then of course we also employ marine crew, who operate the vessels.



Fugro Employees Managing ROV Flight in a Remote Mission Control Center

How important is the industry to the economy?

The offshore industry or, as we refer to it, the blue economy is extremely important to the wider national economy. It has both a direct impact with regards to the jobs it provides and an indirect impact based on the jobs it creates in other industries, whether energy, or products derived from petroleum for instance.

What about other areas of the OCS?

Plenty of exploration and development could happen in the OCS around the US with the right regulatory environment. Offshore wind, oil and gas exploration, environmental studies, fisheries, transportation, telecommunications: all of these industries form part of the OCS nationwide and the territories.

Fugro Explorer Sailing Through Manhattan en Route to a Wind Farm Project

Do the same assets which support offshore oil and natural gas also support offshore wind development?

Of course. As an example, the Fugro Explorer is a deepwater geotechnical vessel capable of working in water depths up to 3,000 meters. A few weeks ago, we finished a geotechnical campaign in the Gulf of Mexico on the Explorer. We sailed into Galveston, conducted a crew change and a few days of routine maintenance, and then headed up to the East Coast to carry out a geotechnical campaign for a wind farm. For the most part, our assets are interchangeable, regardless of whether we are supporting the oil and gas or wind farm industry, and, as a global service provider, we move those assets around the world as required.

Especially here in the US, the experience of the oil and gas industry has enabled offshore wind and other blue economy industries to be developed in a safe and stratigic manner. Through oil and gas, we serviced industry needs along the East Coast from within the US. This meant we were immediately able to translate oil and gas innovations to service offshore wind farms, and vice versa it should be noted. It is vitally important for renewables companies to be able to pull from an industry that has years of experience in technologies and safe working strategies;. I don't think that the wind and renewables industries could afford to educate an entire workforce or supply chain to service them. But fortunately, oil and gas did that already and wind development now recieves the benefit.

We spoke with Richard R. Clark, Senior Vice President and Head of Gulf of Mexico Business Unit at Kosmos Energy.

About Kosmos

Kosmos is a deepwater independent oil and gas E&P company focused along the Atlantic Margins. Our key assets include production offshore Ghana, Equatorial Guinea and U.S. Gulf of Mexico, as well as a world-class gas development offshore Mauritania and Senegal. We also maintain a sustainable exploration program balanced between infrastructure-led exploration (Equatorial Guinea and U.S. Gulf of Mexico), emerging basins (Mauritania, Senegal and Suriname) and frontier basins (Namibia, Sao Tome and Principe, and South Africa).

When was Kosmos founded?

Kosmos was founded in 2003 to find oil in under explored parts of West Africa. In its brief history, the company has opened two new hydrocarbon basins. Jubilee, in Ghana was one of the largest oil discoveries worldwide in 2007 and one of the largest offshore West Africa discovered during that decade.

Over the last two years, our strategy has evolved to include production-enhancing infill drilling as well as infrastructure-led exploration. This strategic evolution was bolstered by the September 2018 acquisition of the Deep Gulf Energy companies operating in the U.S. Gulf of Mexico..

How important is the Gulf of Mexico to Kosmos?

In 2019, 31% of Kosmos revenue came from the Gulf of Mexico. In the future, we would like to grow our production in the Gulf, a basin where we see significant resource potential and where there is an abundance of under-utilized infrastructure, making it a good place to do low cost, high return projects on accelerated timelines. Ideally, we would like to drill 3-4 exploration wells in the Gulf each year. With that level of activity, the region would comprise a substantial part of our worldwide program and continue to demonstrate its importance to the company.

How many people does Kosmos employ?

Kosmos has 240 employees and consultants in Dallas and Houston. We are an operator so when we have a rig contracted approximately 300 people, mostly contractors, are providing work on the rig over the course of drilling operations. In normal times we would expect to have a rig under contract for at least 9 months a year.

How large is Kosmos' supply chain?

In the GoM, Kosmos and DGE invested over $1 billion in drilling and projects over the past 5 years, we paid $435 million to operate our wells. Most of the supply chain is in Louisiana and Texas. We used about 450 vendors last year including equipment manufacturers, service and engineering companies, seismic vendors, marine services, drilling contractors and the list goes on. A very large percentage of the oil field service and manufacturing industry is based in the Gulf Coast area. Much of the oil field equipment used overseas is made right here. It is a significant contributor to our economy.

How could changes in the regulatory regime in the Gulf of Mexico impact activity?

If drilling in the Gulf of Mexico were prohibited it would be devastating to the Gulf Coast. The area would lose thousands of high paying jobs. It would also be bad for the environment. The GOM is a highly regulated area. We do not flare huge volumes of gas like many onshore areas. We have one of the lowest carbon footprints for oil and gas extraction in the world. If we don't allow production in the GOM we will be forced to import oil from areas with lax environmental regulations which would defeat the objectives of those who seek to ban offshore activity. Historically, we've done about 50-50 farming into leases that are owned by other companies and then going to the lease sale for the other half. We have an inventory of around 20 prospects that we think are drillable. At four prospects a year that gives us five years of inventory. Over the next five years you would have trouble replacing your inventory if the lease sales were prohibited.

Are there any other ways Kosmos supports the communities it works in?

Our U.S.-focused social investment has historically centered on improving the quality of STEM education and building cross cultural understanding, which is an extension of our desire to engage with the international communities where we live and work. While we continue to support those programs, we are now exploring ways to alleviate the socio-economic impacts of the coronavirus pandemic by targeting measures to tackle acute hunger and chronic food insecurity in our communities. From an environmental perspective, we are supporting an innovative blue carbon project in Louisiana that restores wetlands to improve coastal resilience and biodiversity, as well as positively impact climate change.

NEW INDUSTRIES

We spoke with Bill New, President at New Industires.

About New Industries

We are a fabrication company, we bend, cut, and weld metal, we build subsea equipment, pressure vessels and suction piles. We do most of our work in the Gulf of Mexico, though sometimes we export things typically for customers based out of Houston. For example, we recently exported to Guyana. We don't send field crews out. We don't send guys offshore, we're just strictly a fabricator. Essentially, all the work we do is right here in our yard. Then we load it out on a barge, boat, or occasionally a truck if it's small enough.

How was New Industries founded?

My background is in engineering. I made my first trip offshore to work a week-and-a half after I got out of high school. I went to engineering school then started working fom Mobil when I was still in engineering school, during the summers. When I graduated in 1980, I went to work for Mobil full-time, here in Morgan City. I stayed with Mobil for about five years until 1985, then I quit Mobil to go into business for myself and have been at it ever since. I'm the sole stockholder. My dad was my original partner, but I bought him out a couple of years after we got started. I've made every mistake in the book over the years, the only mistake I've managed to not make is what I call the fatal mistake, which is the one to put you out of business. We've been damn close a couple of times, but we're still here.

How much of your business is related to offshore oil and gas?

We've been involved in offshore pretty much since day one. Right now, about 70% of our revenue is directly related to offshore. We do some work in the marine industry, but ultimately, at the end of the day, that rolls back to oil and gas at some point. We recently did some work that went to the North Slope of Alaska. We do some midstream work, so that's not offshore, but certainly, oil and gas.

How many people does New Industries employ?

Right now, we're at 100 employees. We use some subcontractors, and that number varies day to day depending on what we have going on. On any given day, we probably have 25 to 35 subcontractor employees in the yard. They come in to do specific things like painting or testing work. Most of the employees tend to be tradespeople, welders, fitters, crane operators, riggers. We do have some CNC equipment for cutting plate and we have a few guys that do that. I've got some guys that have been with me for 30-plus years because I tend not to staff up and lay off. I don't like to do that. When I hire somebody, I tend to hold on to them for the long-term.

Are most of you employees based locally?

Yes, they all live probably within maybe 40 miles. Places like, Houma, Franklin, Thibodaux, Morgan City, Berwick, Patterson, that's pretty much our workforce. Some companies that work offshore have guys come in from all over the country, then go offshore and work for some period of time and then come make a crew change and go home. Our guys, they come here to work every day so they have to live locally.

How does your supply chain impact the economy?

Some of our supply chain is local, like the hardware store and vendors that we buy paint from. We rent equipment from local guys and I try to do business as much as I can with the local people. Our supply chain stretches from Houston to across the Gulf South. We buy a lot of steel plate directly from steel mills in Texas, Alabama, and North Carolina and occasionally in the Midwest. I wouldn't call it New Industry's supply chain, but we're a big part of the community because our employees are shopping here at local stores, and they're going to eat in the local restaurants, going to the local healthcare facilities.

What's the future of the Gulf of Mexico Offshore Oil and Gas Industry?

I think the Gulf of Mexico is going to continue to be a vital source of oil and gas for the United States. It's a hugely prolific basin that has tremendously well-established infrastructure with a very strong supply chain across the industry. Pretty much anything you need to work offshore if you're an oil company, you can find somewhere between New Orleans and Houston. Whether that's a shipyard, whether that's boats, whether that's a fabricator, whatever it is. You don't have that in other parts of the world, not nearly as well-developed anyway as what we have here in the Gulf of Mexico. Offshore is going to continue to play a huge part. However, if regulations change and they quit holding lease sales it would be extremely difficult in this part of South Louisiana for sure. Without oil and gas, there'd be a few shrimpers and that'd be about it.

PHARMA-SAFE
INDUSTRIAL SERVICES

We spoke to Lanis Belaire, Owner of Pharma-Safe Industrial Services.

About Pharma-Safe

Pharma-Safe is a Louisiana based company that provides services and products including contract medical personnel, safety professionals, support personnel, medical supplies, and medical management. For example, we do health checks before workers leave shorebases. We've always done pre-employment physicals and health screenings during the times of year when people are more susceptible to the flu, but obviously, these health checks have grown exponentially in importance recently.

How was Pharma-Safe founded?

I started my career in the offshore energy industry as a health care provider in 1989. I developed lifelong relationships with fellow coworkers who now are in charge of many oilfield companies. The company was founded in 1998 and we have grown Pharma-Safe by providing quality service, making our employees our biggest champions, providing competitive pricing, developing strategic relationships, and working with our clients to become a division of their organization. We actively lobby on behalf of environmental stewardship, social responsibility, and corporate governance to maintain sustainability in our industry.

How important is the Gulf of Mexico offshore oil and gas industry to your business?

Currently, 95% of our business is derived from the industry. As a company, we are highly dependent on activity in the Gulf of Mexico to sustain our business, our employees, and our vendors.

How many people work at Pharma-Safe?

Pharma-Safe currently employs approximately 100 full time employees, many of which have been with us since we started our company. We hire three primary types of employees: remote healthcare clinicians, safety professionals, and combo health/safety professionals. Pharma-Safe only hires seasoned personnel with experiences catered to our client's needs. Employees who have exceptional offshore experience along with exceptional people skills are our primary targets, our employees become long term assets for our clients.

Do most of your employees live in Louisiana?

When possible, we hire local personnel along the Gulf Coast area. However, we have many people from many different states. For call out work we try to hire local because we may get a call on Monday at 3:00 PM wanting us there Tuesday at 6:00 AM. Those employees may live in Texas, Alabama, Mississippi, or Florida. On permanent production locations, our people live all over the United States.

How does your supply chain impact the communities where you work?

It is amazing to see how many families are impacted by our activity level. As part of our normal day to day operations, our labor force creates multiplier effects, spurring additional investment and employment in many service sectors such as housing, food service, and retail. We currently source from around 45 local vendors and 25 national vendors on a normal basis. We buy from all over the US, mostly directly from manufacturers. We feel a tremendous sense of obligation to keep the economy moving as we estimate that more than 2,000 people are directly affected by our activity levels. We are only one of several thousand small businesses that support our industry.

What is your understanding of how the industry as a whole impacts the economy?

A huge part of our local economy is impacted by the oil and gas industry. Lafayette Louisiana is centrally located for most crew change locations in the GoM, we are a hub for service companies. A reduction in offshore activity affects not just corporate investment and family incomes, but the fiscal base of local communities, affecting education, infrastructure, and other public services through a reduction in tax revenue.

As a healthcare company, are there unique challenges working for the Offshore Industry?

Our ability to provide patient care in remote locations is a career path which many health care professionals have taken to advance their ability to help others. Our employees learn remote patient care skills which stimulate innovative solutions and advanced learning in the healthcare industry. With the advent of enhanced communications and better software, Telemedicine has played a vital role in increasing the quality of remote patient care. Also, pharmaceutical advancements are evolving in our highly dynamic field making our jobs much easier by developing more specific or targeted drug delivery techniques. As a result, we have noticed remarkable improvements in our remote care clinics and a significant reduction of unnecessary transports. The end result is a higher level of patient care to the health care industry in general, stimulated by advancements and innovations created to support remote operations in the Oil & Gas Industry.

AMPOL
AMERICAN POLLUTION CONTROL CORPORATION

We spoke to Kirk Headley, President of American Pollution Control.

About AMPOL

Our environmental crews perform asbestos abatement, tank and vessel cleaning, spill response, and recently the bulk of our crews are providing disinfection services. We've got crews offshore, in California, Houston, Arkansas, Louisiana, Alabama, we are providing crews disinfecting people's offices, living quarters, platforms, and drill ships.

We also manufacture all types of oil spill products, booms and skimmers, primarily. We sell these products to clients and agents all around the world and United States. Our products are designed for offshore, lakes, rivers, inland, some for land, but most of our equipment is designed for marine environments. We've opened up a new transportation division. We transport liquids and solid waste all over the South.

AMPOL also holds one of four licenses in the South to decontaminate Naturally Occurring Radioactive Material. We separate the steel from the radiation, then we properly package, manifest, transport and dispose of the radioactive material.

How was AMPOL founded?

American Pollution Control was formed under a company called American Oilfield Divers (AOD) in 1993, which at the time was the largest diving company in the Gulf of Mexico. The environmental service we provided was spill response, tank and vessel cleaning, pipeline pigging and cleaning, and asbestos abatement.

In 1995 the former president retired, a new president came in and wanted to focus on diving. We were going to spin you off. I went back to him said, "Look, I started this company. If you want spin it off, spin it off to me." We made an offer, AOD accepted, and have been living American dream since.

How important is the Gulf of Mexico Offshore oil and gas industry for AMPOL?

It bounces up and down for us from time to time. We do a lot of onshore oil and gas too. As of today offshore oil and gas, is probably around 5 percent of our total revenue, next month that could be 20 percent. There could be something offshore that we have to respond to or we may have to increase the amount of disinfection crews we have offshore. Before an Oil and Gas company can get a permit approved to drill and operate a well, they are required to have an approved response plan. In that response plan, there should be a classified (OSRO) oil spill response organization, which Ampol is and meets all the coast guard requirements. AMPOL is one of the providers in the US and Mexican Gulf of Mexico that meets the requirements, with Ampol contracted and listed, oil companies should get their drilling and operational plans approved to operate and produce.

How many and what types of people does AMPOL employ?

We're close to 300 today. Most of our management are experienced in emergency management, ICS (Incident Command System). On the field level side, the same guys that work on drilling rigs or boats have the basic qualifications to work for us but need some more training which we give them. We really love to promote from within when we can. Most of our people have 10+ years here at AMPOL, some even 20 or 25.

Where are AMPOL's employees based?

We have four offices in Louisiana. We have one Texas office, then one Mexican office. We have two agent offices, one in Colombia and one in Peru. Most of our employees come from Louisiana, Texas and Mississippi.

How about AMPOL's Supply chain?

We are always working to get more local vendors and US vendors, which is increasingly important given the current situation. A lot of the things we use are consumables, which we buy here in the US.

What is the impact of the industry on the economy?

I'm a hundred percent proponent and supporter of the oil and gas industry for what it can do for great paying jobs and the economic activity it supports.

One thing I do love about NOIA is that we're trying to get out the story about what the oil and gas and the energy business does as a whole for the public. I think energy companies as a whole and service companies specifically could improve the job getting our great message out to the public.

Jackson
OFFSHORE OPERATORS

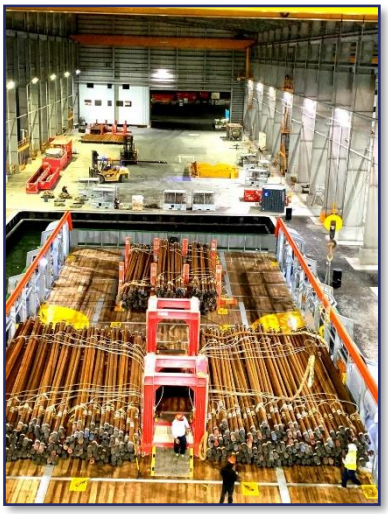
We spoke to Lee Jackson, CEO at Jackson Offshore Operators.

About Jackson Offshore Operators

Jackson Offshore Operators is a minority owned marine transportation company servicing the Gulf of Mexico. Our main task is to shuttle goods and supplies to facilities and platforms offshore. We began this business around 2011. The core of our client base is the supermajors, operating in the deepwater market. 100 -percent of our fleet works out of Port Fourchon, servicing the Gulf of Mexico and all our vessels are Jones Act vessels.

How many people work for Jackson Offshore?

As a brief snapshot, we employ around One Hundred -Forty Five (145) employees and that would be both offshore as well as onshore workers. Offshore workers would consist of Captains, Chief Engineers, Able Bodied Seaman. The onshore side would be support staff which consists of obviously myself, HR Manager, Port Captains, Vessel Managers and Accounting. When you put all that together it's about 145 employees. Having office's in New Orleans as well as Houston, but a large swath of our employees travel from all over the South. The balance of my employee base flies from up North, the East Coast, and the West coast. The typical tenure for my employees is about six to seven years for which I'm pretty proud of. When folks come to work for Jackson, they feel like they have a home. Our turnover rate is fairly low, since our inception it has been less than Ten-Percent (10%) which was another thing that I'm extremely proud of.



How does operating Jones Act Vessels impact your hiring?

It isn't difficult at all and quite frankly I wouldn't have it any other way. Because of the Jones act, all of our vessels, all of our employees are US citizens and it's an important factor when we talk about job creation. In addition to hiring US workers our vessels were all built in the US for US trade.

Can you speak to the quality of jobs that Jackson Offshore and the industry provides?

Even at entry-level, the average income can be anywhere between $45 thousand to $60 thousand annually, all the way up to a Captain and Chief Engineer, that can make in excess of $170 thousand a year. These jobs are good-paying jobs. They absolutely are. That has always been the driver that attracts people to the maritime industry and to the oil and gas sector as It supports families and It's above minimum wage. It's the one thing that I would say you can't get down the street in other industries. Now, there's sacrifice there, because like my vessels and some oil and gas jobs require people to spend time away from their families. It's a shared sacrifice, but the oil and gas industry is a good industry that pays a good living wage that allows you to raise a family.

How big is Jackson Offshore's supply chain?

Our current supply chain probably consists of around 40 to 50 vendors and for the most part, they're all Louisiana based companies. These vendors provide a broad range of services from, let's say, Engine Service Technicians to as far as on the other side of the spectrum, grocery deliveries.

When you speak about oil and gas and you talk about the value that it brings, I will tell you it's more than just the oil and gas companies. It is the mom and pop companies. It is the restaurants. It's the car dealerships. All these people benefit from a very robust oil and gas industry. I think that's where people get lost in the discussion. I will share with you a lot of my vendors are, in fact, mom and pops. When I say mom and pop, some of my vendor base is probably less than five employees. They're very good at what they do. It is important for them that oil and gas continues to be robust in a very meaningful way.

What about the future of the industry?

My opinion is this industry will return to its rightful place in the world. It absolutely will. Oil and gas has always been in the forefront of the US economy and the world economy. It's unfortunate, because if you look back five years ago, we took a hit, and the industry was beginning to crawl itself back to a good place and then we entered the COVID-19 era. But I am a strong advocate for this industry, I've seen what it has done for people, what it has done for businesses and what it has done for the economy. It's bigger than just the oil and gas companies. It's the hotels, restaurants, the service companies, the supply chain that actually supports companies that work in oil and gas. It is a long line of economic prosperity, and I just look forward to that day when we continue down that path, and I'm a firm believer that it will return, and it will return strong. But we have to be vigilant and I note that not well thought out legislation could impact or impede the progress of this industry and the economy.

MORRISON
DELIVERING ENERGY

We spoke to Chet Morrison, Founder and CEO of Chet Morrison Contractors (Morrison).

About Morrison

Our business is infrastructure. We build, maintain and decommission platforms, pipelines, and stations. We are a land and marine contractor. We also perform work in coastal regions. Our deepwater business is the fabrication of subsea components and the IRM of Deepwater Risers. .

When was Morrison founded?

We've been in business for almost 40 years, so we have been through many cycles and worked through many evolutions. When asked "how did we grow our business?" I'll just say, "One good person at a time." We've established tremendous relationships over the years with employees, clients, suppliers, and other industry folks.

How many people does Morrison employ?

We are typically around 500 domestic personnel. Additionally, we may have as many as 300 to 500 people working in a peak period at some of our overseas locations, predominantly in Mexico and Trinidad where we have a JV company that builds & maintains offshore oil and gas structures. Our employees are engineers, planners, project managers, pipeliners, welders, divers, operators, marine vessel personnel, equipment specialist, and back office teams. We typically ramp up during seasonal peak activity. Morrison is technically driven with core HSEQ values.

What about the impact of Morrison in South Louisiana?

I'm from Houma, Louisiana where I was raised and have lived most of my life. The Terrebonne, Lafourche, and St. Mary Parish area owes its population growth to the oil and gas industry. It's now a 200,000-person-community. A lot of folks that were attracted to this area grew and developed it in the heydays of the oil field, in the '60s and '70s. Over the years, we've become a large employer in the region. When I say region, I mean we've seen towns and communities become cities and meld together with extended rural connections. The Tri-Parish area now has become more of a central industrial location.

Our livelihoods depend on production and handling of energy that originates from the drill bit. Concerns with the current state of the industry and the economy as a whole are frightening. We need our government leaders to be attentive and support our industry. We need to promote domestic policies and get behind Americans that want to work. It is about the people and not the politics. I've never met "Big Oil". I've only know professional industry people that have allowed our company to make a difference in many lives.

How does the industry's supply chain impact the economy?

Besides the materials and services suppliers that count on our business, our community relies on the payroll and spend that trickle down from our spend. I am proud to say that our local governments are industry supporters that understand and support our efforts. I wish the rest of the country and all of state leaders would take note on what is working well and invest positive assistance in promoting our strengths. When the oil and gas businesses are busy, the community sees increase as well. We are a giving industry and enjoy giving back to the community as well, supporting organizations that directly impact the people here.

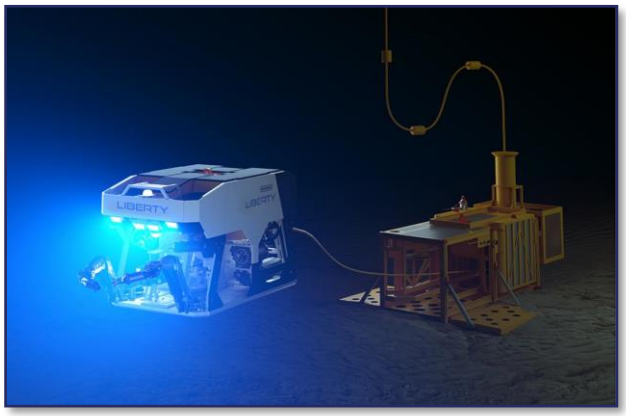
What about the future of the industry?

My cup's always half full. While I believe that the industry has a particularly difficult period for now, I believe that there are also opportunities. We're a very resilient industry that will be around for a long time. We are a mature industry that is focused on the health, safety and environmental aspects of our business, we're responsible citizens. Our clients are real people that enjoy being part of the South Louisiana heritage. We are blessed with a wetland paradise and respect the responsibilities that come along with preserving that for our children. We need the ability to access resources and we need reductions in the barriers of over regulation. We need the government to partner with us. Right now, more than ever we are asking for industry assistance. We need to turn the drill bit. Our future and our jobs depend on that!.

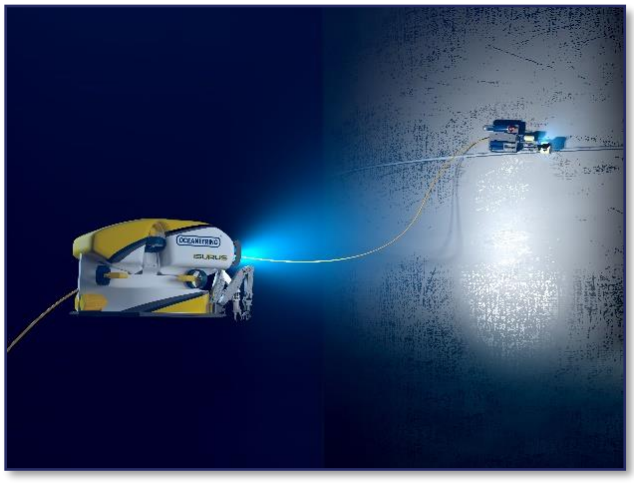
OCEANEERING®

We spoke with Earl Childress, Senior Vice President at Oceaneering.

About Oceaneering



Oceaneering International started in the 1960s as World Wide Divers, a diving company based in Louisiana, servicing the Gulf of Mexico. We combined with two other diving companies in 1969 to form Oceaneering, primarily as a provider of diving services for shallow and saturation diving. We have morphed over the years. Now, we are a public company with revenue of just over $2 billion last year. Around two-thirds of that revenue is in the energy space. We have the world's largest fleet of work-class remotely operated vehicles (ROVs). We deploy and use those ROVs ourselves to support drilling operations, production platform operations, offshore renewables work, and decommissioning projects globally. We have a fleet of vessels that perform installation, workover, de-watering, and maintenance services around the globe. We build subsea umbilicals at three manufacturing facilities located in Florida, Scotland, and Brazil. We also perform pipeline repairs and offer a suite of valves and connectors for subsea pipelines. The other third of our revenue comes from our non-oil and gas operations. For instance, we provide engineering services to the US Navy sub rescue program to aid in the recovery of submariners in the event that there is an issue with one of their submarines. We also provide some specialty work for NASA. Oceaneering also has an entertainment division that designs, develops, and manufactures theme park rides and transport systems. If you've been to a major theme park, you've probably seen or rode a system that we designed and developed.



How many people does Oceaneering employ?

Our global headcount is 11,000, including 1,500 contingent workers. Those are crews that do two weeks on, two weeks off, so they fundamentally work for us, but they're handled as contractors. We have just under 3,700 employees in the US. We employ technicians, engineers of all education levels (master's and PhDs), manufacturing, and similar types of employees. We also have a large contingent of field technicians–divers, vessel operators, marine engineers, ROV operators, ROV technicians as

well as those who support that work. For example, those jobs include maintenance and repair, front- and back-office, sales engineers, administrators, and commercial managers. It's a fairly technical workforce.

How large is Oceaneering's supply chain?

In 2019, we spent approximately $600 million with roughly 400 suppliers on direct materials and services; About 40 percent of that total spend is in the US, the rest is international. In addition to vessel services, we purchase raw materials, high-end electrical distribution equipment, electronics, hydraulic control, and large fabrications. That's excluding indirect materials, such as office supplies, cleaning, IT, and recruiting; the soft side of it.

How important is the offshore oil and gas industry to the US?

When you look at the actual hydrocarbon demand profile, so much is about day-to-day things that people don't consider where they truly originate–rubber, plastics, asphalt, etc. Natural gas, gasoline for cars, and jet fuel for planes aren't the only products derived from oil and gas production. That demand represents 20-25 percent of the total demand for hydrocarbons. This is the piece that the general public misses. It's not only about powering cars. For example, the low cost of natural gas makes US Steel more competitive against that of other countries. The domestic offshore oil and gas industry enables other US industries to be competitive around the globe.

What's the future of the Gulf of Mexico Offshore Oil and Gas Industry?

In the near- to medium-term, we're in for a pretty tough run. In the longer term–in the 3-5-year range–the industry needs to be leaner. If drilling stopped in the Gulf of Mexico, it would devastate not only the industry but the national economy as well. The economic impacts of the industry are substantial. However, Oceaneering stands ready to support the energy transition as well. We support offshore construction in general, so as you think about wind, waves, tides, and other renewable energies, we can leverage our expertise to support those industries as well.

Appendices

Methodology

Overall Methodology

As part of the development of this report a detailed review of the potential implications of the potential regulatory and policy changes was conducted. This study is in no way exhaustive, especially considering the uncertainty around how the potential proposed policy changes would be developed and implemented. This report focuses on the potential operational effects of these policies based on a reasonable reading of these proposals and considers the potential operational changes oil and natural gas companies could undertake to minimize the effects of these changes on their operations. As such, this analysis is inherently forward looking and subject to significant changes based on the potential development and implementation of the proposed policy changes by Congress, the executive branch and regulators such as the Department of The Interior, The Bureau of Ocean Energy Management and The Bureau of Safety and Environmental Enforcement.

Scenario Development

The study's data development was undertaken by developing a model that accounts for all major parts of the offshore oil and natural gas exploration and production lifecycle. The major sections of the model are; an Activity Model that assesses near and long term project activity, GoM reserves and production; and the likely project development and drilling activity necessary to meet production targets; a spending model derived from the activities required to find, develop and operate offshore oil and natural gas projects and reasonable assumptions around the spending levels typically associated with these activities; a government revenue model which uses forecast production levels and other relevant forecasts (leasing, block rentals, etc.), forecast commodity pricing, historical data on actual government revenues and distributions and governmental polices to forecast potential government revenues; and an Economic Model which utilizes the projected spending and government revenue levels, as well as assumptions about the nature of spending and its geographic distribution to forecast associated supported economic activity including employment and gross domestic product.

The Base Case model was developed based on forecast production and pricing levels based on the Energy Information Administration's (EIA) forecasts provided in their Annual Energy Outlook 2020[9] and Short-Term Energy Outlook[10]. Although these forecasts were utilized to develop the Base Case model, due to

[9] Annual Energy Outlook 2020, Energy Information Administration
[10] Short Term Energy Outlook, April 7, 2020, Energy Information Administration

differences in modeling techniques, especially the project-based model developed for this report, the report's forecast production levels vary from those provided in the EIA's forecasts.

Project and Activity Methodology

In order to forecast activity levels, both near term projects as well as longer term projects that are not currently under development were considered. Near term project activity forecasts are based on actual projects where operators have stated development plans or in some cases reasonable forecasts for other potential projects where no development decisions have been advanced. For long term activity, project forecasts are based primarily on projected production levels, with project development activity to meet projected production levels forecast. Undeveloped reserves and historical trends in the mix of projects (both sizes and water depths) were used to forecast future project development activity. Historical trends in well counts, per well production levels, peak production years, and decline curves for both existing and future projects were utilized. Any major changes in technology or project development and production trends would likely have a material impact on forecasts.

For the No Leasing Case and the No Permits Case, the project and activity forecasts as presented in the Base Case was used as a baseline for activity levels. For each case a reasonable reading of what these proposed policy and regulatory changes impacts would be on activity levels was then developed. This study assumes that operators would adapt their behaviors to minimize the impacts of these proposed scenarios by, for example, retaining leases at a higher rate or developing permitted wells through existing facilities.

Spending Methodology

The spending analysis developed for this report attempts to account for the totality of capital and operational spending associated with offshore oil and natural gas project development throughout a project's lifecycle. This includes spending prior to project development such as geological and geophysical surveys, exploration drilling, and engineering; spending during a project's development such as hardware procurement, drilling, and installation; spending during a project's producing life such as operational expenditures and gas processing; and spending at the end of a project's life such as well plugging and abandonment and decommissioning.

Spending for each project is divided into 19 categories, with each category accounting for one general activity type required to find, develop, operate, or abandon an offshore oil and natural gas project. Costs for each category were developed based on general project sizes (and the associated activity levels and equipment requirements of these projects), well counts, water depths, and other factors. Additionally, the distribution of spending over time for each spending category for different project sizes and water depths was developed.

After the overall spending forecast for Gulf of Mexico oil and natural gas activity was developed, spending was allocated to individual states as well as international suppliers. Spending with international suppliers

is not analyzed further and accounts for no economic impact in the report. Domestic spending is allocated based on a category by category analysis of supply chains and Bureau of Economic Analysis data to provide state specific spending allocations. Distributions are constant throughout the three scenarios presented in this report, although it is possible and perhaps likely that reduced activity levels may lead to changes in supply chains and thus spending distributions.

Economic Methodology

To develop the employment and gross domestic product analysis presented in this report, the Bureau of Economic Analysis' RIMS II input-output multipliers were used. These multipliers provide state level employment and gross domestic product estimates based on industry specific spending levels. For the purpose of this report, economic activity was also divided into direct (directly related to industries involved in the oil and natural gas supply chain) and indirect and induced (industries not directly involved in the oil and natural gas supply chain as well as economic activity due to increased wages) employment and gross domestic product.

The following RIMS industry categories were used in the development of the report to account for spending by the oil and natural gas industry (all RIMS categories were used in the output of data):

- Mining and oil and gas field machinery manufacturing
- Steel product manufacturing from purchased steel
- Fabricated metal product manufacturing
- Construction
- Drilling oil and gas wells
- Architectural, engineering, and related services
- Support activities for oil and gas operations
- Natural gas distribution

Government Revenue Methodology

Government revenues due to Gulf of Mexico offshore oil and natural gas activity are primarily derived from three main revenue streams, royalties paid on produced oil and natural gas, bonus bids paid to acquire blocks in lease sales, and rents for blocks leased by operators. There are a number of policies which impact royalty and lease payments received by the Federal Government, including royalty relief for certain blocks depending on production levels, and differing rent and royalty regimes for fields in different water depths and blocks leased at different times. Additionally, the value of oil and natural gas produced in the Gulf of Mexico may differ from major indicators such as West Texas Intermediate (WTI) crude due to transportation costs, long term sales contracts, and differentials due to product quality. To calculate government revenues due to offshore oil and natural gas activities data from the Office of

Natural Resource Revenue[11] (ONRR) as well as oil and natural gas price projections from the Energy Information Administration's Annual Energy Outlook 2020[12] and Short-Term Energy Outlook[13] were utilized. In some cases (especially regarding disbursements to states) calendar year data was unavailable. In these cases, fiscal year data was utilized as a stand in for calendar year data. Lease sale bid revenues and rental revenues were calculated through the simulation of yearly lease sales based on the current 5-year plan. The number of leases acquired and retained was modeled on the oil price forecasts used to develop the report and historical bid number and levels correlated with activity levels.

In 2006 Congress passed the Gulf of Mexico Energy Security Act (GOMESA) which created revenue sharing provisions for the four Gulf oil and gas producing States (Alabama, Louisiana, Mississippi and Texas), and their coastal political subdivisions. Revenue sharing was enacted in two phases beginning in 2007 and 2017 respectively, with revenue sharing caps of $375 million for fiscal years 2017–2019, $487.5 million for fiscal years 2020 and 2021, and $375 million for fiscal years 2022–2055 enacted. To develop the revenue sharing forecasts in this report, total projected federal revenues, actual revenue distribution data from the ONRR, analysis of the growth of revenue sharing based on eligible leases, and the revenue sharing caps were considered.

In addition to provisions for revenue sharing with Gulf of Mexico producing States, GOMESA also included a provision for distributions to the Land and Water Conservation Fund (LWCF). The LWCF, "supports the protection of federal public lands and waters – including national parks, forests, wildlife refuges, and recreation areas – and voluntary conservation on private land. LWCF investments secure public access, improve recreational opportunities, and preserve ecosystem benefits for local communities.".[14] LWCF distributions forecasts are based on total projected federal revenues, actual distribution data from the ONRR, analysis of the growth of revenue sharing based on eligible leases and revenue sharing caps.

[11] U.S. Department of the Interior, Natural Resources Revenue Data, https://revenuedata.doi.gov/
[12] Annual Energy Outlook 2020, Energy Information Administration
[13] Short Term Energy Outlook, April 7, 2020, Energy Information Administration
[14] Land and Water Conservation Fund, U.S. Department of the Interior

Representative Offshore Oil and Gas Industry Suppliers[15]

Alabama

- Aaron Oil Company
- ABC Applicators, Inc.
- Aker Solutions
- Alabama Laser
- Atlas Copco
- BAE Systems
- Barry Graham Oil Service LLC
- Bay Area Screw & Supply Co., Inc.
- Consolidated Pipe & Supply Company
- Delta Rigging & Tools
- DK Tech Corporation
- Gulf Coast Air & Hydraulics, Inc.
- Hill Marine Refrigeration, Inc.
- Ideal Technical Services
- Industrial Training Consultants
- Intergraph Corporation
- Lott Ship Agency, Inc.
- Martin Energy Services
- Master Boat Builders, Inc.
- Midstream Fuel Service, LLC
- Motion Industries
- NOV
- Nudraulix, Inc.
- Offshore Inland Marine & Oilfield
- Precision IBC
- Regions Bank
- S&K Machineworks and Fabrication, Inc.
- ShipConstructor USA
- Technical Specialties, Inc.
- TriNova
- Winkelmann Flowform Technology

Alaska

- Alaska Instrument Company, LLC
- MRO Sales, Inc.
- RJE International Inc.

Arizona

- Ballast Technologies, Inc.
- CERTEX USA
- DH Instruments Pressure Products
- EMMEGI Heat Exchangers Inc.
- Hybrid Design Associates - Surface Mount Company
- Phoenix Digital Corporation
- PREVCO Subsea Housings
- Technologic Systems
- Tomar Electronics
- Valley Forge & Bolt
- Westcoast B.O.P. Products US, Inc.

Arkansas

- Applied Technology Group, Inc.
- Baldor Electric Company
- Crow-Burlingame Company
- Engines, Inc.
- Stephens
- Triangle Engineering
- United Spectrographics, LLC

California

- Additel Corporation
- Advantech
- Aerospace & Marine International
- Alliant Energy & Marine
- Amron International Inc.
- Analysts, Inc.
- Anritsu Company
- Applied Physics Systems
- Armor Guys
- Autodesk, Inc.
- Bal Seal Engineering, Inc.
- Barksdale Control Products
- Behrens and Associates Inc.
- BEI Sensors
- Berry Plastics
- BG System Inc.
- Bird Barrier
- Blacoh Fluid Control, Inc.
- BMT Group
- Capstone Turbine Corporation
- Cavins Oil Well Tools
- Celesco Transducer Products
- ChemEOR
- Clayton Industries
- Compass Water Solutions
- ConGlobal Industries Inc.
- Control Panel
- Corrpro Companies Inc.
- Dakota Ultrasonics
- Dino-Lite Scopes
- Discflo Pumps
- DryVac Environmental Services
- ESP Safety Inc.
- Euramco
- Every Industry
- Fieldbit
- Fortinet
- Glenair
- Global Precision Instruments
- Hawk Industries, Inc.
- Hydraulics International
- Hyspan Precision Products, Inc.
- Industrial Degauss
- Insight Manufacturing
- JDA Global LLC
- Kepner Plastics Fabricators, Inc.
- Laserline Inc.
- McCrometer, Inc.
- MSC Software
- Nuvair
- PacSeal Hydraulics, Inc.
- Poseidon Robotics, LLC
- Proco Products, Inc.
- SC Hydraulic Engineering
- Synectic Systems Group
- SYNMAC, Inc.
- Teledyne
- TMT Laboratories
- Turner Designs Hydrocarbon Instruments
- Upwing Energy

[15] This representative list of over 2,400 US suppliers was developed through company databases and public sources. This list greatly underestimates the number of companies who supply the industry. Companies may no longer be active suppliers to the industry, may have merged, ceased to do business, or are included in error.

California (Continued)

- Vantage Technology
- Village Marine Watermakers
- Wellbore Navigation, Inc.
- WeTechnologies, Inc.

Colorado

- 3D at Depth, Inc.
- BAND-IT IDEX, Inc.
- BVM Corporation
- CoorsTek Technical Ceramics
- Decision Point Associates, Inc.
- Freewave Technologies Inc.
- Gates Corporation
- IMI Precision Engineering
- Johns Manville
- JourneyApps
- Micro Motion
- PROTEM USA
- PTI Group USA LLC
- Quadco Inc.
- Solvaqua Inc.
- Sundyne Corporation
- TCI USA Inc.

Connecticut

- A.K.O., Inc.
- Advanced Testing Systems, Inc.
- APS Technology Inc.
- Ashcroft Inc.
- Baumer Ltd.
- Burndy Corp...
- CS Unitec
- Global Dynamix Inc.
- J.R. Merritt
- Lee Company
- Oceanweather Inc.
- OFS Fitel LLC
- Omega Engineering Inc.
- PMC Engineering, LLC
- Point Lighting Corporation
- Praxair, Inc.
- Process Measurement & Controls
- Pro-Lock USA LLC
- Remote Automation Solutions
- RSCC Wire & Cable LLC
- Softex
- Solidification Products International Inc.
- Stanley Black & Decker
- The Lee Company
- TUV Rheinland
- United Rentals
- Walz & Krenzer, Inc.
- Ward Leonard Electric Company
- Winchester Interconnect

Delaware

- DuPont
- Maritime Administration
- Pole Star Space Applications
- Quantum Polymers
- Schagrin Associates

Florida

- ABCO Products, Inc.
- American Industrial Plastics, Inc.
- American Steel Products
- Artmark Products Corporation
- Atlantic Marine, Inc. (Mobile)
- Bellows Tech
- Belzona
- Citel, Inc.
- Citrix Systems, Inc.
- Consilium Marine U.S. Inc.
- Continental Shelf Associates & Subsidiaries
- CSX Transportation
- Eastern Shipbuilding Group, Inc.
- Enviro Voraxial Technology
- Global Satellite USA
- Governor Control Systems, Inc.
- H G Harders & Sons, Inc.
- Hercules Sealing Products
- Hoerbiger Compression Technology
- KE Marine
- Lightning Master Corporation
- Manown Engineering Co., Inc.
- Marine Rescue Technologies
- Maritech Machine Inc.
- Metals USA
- Miami Diver, Inc.
- Neptune Research, Inc.
- Numara Software, Inc.
- Ocean Motions Company
- Oceaneering International
- Padgett Swann Machinery Co.
- Pensacola Testing Laboratories, Inc.
- Quala
- Quality Plus Services, Inc.
- Sky Enterprises
- Southern Spring & Stamping Inc.
- Spurs Marine Manufacturing Inc.
- Stainless Structurals LLC
- Tiger Direct, Inc.
- Virtual Media Integration, Ltd.
- W&O Supply
- W. W. Grainger, Inc.
- World Fuel Services, Inc.
- Worldwide Drilling Resource

Georgia

- Air France-KLM/ Delta
- Amerair Industries, Inc.
- American Boa, Inc.
- Bekaert Corporation
- Bourdon USA
- BrandSafway
- Crane Control Systems LLC
- Dell Marketing LP
- Deutz Corporation
- Donovan Marine, Inc.
- E. L. I., Inc.
- Executrain
- Filowire, Inc.
- Hope Industrial Systems Inc.
- Imes Inc.
- Interface, Inc.
- Jas Worldwide Management
- JB Systems
- JIT Warehousing & Logistics LLC
- Mencom Corporation
- Mustang Computers & Supplies Inc.
- MyCelx Technologies Corporation
- Nexeo Solutions, LLC
- Nivis
- OBL
- PC Weather Products
- Ronson Technical Products
- Sigma Thermal Inc.
- Sikora International Corp.
- Slingco America, Inc.
- SOTEC, LLC

Georgia (Continued)

- Specialty Application Services, Inc.
- STW Technic LP
- Vericor Power Systems
- WEG Electric Corporation
- WIKA Instrument Corporation

Hawaii

- Structural Solutions

Idaho

- One Bridge Solutions Inc.

Illinois

- Air Cycle Corporation
- Anixter, Inc.
- Apex Engineering Products Corporation
- Applus+
- Axon Cable
- B & B Electronics Mfg., Co.
- Basler Electric Company
- Bosch Rexroth Corp...
- Burlington Northern And
- Caterpillar Inc.
- CDW Computer Centers Inc.
- CDW Direct
- CEJN North America
- Chicago Pneumatic Tool Co.
- Cintas Corporation
- Clements National
- Clifford-Jacobs Forging
- Coleman Cable Inc.
- Cornell Forge
- Davis Instruments
- Dexter Magnetic Technologies, Inc.
- Diesel Radiator Company
- Dynapar
- Eaton
- Energy Alloys Inc.
- Federal Signal
- Finkl Steel
- Fuchs Lubricants Co.
- Gallagher Benefit Services
- Grainger
- Groves Industrial Supply
- Holland Company
- Howco Metals Management LLC
- Ideal Electric
- IDEX
- IFS
- IMT Forge Group
- Industrial Air Solutions,
- ITH Engineering Inc.
- John Deere Power Systems
- Joliet Electric Motors
- LA MARCHE MFG. CO.
- Legrand
- Lillbacka USA Inc.
- MAGNETROL
- Magnet-Schultz
- Martin Engineering
- Mcmaster-Carr Supply Company
- Mittal Steel
- Morgan Bronze Products, Inc.
- MSC Industrial Supply Co.
- MW Industries, Inc. Energy Solutions
- Nitto Kohki USA Inc.
- Nord-Lock Inc.
- Norman Filter Company
- Partex Marking Systems Inc.
- Phoenix Solutions
- Roda Specialty Steel
- S. Himmelstein & Company
- Smalley
- Stucchi USA
- Wandfluh of America
- Wilkes and McLean

Indiana

- Advanced Designs Corporation
- Allison Transmission
- Cummins Inc.
- Flodraulic Group
- Floway Inc.
- Fronius
- NRP-Jones, LLC
- Piezo Technologies
- RH Machine
- Sullivan-Palatek, Inc.
- The Diamond Chain Company
- Transmark
- Valbruna Slater Stainless Inc.

Iowa

- Advanced Heat Treat Corp...
- Crystal Group Inc.
- Morse Rubber LLC
- Rocklin Manufacturing Co.

Kansas

- Enduralock
- Viking Blast & Wash Systems
- WireCo WorldGroup

Kentucky

- Big Ass Fans
- Bonfiglioli USA
- Mubea Inc.
- Teekay Offshore/ Altera

Louisiana

- Acadian Total Security
- Accu-Line Wireline Services, LLC
- Acme Truck Line Inc.
- Advance Products & Systems
- Aggreko LLC
- Air Compressor Energy Systems, Inc.
- Allendorph Specialties Inc.
- American Pollution Control Corporation (AMPOL)
- American Polymer Products
- Aqueos Subsea
- Aries Marine Group
- ATR, LLC
- Bayou Wasco Insulation, LLC
- Becnel Rental Tools
- Benoit Premium Threading
- Better Pumps & Solutions, LLC
- Bilco Tools Inc.
- Bis Salamis Inc.
- Blake International USA Rigs
- BNA Marine Services, LLC
- Bollinger Shipyards Lockport
- Bonaventure Safety, LLC.
- Bourque Sales & Service, Inc.
- Boysenblue Celtec International, Inc.
- Braeden Engineering
- Brand Energy Solutions
- Bristow Group
- Broussard Brothers, Inc.
- Burner Fire Control
- Cad Oilfield Specialties
- Canal Barge Company, Inc.
- Capital Valve & Fitting Co., Inc.
- Central Boat Rentals
- Central Dispatch, Inc.

Louisiana (Continued)

- CETCO Oilfield Services
- Charter Supply Company
- CheckPoint Pumps & Systems
- Chem Spray South
- Chet Morrison Contractors
- C-Innovations
- Clean Blast LLC
- CleanCut, LLC
- Coastal Fire Protection LLC
- Coastal Risk Services, LLC
- Coastal Safety Management LLC
- Cochrane Technologies, Inc.
- Commercial Diving Supply, LLC
- Connector Specialists, Inc.
- C-Port, LLC
- Creative Manufacturing Services LLC
- Crescent Safety Services
- Crosby Energy Services
- Crosby Tugs
- Cross Logistics, Inc.
- Cross Services, Inc.
- Crown Oilfield Instrumentation
- Cutting Underwater Technologies
- D & D Machine Works, Inc.
- Danos
- Data Technology Solutions
- Datacom
- DCL Mooring and Rigging
- DEL Tank & Filtration Systems
- Delmar Systems, Inc.
- Delta Bolt LLC
- Digital and Electronic Resources
- Digital Machining Systems
- Diversified Well Logging Inc.
- Doerle Food Service
- Don Abney, Inc.
- Donnie Williams Tool Co., Inc.
- Downey Engineering Corp...
- Dryden Supply, Inc.
- Ductz Of South Louisiana
- Dupre' Interests LLC
- Dynamic Industries Inc.
- Ed Roe's Welding Inc.
- Edison Chouest Offshore
- Elliott Technical Controls, Inc.
- Emd Services International (EMDSI)
- ENE Consultants
- Energy Pipe & Supply Inc.
- Engineering Dynamics, Inc.
- Envirochem
- Environmental Drilling Solutions
- Enviro-Tech Systems
- EPS Logistics
- ESS Support Services
- ESSI Corporation
- Evans Equipment & Environmental
- Expert E&P Consultants
- Expert Riser Solutions
- Falck Alford
- Fire & Safety Specialists, Inc.
- Fire Boss of Louisiana, Inc.
- Fitzgerald Inspection Inc.
- Force Power Systems, LLC
- Fourchon Heavy Lift, LLC
- Francis Torque Service
- Frank's International
- G T Michelli Company Inc.
- Gachassin, Inc.
- Gaffey, Inc.
- Galvotec Corrosion Services
- Gauthiers' - A MODEX Company
- General Marine Leasing
- Gladtags
- Global Manufacturing Inc.
- Globalstar
- Grand Isle Shipyard
- Greater Lafourche Port Commission
- Green Marine & Industrial Equipment Co.
- Gulf Coast International, LLC
- Gulf Coast Marine Associates, Inc.
- Gulf Coast Monitoring
- Gulf Coast Training Technologies
- Gulf Engine & Equipment, Inc.
- Gulf Island Fabrication, Inc.
- Gulf Offshore Logistics, LLC
- Gulf Offshore Research Institute (GORI)
- Gulf South Marine
- Gulf States Engr. Co.
- Gulfstream Services Inc.
- H & E Equipment Services, Inc.
- Hadco Services, Inc.
- Halo Branded Solutions Inc.
- Hanagriff's Machine Shop, Inc.
- Harvey Gulf International Marine
- HB Rentals
- Herbert Crappell Construction
- HLR Controls, Inc.
- Hole Opener Corporation
- Hornbeck Offshore Services
- Hose Specialty & Supply Co.
- Houma Armature Works & Supply, Inc.
- Huber, Inc.
- Ideal Energy Solutions LLC
- Industrial Instrument Works, Inc.
- Industrial Screw & Supply Company
- Industrial Solutions Group
- IntegriCert
- Island Operating
- J & J Metalworks, Inc.
- J. H. Menge
- Jack Vilas & Associates, Inc.
- Jackson Offshore Operators
- JM Test Systems, Inc.
- John H. Carter
- John W Stone Oil Distributor LLC
- John W. Fisk Company
- JohnPac
- Jotun
- K & B Machine Works, Inc.
- Kevin Gros Consulting & Marine
- Keystone Engineering
- Kidder, Inc.
- Kilgore Marine
- Knight Energy Services
- K-Tek
- L & L Oil and Gas Services
- Laborde Marine LLC
- Lafayette Electrical & Marine Supply Inc.
- Lafayette Power Sports
- Lafayette Steel Erector, Inc.
- Lapeyre Stair, Inc.
- LeBlanc & Associates, Inc.
- Linear Controls, Inc.
- Lirette Ford Lincoln Mercury, Inc.
- Living Quarter Technology, Inc.

Louisiana (Continued)

- Loadmaster Derrick & Equipment, Inc.
- Louisiana Crane & Electrical
- Louisiana Economic Development
- Louisiana Environmental Monitoring
- Louisiana International Marine LLC
- Louisiana Machinery Company, LLC.
- Louisiana Safety Systems
- Louisiana Valve Source Inc.
- M & M International, LLC.
- M&M International, LLC
- M.C. Forklift & Truck Service, Inc.
- M.H Reeves Consulting
- M.M. Industries
- Magnum Mud Equipment Co. Inc.
- Major Equipment & Remediation Services
- Marine Systems, Inc.
- Marine Technologies, LLC
- Mark Tool Co.
- Martin Holdings
- Martin Terminal
- Matherne Instrumentation
- Max Welders, Inc.
- Maxim Evaporators of America
- MB Industries, LLC
- McDaniel Controls, Inc.
- Medi-Chest, Inc.
- Metallurgical & Materials Technologies, Inc.
- MM Plastics Mfg., Inc.
- MMR Group, Inc.
- Modern Engineered Products
- Monkey Pumps
- Moody Price
- Morgan City Rentals
- MTE Engineered Materials, LLC
- M-Tec/Rise
- NDT Repair Service & Supply, Inc.
- New Century Fabricators
- New Industries
- Newpark Environmental
- NuTec, Inc.
- Orion Instruments
- ORIONCASE
- OS Mats
- Otto Candies, LLC
- Pharma-Safe Industrial Services, Inc.
- PHI Aviation, Inc.
- Phuel Oil Tools
- PMI Energy Services
- Prime Tank, LLC
- Quality Companies
- R&R Manufacturing
- Reliable Industries
- Robin Instrument & Specialty, LLC
- Roy Supply Co.
- Ruelco
- Safety Management Systems, LLC
- Scurlock Electric
- Seasafe Inc.
- SeaTran Marine
- Sidewinder Pumps Inc.
- Smith Mason & Co., LLC
- Southern Precision Inc.
- Specialty Equipment Sales
- Stallion Oilfield Services Ltd.
- Suretank USA / AmGulf Fabrication
- Survival Systems International
- TANTRUM Lab
- The Gauge House, LLC
- Thraco Industrial
- UPPERLINE EQUIPMENT COMPANY
- V and P Sales
- VarTech Systems Inc.
- Vector Sales Incorporated
- Zealous Energy Services

Maine

- DeepWater Buoyancy
- Modula

Maryland

- Dunlop Protective Footwear
- Rayco-Wylie Systems
- Sauer Compressors USA

Massachusetts

- Asahi/America, Inc.
- Electrochem Solutions, Inc.
- FM Approvals
- GE
- Metal Bellows
- Thermo Fisher Scientific
- TMC Compressors of the Seas
- United Electric Controls
- Vacuum Barrier Corporation
- Veolia
- Woods Hole Group

Michigan

- AttaBox
- Laser Marking Technologies, LLC
- Nabtesco Motion Control, Inc.
- R.M. Young Company
- ViewTech Borescopes

Minnesota

- 3M
- Boerger, LLC
- Boll Filter Corporation
- Cortec Corporation
- Det-Tronics
- Doering Company
- Donaldson Company, Inc.
- Graco Inc.
- Hydra-Cell Pumps Wanner Engineering
- Mesabi
- NatureWorks
- NIDEC - KATO Engineering
- Omnetics Connector Corporation
- Pentair
- Precision Associates, Inc.
- Windings, Inc.
- Zerust Corrosion Solutions

Mississippi

- Bosarge Diving Inc.
- Daily Equipment Company
- Dixie Glass & Trim Inc.
- Gibson Electric Motor
- Industrial Maint & Machine Inc.
- Ingalls Shipbuilding
- Jerry Pittman and Associates
- Pascagoula Bar Pilots
- Performance Inflatables
- Signal International Inc.
- Southern Inspection Services
- The Anchor Works
- Tube-Mac Piping Technologies Ltd.

Mississippi (Continued)

- Vicksburg Marine Inc.

Missouri

- Aurora Technologies, Inc.
- Closed Loop Recycling
- Continental Disc Corporation
- Custom Sensors & Technology
- EaglePicher Technologies
- Emerson
- Fike Corporation Grainger
- INDEECO
- LaBarge, Inc.
- PAS Technologies
- Scienco/Fast
- SFA Companies
- St Louis Metallizing
- St. Louis Pipe & Supply
- Tarmac International Inc.
- Tnemec Company, Inc.
- Tubular Steel, Inc.
- Vulcan Drying Systems

Montana

- Connector Tech LLC

Nebraska

- Kiewit Energy Group
- PayFlex Systems USA, Inc.

Nevada

- American Grating
- Click Bond, Inc.
- Rice Hydro, Inc.

New Hampshire

- Bortech Corp.
- Citadel Computer Corporation
- New Hampshire Ball Bearings, Inc.
- Skeie Industrial Equipment & services, LLC
- Sponge-Jet, Inc.

New Jersey

- BASF
- Cogne Specialty Steel USA, Inc.
- Custom Alloys
- Dialight
- EMD Chemicals, Inc.
- Evonik Corporation
- Felman Trading
- Gaffney-Kroese Supply Corporation
- General Magnaplate Corporation
- GGB Bearing Technology
- Godwin Pumps
- Grignard Company, LLC
- Helidex Offshore LLC
- Hilman Inc.
- Hilman Rollers
- Honeywell
- Hytorc
- IBOCO
- Identropy, Inc.
- IEEE/Oceanic Engineering Society
- ISP
- ISS Machinery Services
- John Wiley & Sons
- Kallman Worldwide, Inc.
- KEYENCE Corporation of America
- Kiswire
- KOPO International
- Kulite Semiconductor Products, Inc.
- Leistritz Advanced Technologies Corp.
- Mimeo.Com, Inc.
- Mistras Group Inc.
- Panel Components & Systems
- Powell Electronics Inc.
- RIA Connect
- Ringfeder Corporation
- Rotor Clip Company
- Seals Eastern Inc.
- Servometer
- Siemens
- SIKA USA Inc.
- TDK-Lambda Americas
- Titanium Industries
- Vass Pipe
- Versa Products Company Inc.
- Vita Motivator Company Inc.
- Westfalia Separator Inc.

New Mexico

- Flow Science Inc.
- Murchison Drilling Schools

New York

- AboveNet
- AIChE
- AirSep Corporation
- Ambrell Corporation
- America Trade LLC
- AMICO
- Amphenol Industrial/Pyle National
- API Heat Transfer
- Apple Rubber
- Automated Dynamics
- Bamberger Polymers, Inc.
- BFG Marine Inc.
- Blume Worldwide Services
- Busby Metals, Inc.
- Canty Inc.
- Columbus McKinnon Corporation
- Corning
- Cortland Cable Co.
- CWorks Systems Inc.
- Daikin America Inc.
- Delaware Manufacturing Industries Corporation (DMIC)
- Derrick Corporation
- DSR Corp.
- East Hills Instruments, Inc.
- Enecon Corp.
- ESM Group Inc.
- Fiber Instrument Sales, Inc.
- Flexim Americas
- Flygt
- G Bopp USA
- G.W. Lisk Company
- Global Strategic Communications
- Golden Promise Equipment Inc.
- GP:50 NY Ltd.
- IrisVR
- ITT Corporation
- Knovel
- Kracht
- Linuo Valve
- Lockton Global Energy & Marine
- Medima
- Metro Marine Design Associates Inc.
- Moog Inc.
- National Response Corp.

New York (Continued)

- PCB Piezotronics, Inc.
- PIE Calibrators
- Rotork Controls, Inc.
- Samco Technologies Inc.
- Scotiabank
- Stellar Technology
- Stemcor USA Inc.
- Sumitomo
- Superior Glove
- Tech Products
- Tel-Tru Manufacturing Co.
- Temper Companies
- Timco, Inc.
- Viatran Corporation
- VJ Technologies, Inc.
- Wacker Chemical Corporation

North Carolina

- Alltec LLC
- Best Pump Works
- Bucci Industries USA
- Cavotec USA Inc.
- Dimension Data North America, Inc.
- Doosan Infracore Portable Power
- Electroswitch
- FMI Corporation
- GlenGuard
- Global Knowledge Intermediate
- Hoffer Flow Controls
- Ingersoll Rand Inc.
- James Tool, Machine & Engineering, Inc.
- KRAL-USA, Inc.
- Lord Corp...
- Mackay Marine, Division of Mackay Communications
- MTS Sensors
- Roblon Industrial Fiber
- RSC Bio Solutions
- Saft America Inc.
- Scott Safety
- SOS Global Express
- SPX Flow
- SSI Schaefer Systems International
- Tandemloc, Inc.
- Toromont Energy

North Dakota

- Revel Digital

Ohio

- Adalet
- Akron Electric, Inc.
- American Augers, Inc.
- American Waste Mgt Services
- Anchor Fluid Power
- Applied Industrial Technologies
- Ashtabula Iron & Metal
- Aubert & Duval
- Avtron Industrial Automation
- Battelle
- Bearing Distributors
- Bearing Engineered Solutions
- Bronx International Inc.
- Brush Wellman Inc.
- Canton Drop Forge
- Carboline
- CAS Dataloggers
- Centurion Technologies, LLC
- Chalfant
- Cincinnati Gearing Systems
- Clark-Reliance
- Cognis Corporation
- Compass Systems & Sales
- Connell Inc.
- Control Transformer, Inc.
- Cubbison Company
- Dilworth Machine
- Expo Technologies, Inc.
- Federal Process Corporation
- Ferrotrade Corporation
- Ferry Cap & Set Screw
- Gastronics, Inc.
- Giant Industries Inc.
- Glunt Industries Inc.
- Gorman-Rupp Pumps
- H&S Tool, Inc.
- Hammelmann
- HydraTech Engineered Products
- Integrated Project Resources
- Ken Greco, Inc.
- Kenexis Consulting
- Konecranes, Inc.
- Lincoln Electric Company
- Lyden Oil Co.
- MarFlex
- Middough Inc.
- Midwest Industrial Contractors
- Milliron Iron & Metal Inc.
- Nelson Fastener Systems
- Nelson Stud Welding, Inc.
- Network Technologies Inc.
- Niles Iron & Metal Co., LLC
- Norbar Torque Tools, Inc.
- Noshok, Inc.
- Ohio Edison
- P M C Industries Corp.
- Parker Hannifin Corporation
- Pepperl+Fuchs
- PLIDCO
- Presrite Corporation
- Protrade Steel Co. Ltd.
- PSC Metals Inc.
- Ralston Instruments, LLC
- Republic Engineered Products
- RFD Beaufort Inc.
- Richards Industries
- Rittal Corporation
- Safeguard Technology Inc.
- Scrap Dynamics Corporation
- Sherwin-Williams
- Solon Manufacturing Co.
- Sprague Products
- Swagelok
- Technical Translation Services
- The David J Joseph Co.
- Timcal America
- TJB Couplers
- TPC Wire & Cable Corp.
- Tylok International, Inc.
- Vogelsang USA
- Wooster Products Inc.

Oklahoma

- AAPG
- Aceco Valve Inc.
- American Foundry Group
- Bertrem Products, Inc.
- Bronco Manufacturing, LLC
- BS&B Safety Systems
- Conley Corporation
- Consolidated Turbine Specialists, LLC
- Continental Wire Cloth, LLC
- D&L Oil Tools
- Den-Con Companies
- Double Life Corporation
- Engatech Inc.
- GEFCO
- Geophysical Research Co., LLC

Oklahoma (Continued)

- Green Thermal Solutions
- Gunnebo Johnson Corp.
- Hetronic USA
- Hydro Foam Technology Inc.
- John M. Campbell & Co./PetroSkills
- Kenco Engineering
- Kerr Pumps
- Kimray, Inc.
- King Oil Tools/Gefco, Inc.
- KT Plastics Inc.
- Lee C. Moore, A Woolslayer Company
- Mad, Ltd.
- Mathey Dearman, Inc.
- Oilfield Improvements, Inc.
- Oiltizer
- Oklahoma Forge, Inc.
- Perkins Pacific
- Piper Valve Systems
- PRESCOR, LLC
- Primenergy Production Equipment, LLC
- Reel-O-Matic
- Service Pump & Compressor
- Shumate Energy Technologies, Inc.
- Specific Systems, Inc.
- Technical Control System
- Teledrift, Inc.
- The Crosby Group
- Thompson Pump Company
- Tri-Lift Services
- Tulsa heaters
- Tulsa Power, Inc.
- TWG
- US Safety Sign & Decal
- Webco Industries Inc.
- Whitco Supply
- WInches Inc.
- Woolslayer Companies, Inc.
- ZEECO

Oregon

- Allied Systems Company
- Columbia Industrial Products
- Columbia Industries LLC
- Entro Industries
- Equipmentland
- FLIR Systems
- GasGun, Inc.
- GrayGo International Inc.
- Greenberry Industrial
- LaCrosse Footwear
- Skookum
- Technical Marine Service, Inc.
- The Ulven Companies
- Tinitron, Inc.
- Ulven Companies
- Wolf Steel Foundry

Pennsylvania

- Affival Inc.
- AGC Chemicals Americas, Inc.
- ALPha Laser-Us, Inc.
- AMETEK
- Amg Resources Corporation
- Anker Industries
- ANSYS
- Arkema Inc.
- ASTM International
- Azcon Corporation
- Bedford Reinforced Plastics Inc.
- Billet Industries, Inc.
- Blank Rome
- Bodine Business Products
- Bolttech Mannings
- C/G Electrodes, LLC
- CAB Products (Cambria County Association for the Blind)
- Canary Labs Inc.
- Carpenter Technology Corporation
- Chromalox
- Co-Ax Valves Inc.
- Core Furnace Systems Corp.
- CP Industries
- CRC Industries
- Daisy Data Displays
- Dell Marketing LP
- DFT Inc.
- Dominion
- Durameter Milton Roy
- EBC Industries
- Elizabeth Carbide Components
- Elliott Group
- Ellwood Group
- Ensinger
- EST Group
- Femco Machine Company
- Fiber-Line, Inc.
- Foerster Instruments
- FORTA Corp. - Drilling Products Div.
- GAI-Tronics
- Gamajet Cleaning Systems Inc.
- GEA North America
- General Carbide Corporation
- General Dynamics
- Gottlieb Inc.
- Haskel International, LLC
- Hetrick Manufacturing
- High Pressure Equipment Company
- HYDAC Technology Corp.
- Ice Qube Inc.
- IMI PBM
- IMS Systems Inc.
- Innovative Pressure Technologies
- International SOS Assistance
- IPT
- Key Bellevilles
- Kroff Chemical Company
- Latrobe Specialty Steel
- Liberty Iron & Metal
- Linc Milton Roy
- Linde, Inc.
- LMI / Milton Roy
- LTC, Inc.
- Maxpro Technologies
- MECCO
- Megator
- Mercer Company
- Mercer Lime & Stone Co.
- Metalico
- Milton Roy Company
- PBM Inc. Valve Solutions
- PEI-Genesis
- Penn United Technologies, Inc.
- PhiladeLPhia Mixing Solutions, Ltd.
- Philly Shipyard
- Phoenix Contact
- PNC Bank
- Pressure Products Industries, Milton Roy
- Quadax Valves Inc.
- Quaker Houghton
- Rajant Corporation
- RDP Electrosense
- Sap America, Inc.
- Schramm, Inc.
- Schroeder Industries, LLC
- Science Application Int'l Corp.
- Silcotek Corporation

Pennsylvania (Continued)

- SKF USA, Inc.
- Software House International
- Specialty Bar Products
- Strongarm Designs
- Superbolt, Inc.
- TE Connectivity
- TorcUP
- Tube City
- U.S. Steel Corporation
- Universal Refractories
- Van Gas Technologies
- Victrex
- VideoRay
- Voith Turbo
- Wabtec Corporation
- Whitehill Manufacturing Corporation
- Williams Milton Roy

Rhode Island

- Alloy Wire International
- Bad Dog Tools
- Clarke Valve
- Dellner Brakes AB
- Igus
- KVH Industries, Inc.

South Carolina

- AFL
- CIRCOR
- Dantherm Cooling
- Grace Distributing
- InsulFab
- Life Cycle Engineering
- Staubli Corporation
- Tobul Accumulator, Inc.
- WEC Equipment & Machining Solutions
- Zapp Precision Wire
- Zeus Inc.

South Dakota

- Macurco Gas Detection
- Sioux Corporation

Tennessee

- Bailey-Parks Urethane, Inc.
- Heatec, Inc.
- JDS Technologies, Inc.
- MCR Safety
- Thomas & Betts Corporation
- Tradequip
- TS3 Technology, Inc.
- USA Borescopes

Texas

- 2H Offshore, Inc.
- 3C Metal
- 4E Valve
- 4G Wireline Systems
- 5Elem USA Inc.
- A&B Valve
- A.Hak
- A/M Air Starters
- A1 Graphic Solutions
- A1 Tags
- AADE
- AAR Incorporated
- ABB
- Able Infosat Communications, Inc.
- Abrado
- ABS
- ABSG Consulting Inc.
- Accudata Systems, Inc.
- Accumulators Inc.
- Accuturn Manufacturing, Inc.
- Acme Cleaning Equipment Inc.
- ACME Multitech Services
- Action Specialties LLC
- Acumen International, Inc.
- Acute Technological Services, Inc.
- ADD Energy
- Admiralty Marine and Structural
- Adobe Equipment
- Advanced Energy Solutions
- Advanced Technology Valve
- Advanced Welding Services, Inc.
- Advisian
- AER Supply Ltd.
- AFGlobal Corporation
- Agar Corporation
- AGI Industries, Inc.
- AIMS International
- Air Comfort Incorporated
- Air Liquide
- Air Starter Components, Inc.
- Airborne Oil & Gas
- Airdyne Inc.
- Alabastron
- Alamo Iron Works
- Alamo Transformer Supply Company
- Alan C. McClure Associates, Inc.
- Alatas Americas Inc.
- Alexander/Ryan Marine & Safety Co.
- Alimak Hek Inc.
- Allamon Tool
- Allesco
- Allied Alloys
- Allied Electronics, Inc.
- Alloy & Stainless Fasteners
- Alloy Machine Works
- Alloy Metals & Tubes International, Inc.
- All-Pro Fasteners
- Allseas USA, Inc.
- Alltrans TC
- ALPha Oil Tools
- ALPha Slip Rings, Inc.
- Altex Electronics, Ltd.
- ALTISS Technologies,
- Ambox Limited
- AMCi Wireless
- AmerCable Incorporated
- Ameresco Solar, LLC
- America Ilsintech
- American Alloy Steel
- American Block
- American Clutch & Equipment Co.
- American Completion Tools
- American Connectors
- American Shipping & Chartering
- American Spincast
- American Torque Wrench Inc.
- Ameriflex
- Amerjin Co., LLC
- Ameron International
- AmerRig Services
- Amosco
- Amtex Machine Products
- Analytical Systems KECO
- Andon Specialties
- Ani Direct LP
- Anson Flowline Equipment Inc.
- Anthelion Systems, Inc.
- Apache Pressure Products
- Apergy

Texas (Continued)

- Applied Energy Company, Inc.
- APS Hydraulic Services
- Aqua-Chem, Inc.
- Arc Specialties, Inc.
- Arefco Seals, Inc.
- Argo International Corporation
- Arrow Industrial Equipment
- Asel-Tech
- AssetNation Inc.
- Astro Controls, Inc.
- A-T Controls
- AT&T
- Athens Group
- Atlas Industrial Supply Inc.
- ATPI
- Atsco
- Audubon Companies
- Automatic Power, Inc.
- Autronica Fire and Security
- Aveva, Inc.
- Avigilon USA Corporation
- Aviva Metals
- AXON Energy Services
- Aztec Manufacturing
- Aztec Tubular Products
- AZZ Energy
- B & W Pipe Inc.
- Baker Hughes
- Ball & Seat Specialties Co.
- Bardex Corporation
- Bardot Group
- Bartec US Corp.
- Bastion Technologies, Inc.
- Bates Reliable Solutions LLC
- Bauer-Pileco Inc.
- Beacon Maritime Inc.
- Bechtel
- Beeco Motors & Controls, Inc.
- Bell Engineering, Inc.
- Belsim Engineering
- Belven, Inc.
- Bemex International
- Bench Tree
- Bernard Controls Inc.
- Bestolife Corporation
- Beta International
- Beveridge & Diamond
- BI Builders Inc.
- Billy Pugh Co., Inc.
- Bishop Lifting Products
- Bitswave Inc.
- Black Angus Steel & Supply
- Black Diamond Group
- Black Sea Technology Inc.
- Blackwell Plastics
- Bluewater Solutions, Inc.
- Bob Herbert & Associates, Inc.
- Bodycote Surface Technology
- Boedeker Plastics, Inc.
- Bolton Alloys LC
- Boskalis Offshore
- Brandt Companies
- Brennan Industries
- Bridon American Corporation
- Brown Corrosion Services, Inc.
- BTI Services
- Burrow Global
- Bush Hydraulics
- Butcher Fabricators
- Buxton Interests, Inc.
- BW Offshore
- C.A. Richards & Associates, Inc.
- C.C. Gasket & Fastener, Ltd.
- C.W. Rod Tool Co., Inc.
- Cameron International, (Schlumberger)
- Camesa
- Cam-Tech Products, Inc.
- Canyon Manufacturing
- Capital Process Management, Inc.
- CapRock Communications
- CARBER
- Castrol Offshore
- Catapult Systems Inc.
- C-Automation, Inc.
- Cavo Drilling Motors
- C-B Gear & Machine Inc.
- CCC Group, Inc.
- CCI Piping Systems
- CDQ International, LLC.
- CDR Strainers & Filters, Inc.
- Cenergy
- Centerline Manufacturing
- Ceram-Kote Coatings, Inc.
- Chickasaw Distributors
- Choice Rescue & Safety Services
- Civeo Offshore
- C-Job Naval Architects
- CK POWER
- ClampOn
- ClockSpring|NRI
- CMP Products
- Coastal Foundry Company
- Cobra Rig Products
- Coleman Filter Company
- Conhagen: Rotating Equipment
- Container House Intl Inc.
- Control Flow, Inc.
- Copper State Rubber
- CORE Laboratories
- Corrosion Resistant Alloys
- Cortland Company
- Corvalent
- Cotech Irm Services Inc.
- Couplings International
- CPSI Production Co., LP
- Crane Pro Parts
- Craneworks, Inc.
- Crawford Electric Supply
- Crispin Energy Inc.
- CS&P Technologies
- CT Gasket & Polymer
- C'Treat Offshore Inc.
- Cubility
- Cudd Energy Services
- Custom Power
- Custom Safety Products, Inc.
- Cutting Tools, Inc.
- Cyclone Steel Services, Inc.
- D Reynolds Company LLC
- D&S Machine Works, Inc.
- Da Mid South
- Dal-Air Investment Castings, Inc.
- Dale Fastener Supply
- Daniel Measurement and Control, Inc.
- Dan-Loc Group
- Danmar Industries, Inc.
- Daytech Instruments
- De Nora Water Technologies
- Deansteel Manufacturing Co.
- Deco Plastics, Inc.
- Deep Down, Inc.
- Deep Sea Development Services Inc.
- Deep Sea Quality Consulting, Inc.
- Deep Trend Inc.
- Deepsea Technologies
- Deepwater Corrosion Services Inc.
- Del Mar Systems
- DELTA CENTRIFUGAL
- Delta Screens
- Delta Steel, LP

Texas (Continued)

- Denso North America
- Design Staff, Inc.
- Devon Industries, Inc.
- DHL Global Forwarding
- DIAB Sales, Inc.
- Diamond Hydraulics Inc.
- Diamond Offshore
- Diamond Wire Spring
- Diamondback Industries
- DiaPac LLC
- Distribution International
- DistributionNOW
- Dixie Pipe Sales L.P.
- DK-LOK
- D-LOK
- DNP-Americas
- DOF Subsea
- Dooley Tackaberry, Inc.
- Downhole Products
- Dox Steel
- Doyles
- DPS Offshore, Inc.
- Draco Spring Manufacturing Company
- Draeger Inc.
- Drago Supply Co.
- Dragon Products
- Draka Offshore
- Drake Industries, Inc.
- DrawWorks LP.
- Drew Marine Usa, Inc.
- Drilex / Toro Downhole Tools
- Drilling & Production Resources
- Drilling Controls, Inc.
- Drillmec
- Drilltec Technologies Corporation
- Dril-Quip, Inc.
- DTC International
- DTI
- Dualco Inc.
- Duramast Industries, Inc.
- Durmat Inc.
- DURUM USA
- Dutton's Navigation Inc.
- Duxaoil Texas LLC
- DWD International, Ltd.
- DXP Enterprises, Inc.
- DXP Sepco
- Dyna Torque Technologies, Inc.
- Dynamic Flow Computers, Inc.
- DYNAMICS Scientific Production Center USA, Inc.
- E. J. Reynolds Company
- E.H. Wachs Industrial Products
- E2S Warning Signals
- Eagle Electronics Resources Inc.
- Eagle Gasket
- East Texas Machine Works
- Eastham Forge, Inc.
- Ecad, Inc.
- Echometer Company
- Eckel International Inc.
- Ecodyne MRM, Inc.
- Ecom Instruments Inc.
- EDG, Inc.
- Edgen Murray Corp...
- EEW Group
- EFC Americas Inc.
- Efird Corrosion International
- EGS Systems Inc.
- Electro Mechanical Industries, Inc.
- Electronic Power Design, Inc.
- Electronic Technical Services Corporation
- Elgin Separation Solutions
- Elite Precision Fabricators, Inc.
- Elite Seal Inc.
- Ellington & Associates
- Encore Industrial Products
- Enduro Composites
- ENERFLEX
- Energy & Technology, Corp.
- Energy Aviation LLC
- Energy Valve and Supply Company, LLC (ENVASCO)
- EnerMech Mechanical Services, Inc.
- EnerQuip - Torque Solutions
- Enertech Services International Inc.
- ENGIE Resources
- Engineered Pressure System, Inc.
- Engineered Spring Products
- EnQuest Energy Solutions
- Enteq Upstream
- Enterprise Offshore Drilling
- Enventure Global Technology
- Enverus
- Epcon Industrial Systems, LP
- EPI Materials Testing Group
- Equipment Management Services LLC
- Equipment Resources
- Equipment Valve & Supply
- ERA Group
- Erdos Miller
- ES&H Consulting Services, Inc.
- ESCO GROUP LLC
- Esco Products, Inc.
- ESI, Inc.
- ETA International Inc.
- EthosEnergy
- Eutex International, Inc.
- Exceed Oilfield Equipment
- Excel Engineering, Inc.
- Excell Battery Corporation
- Exmar Offshore Company
- Express Bolt & Gasket
- Expro
- Exterran
- Extreme Coatings
- E-Z Line, Inc.
- F.W. Gartner
- Falcon Electric Inc.
- FalconView Energy Products
- Fann Instrument Company
- Farmers Copper Ltd.
- Fastenal
- Fastorq
- FBV Inc.
- FCI
- FCI Forged Components, Inc.
- Fearnley Procter Inc.
- Federal Flange
- Fibergrate Composite Structures
- Field Industries LLC
- Fielder Electric Supply Co., Inc.
- Fifth Ring
- Filtration Technology Corporation
- Fire Protection Service, Inc.
- Fishbone Safety Solutions Ltd.
- FITOK Inc.
- Five Star Metals, Inc.
- Flare Industries, Inc.
- Flexible Lifeline Systems, Inc.
- Flo Trend Systems
- Flow Safe, Inc.
- Flowserve
- Fluid Systems, Inc.
- Fluor
- FM Oilfield Services Solutions LLC

Texas (Continued)

- Forge USA
- Forged Components, Inc.
- Forged Vessel Connections, Inc.
- Forrester Research, Inc.
- Forum Energy Technologies
- Forum Services
- FoundOcean Limited
- Freeman & Curiel Engineers, LLP
- Freemyer Industrial Pressure, LP
- Freudenberg Oil & Gas Technologies
- Friede & Goldman, Ltd.
- Fugro USA Marine, Inc.
- Fusion Inc.
- FutureOn
- Fuzzy's Industrial Maintenance & Manufacture, LP
- G A S Unlimited Inc.
- G.A.M. RecuHeat, Inc.
- G.M. International Safety Inc.
- G.P.M. International Inc.
- GAC Group
- Gagemaker LP
- Galloway Johnson Tompkins
- GaLPerti Engineering and Flow Control USA Inc.
- Galtway Industries
- Galvotec
- Gardner Denver
- Gartner Coatings, Inc.
- Gateway International Transport, Inc.
- Gaumer Process
- Gaus Anodes International
- GB Tubulars
- GBA-Corona
- GDS Corp.
- Gearench
- General Monitors Systems
- General Plastics Mfg., Co.
- Generon
- Genesis Oil & Gas
- Geoforce, Inc.
- Geophysical Pursuit Inc.
- Geoscience Earth & Marine
- Geospace Offshore
- GHX, Ind.
- Gibson Applied Technology & Engineering (GATE)
- Gill Services, Inc.
- Glider Products LLC
- Global Downhole Tools
- Global Fabrication Services, Inc.
- Global Maritime Inc.
- Global Shop Solutions
- Global Thermoelectric Corp.
- Globaltech Motor & Controls, Inc.
- GN Solids America LLC
- Goodwin International
- Gotco International
- GOWell
- GPS Integrated Systems, Inc.
- Grayloc Products LLC
- Griffin Americas
- GS-Hydro US, Inc.
- GSM, Inc.
- Gulf Coast Downhole Technologies
- Gulf Coast Engineered Solutions, Inc.
- Gulf Copper
- Gulf Electroquip Ltd
- Gulfex
- GulfMark
- GustoMSC
- GX Technology Corp.
- H&D Distributors
- Hacker International
- Hagemeyer North America, Inc.
- Hahn Equipment Co. Inc.
- Halliburton
- Hamilton Metals
- Ham-Let Advanced Control Technology
- Hampco
- Hamworthy Inc.
- Hannon Hydraulics
- Hart Heat Transfer Products
- Hastik-Baymont, Inc.
- Hatenboer-Water Americas
- Hatfield and Company
- Hawke International
- Hayata
- Hayes Industries
- Haynes Wire Rope
- HC Thermal
- HCL Clamping Solutions
- HDI Instruments, LLC.
- Heatric
- Heerema Marine Contractors (U.S.) Inc.
- Heilind Electronics
- Hempel (USA) Inc.
- Hi-Cad America
- High Performance Cables, Inc.
- Hiller Offshore Services, Inc.
- HMi Elements
- Hobark International Ltd.
- Holloway Houston
- Holt Power Systems
- Hoover Ferguson Group, Inc.
- Hose & Fittings, Inc.
- Hot-Hed Inc.
- Houghton International
- Houston Center Valve & Fitting, LP
- Houston Mechatronics
- Houston Motor & Control, Inc.
- Houston Offshore Engineering
- Houston Pipe Benders
- Houston Steel Equipment Co.
- HS Energy LLC
- Hufco
- Huisman Equipment
- Hunt Engine, Inc.
- Hunting Energy Services
- Hydradyne
- Hydraquip, Inc.
- Hydraulic Equipment Service, Inc.
- Hydrological Solutions, Inc.
- Hy-lok USA, Inc.
- I.T.S.
- IBY OUTLET
- ICS Triplex, Inc.
- IDARE
- IEC Systems, LLC
- Ignition Systems & Controls, Inc.
- Impac Systems Engineering
- Impact Fluid Solutions, LLC
- Impact Selector, Inc.
- ImpactWeather, Inc.
- Independent Propane Company
- InduMar Products, Inc.
- Industrial Air Tool, LP, LLP
- Industrial Diesel Inc.
- Industrial Piping Special
- Industrial Scale Co. Inc.
- Industrial Solutions & Innovations LLC
- Infinity Marine Offshore

Texas (Continued)

- InfoChip
- Infrared Cameras Inc.
- Inman Texas Company
- Innova Drilling and Intervention
- Innovative Electronics
- Innovative Fluid Power
- INS - Industrial Networking Solutions
- Insite Objects, Inc.
- Institute of Marine Engineering, Science and Technology (IMarEST)
- Integrated Applications Engineering Inc.
- Integrated Drive Systems
- InterLink Controls
- InterMoor
- International Clamps, Inc.
- International Oilfield Valve Parts
- International Paint
- Intertek Caleb Brett
- Intrepid Industries Inc.
- Intsel Steel Distributors - Triple S Steel
- ION (Previously Spectrum GEO) / TGS
- ION PRO Services, LLC
- IPT Global
- Ironclad Performance Wear
- i-Tech 7
- ITP Interpipe
- itRobotics
- IWS Gas & Supply of Texas
- J & J Technical Services
- J D Marine LLC
- J. D. Fields & Co., Inc.
- Jackup Structures Alliance, Inc.
- JAE Electronics Inc.
- James Fisher Offshore
- JAS Distributing LLC
- JDR Cables
- Jelec USA
- Jet Machine Works, Inc.
- Jet-Lube
- Jhump & Associates, LLC
- Jireh Consulting LLC
- Joda Transportation
- Johnny's Gauge & Meter Repairs
- JT Oilfield Mfg. Co., Inc.
- K & K Insulation, Inc.
- Kalsi
- Kam Controls Inc.
- Kana Energy Services Inc.
- Katch Kan USA
- KBR
- Kefco Offshore, Inc.
- Kemlon Products
- KEM-TRON Technologies, Inc.
- Kennametal
- Kennedy Wire Rope & Sling
- Kentec Composites
- Keppel Offshore & Marine USA, Inc.
- Kerger Marine Electric, Inc.
- KeyDrill Technology LLC
- Keystone Machine Works, Inc.
- KIDD PipeLine & Specialties
- Kinder Morgan
- KLT Carbide Co., Ltd.
- KnightHawk Engineering Incorporated
- Kobelco Compressors America, Inc.
- Koch Heat Transfer Company
- Kodiak-Terra USA Inc.
- Kongsberg
- L & S Cryogenics, Inc.
- L D Systems, LP
- L.C. Eldridge Sales Company, Inc.
- L/K Oil Field Products, Inc.
- LABORDE Products Inc.
- Lamons
- LaMOT Valve & Arrestor
- Lancaster Flow Automation
- Landy Energy Services, Inc.
- Langley Alloys
- Lantana Communications
- Lark Heat Treating
- Laser Welding Solutions
- Laversab, Inc.
- Lawson Products Inc.
- LBO Inc.
- Lebus International Inc.
- Lee Engineering & Construction Co.
- Leecyn
- LeTourneau Technologies, Inc.
- Lewis-Goetz And Company, Inc.
- LHR Services and Equipment, Inc.
- Lincoln Manufacturing, Inc.
- Lloyd's Register
- Loadcraft Industries, Ltd.
- Loadmaster Universal Rigs, Inc.
- Loftin Equipment Co.
- Logan Industries International, Inc.
- Logik Precision, Inc.
- Lone Star Companies
- Lone Star Diving, Inc.
- Lone Star Fasteners, LP.
- Lone Star Heat Treating Corp.
- Lonestar Deepwater LLC
- LoneStar Forklift, Inc.
- LoneStar Group
- Longwood Elastomers
- Looper Goodwine
- Loran International Sales, Inc.
- Louisiana Electric Rig Service, Inc.
- LSI Interest, Ltd
- LSPHE(US), Inc.
- LTS Energy
- Lumen Digital Corp.
- M & F Gauge
- M & H Engineering
- M D Cowan Inc.
- M G Maher & Co. Inc.
- M&I Electric
- M&J Valve Services, Inc.
- M&L Industries, LLC
- MacArtney Offshore, Inc.
- Macdermid Offshore Solutions
- Mackay Communications, Inc.
- Magtech
- Malin International Ship Repair & Drydock,
- Maloney SmartSphere
- MAN Diesel & Turbo North America Inc.
- Manifold Valve Service
- Marine Aluminum Group
- Marine Chemists, Inc. of Texas
- Marine Computation Services Kenny Ltd.
- Marine Equipment, Inc.
- Marine Medical, Inc.
- Marine Salvage & Services, Inc.
- Marshall Machine, LLC
- Marsol Technologies Inc.
- Martin Fluid Power
- Martin Midstream Partners ,LP
- Marubeni-Itochu Tubulars American, Inc.

Texas (Continued)

- Marvel Industrial Coatings
- Master Flo Valve (USA)
- MasterWord Services, Inc.
- Matthews-Daniel Company
- Maudlin Products
- Maxim Silencers Inc.
- MCC Chemicals Inc.
- McCoy Global
- McDermott International
- McDonough Marine Service
- McElroy Translation Company
- McFarland Tritan LLC
- McGriff, Seibels & Williams of Texas, Inc.
- Mckenzie Equipment Company, Inc.
- MCM Centrifugal Pumps
- MCM Oiltools
- McNichols Company
- MCS Kenny
- MCT Brattberg
- Mechtec Corporation
- Mercer Valve Company Inc.
- Meridian Equipment, Inc.
- Merpro Americas, Inc.
- Merrick Systems, Inc.
- Merrimac Manufacturing, Inc.
- Metal Coatings Corp...
- Metco-Materials Evaluations
- MHWIRTH Inc.
- M-I SWACO
- Michelli Weighing & Measurement
- Micron Eagle Hydraulics Inc.
- Micro-Smart Systems
- MicroTesla Magnetic Field Effects
- Mid-West Electric Co., Inc.
- Midwest Hose & Specialty
- Miller Lifting Products
- Mitsubishi Forklift Trucks of Houston
- Mitutoyo America Corporation
- MLC Cad Systems
- Moduspec Usa Inc.
- Mohr Engineering Division
- Monarch Stainless, Ltd.
- Monroe Environmental
- Morris Metals Service, Inc.
- Morrison Energy Group
- Moss Seal Company
- Motive Drilling Technologies
- Moulding Specialists, Inc.
- MRC Global
- MSO Seals & Gaskets
- MTS Threaded Products Co.
- Mud Technology International, Inc.
- Mustang Power Systems
- Myrex Industries
- NALCO Champion
- Namasco
- Nance International
- NATCO
- National Bronze & Metals, Inc.
- National Instruments
- National K Works
- National Oilwell Varco (NOV)
- National Service Alliance
- National Specialty Alloys, LLC
- Nedschroef Corporation
- Neptune
- Net Safety Monitoring Inc.
- New Tech Systems
- Neway Oilfield Equipment LLC
- Neway Valve Inc.
- Newpark Drilling Fluids
- Nick's Fastener & Industrial Supply
- NLB Corp.
- NMA Maritime & Offshore Contractors
- Noble Corporation
- Noble Denton Marine, Inc.
- Norriseal Wellmark
- Norson Services LLC
- North American Plastics
- North Shore Supply Company
- Nova Forge Corp.
- Numeric Engineering
- Occucare International
- Oceaneering International, Inc.
- OceanWorks International Inc.
- OCS Group
- O-D Rentals, Inc.
- Odessa Pumps & Equipment Company, a DistributionNOW Company
- OEM Components, Inc.
- OEMic Inc.
- OES Oilfield Services (USA), Inc.
- OET Global, Inc.
- Offshore Commissioning Solutions
- Offshore Energy Services
- Offshore Marine Cable Specialists
- Offshore Oil Services, Inc.
- Offshore Rig Movers International
- OFS Energy Fund
- Oglaend System
- Oil Guide Online Inc.
- Oil States International
- Oildata Wireline Services
- Oilfield Equipment Marketing
- Oilfield Motor and Control, Inc.
- Oil States
- Oilwell Tubular Consultants, Inc.
- Okonite Company
- Oliden Technology
- Oliver Valves Ltd.
- Omron Oilfield & Marine
- Online Valves
- Onsite Treatment Technologies Inc. AKA OTT A/S
- Open & Close Equipment
- Openfield Technology
- Outernet Management, LP
- Oxifree Metal Protection
- P E C Manufacturing
- PAC Stainless
- Pacific Drilling, S.A.
- Packard International Inc.
- Panolin
- Paperboard Packaging Solutions
- Parco Inc.
- Partin Ltd. Partnership
- Pason Offshore Corp.
- Path Consulting, Ltd.
- PDS Bartech
- Pegasus International, Inc.
- Pegasus Vertex Inc.
- Pem-Tech, Inc.
- PennWell
- Pentagon Freight Services
- PERC Engineering
- Performance Pipe
- Performance Pulsation Control
- Perituza Software Solutions
- Perkins Drilling Tools, Inc.
- PERMA-PIPE OIL & GAS
- Permenter Controls Service, Inc.
- Petreco
- Petro Amigos

Texas (Continued)

- Petro-Base Group
- Petrohab Habitats
- Petro-Hunt
- Petrolstar Tools And Services Inc.
- PetroMaterials USA Inc.
- Petron Industries, Inc.
- PETROPANGEA Inc.
- Pharos Marine Automatic Power, Inc.
- Phase Dynamics, Inc.
- PHDSoft
- Pileco, Inc.
- Pipe Distributors Inc.
- Pipeco Service LP
- Pipeline Pigging Products, Inc.
- Pipeline Technique Ltd.
- Pivot City Corporation
- PJ Valves
- Plusco, Inc.
- PMR Global, Inc.
- Pneumatic and Hydraulic Company LLC
- Port-A-Cool, LLC
- Powell Industries
- PPHB
- Pratica
- Precision Energy Products
- Precision Flamecutting and Steel
- Precision Powered Products
- Premium Welding, Inc.
- Premsol Specialized Services
- Preng & Associates LLC
- PressureLinks LP
- Prime
- Pro Box, Inc.
- Probe
- Procegas LLC
- Process Level Technology Ltd.
- Process Safety & Reliability Group
- Process Solutions
- Production Management
- Professional Testing (EMI), Inc.
- Project One Logistics
- Proserv
- Pro-Tech Welding
- PRT Offshore
- PSI Automation
- PSRG Inc.
- Puffer-Sweiven
- Pulse Directional Technologies Inc.
- Pumps and Controls
- Purge Solutions
- QA Bearing Technologies Ltd.
- QCI Marine Offshore, LLC
- QMAX America
- Quality Bit & Supply
- Quality Connector Systems, LLC
- Quality DEF Solutions
- Quality Mat Company
- Quest Integrity Group, LLC
- Quietaire
- R R Williams & Associates
- R&M Energy Systems
- R. STAHL, Inc.
- Radio Holland USA Inc.
- Radix Engineering & Software
- Radoil, Inc.
- Ram Winch & Hoist
- Rampart Products
- Ramtech Building Systems, Inc.
- RandoLPh Austin Company
- Ranger Steel Supply Corp.
- RAPID-TORC Inc.
- Rawson
- RBG USA, Inc.
- Redding Communications
- Redman Pipe & Supply
- Reed-Hycalog LP
- Reliable EDM
- Reliable Pumps Consultants
- Relyon Nutec
- Remora ASA
- Retsco
- Rexel
- RFR Vertex LLC
- RG Petro-Machinery Group
- Rice Electronics
- Rickmers-Linie
- Right Angle Gear
- Rignet
- RigStat
- Rime Downhole Technologies
- Ringers Gloves
- Riversand Technologies, Inc.
- Roberts Production Tools
- Robsco, Inc.
- Rock-Oilfield Group
- Rockpoint Apparel
- Rocsole Inc.
- Rosemount Analytical
- Roxtec
- RPS Solutions
- RR Valve Inc.
- Rubicon Oilfield
- Rust Patrol
- RYCO Hydraulics, Inc.
- Ryerson
- S & N Pump Company Inc.
- Sabine Pilots
- Sabine Universal Products, Inc.
- Safeguard Global
- Safety Rx
- Safety Savings & Environmental LLC
- Safety Solutions
- SAIPEM America
- Salamander Solutions Inc.
- Salt and Light Energy Equipment
- SandX
- Santini Export Packing Corp.
- Santo Oilfield Supplies
- Sapura USA Holdings, LLC
- SAS Environmental Services Ltd.
- SAS USA
- SBM Atlantia
- SC Pipe Services Inc.
- Scana Offshore Services
- Scan-Pac Mfg., Inc.
- SCF Industry Technology Inc.
- Schlumberger
- SCorp.ion Oil Tools, Inc.
- SEA CON
- Seacoast Electric
- SEACOR Marine Inc.
- Seadrill
- Seals & Packings, Inc.
- Seamar Divers, Inc.
- Seaquest Diving LLC
- Seatrax Marine Cranes
- Seatrax, Inc.
- Seaward Safety, Inc.
- Select Industries, Inc.
- Sellers Sales Company, Inc.
- Semco Maritime US
- SENSEAR Texas
- Sepam Group
- Sercel
- Servi Fluid Power Inc.
- Severn Trent DeNora
- Shanco Equipment Specialists
- Shaw Pipeline Services
- Shawcor

Texas (Continued)

- Shea Writing and Training Solutions
- Shermco Industries, Inc.
- Sidus Solutions LLC
- Sigma Solutions, Inc.
- SIPCO Mechanical Linkage Solutions
- Smith & Associates
- Smith International Inc.
- SOFEC
- Solar Turbines
- Sonardyne
- Sonica Supply Co.
- Sooner Pipe, LP
- Source IEC
- Source IEx
- South Coast Technology, Inc.
- Southern California Valve
- Southwest Electric Supply Inc.
- Southwest Electronic Energy Group
- Southwest Impreglon
- Southwest Materials Handling Co.
- Southwest Ocean Services, Inc.
- Southwest Oilfield Products, Inc.
- Southwest Research Institute
- Southwest Stainless, L.P.
- Southwest Wire Rope LP
- Sparkhound
- Sparrows Offshore, LLC
- Spartek Systems
- Spears Mfg Co.
- Special Piping Materials
- Specialties Company
- Specialty Rental Tools and Supply
- Specialty Steel Supply, Inc.
- Specialty Wire & Cable Inc.
- Spectra Sensors
- Spectrex, Inc.
- Spectrum Batteries Inc.
- Spectrum Geo Inc.
- SPET, Inc.
- SPIFIL Inc.
- SPIR STAR
- Spitzer Industries
- Spring Bolt and Nut Manufacturing
- SPT Group, Inc.
- Stainless Steel Custom
- Steel Supply, LP
- Stena Drilling
- Stewart & Stevenson
- Stewarts-USA, LLC
- Stooss USA
- StormGeo, Inc.
- Stratos
- Stress Engineering Services
- STS Products, Inc.
- STVA Scaffolding & Shoring
- STX US Marine
- Sub-Atlantic
- Subsea 7
- Subsea Coating Technologies
- Subsea Systems, Inc.
- Subsea Technologies, Inc.
- Sulzer Pumps
- Summit International
- Sun Coast Resources, Inc.
- Sunbelt Steel
- SunSource
- Superior DrilLPipe Mfg, Inc.
- Superior Energy Services
- Superior Threaded Products, LP
- Supreme Integrated Technology Inc.
- Sure Cast Inc.
- Surface Techniques, Inc.
- Swift Technical Services
- Swift-JB International, Inc.
- SYNERGY Industries
- Systel Rugged Computers
- T H Hill Associates Inc.
- T Rex Engineering & Construction LC
- T.S. Moly-Lubricants, Inc.
- T_3 Energy Services, A Unit of Robbins & Myers Inc.
- Tailwind Air Charters
- TALON Technical Sales Inc.
- TAM International, Inc.
- Taylor-Wharton America Inc.
- TCR Inc.
- TEAM, Inc.
- TEC Sales
- Technical & Scientific Application
- Technical Industries, Inc.
- Technip
- TechnipFMC
- Technogenia, Inc.
- Technology and Calibration, Inc.
- TECHNOMARK North America
- TechTrans International, Inc.
- TEEX
- Tejas Completion Solutions
- Tejas Tubular Products, Inc.
- Tenaris
- Tesco Corporation
- Tesi Group, LLC
- Tetra Technologies, Inc.
- Texas Bolt & Nut Company Ltd
- Texas Custom Engineering
- Texas Engineering Experiment
- Texas First Industrial Corp.
- Texas Institute of Science (TXIS)
- Texas International Oilfield Tools, Ltd.
- Texas Nameplate Company
- Texas Nameplate Company, Inc.
- Texas Pipe &Supply Co. Inc.
- Texas Pipe Works, Inc.
- Texas Sensors and controls LLC
- Texas Steel
- Texma Petroleum Machinery
- TFE Company
- TGS
- The Artex Group, LLC
- The Eads Company
- The Harding Group, Inc.
- The Nut Place, Inc.
- The REACH Group
- The Rochester Corporation
- The Subsea Company LLC
- The Watermaker Co., Inc.
- Thermal Edge Inc.
- Thrustmaster
- Tideland Signal
- Tidewater Inc.
- Tiger Rentals
- Titan BOP Rubber Products
- Titan Specialties, Ltd.
- Titan Subsea Innovations
- Titanium Engineers, Inc.
- Tiw Corporation
- Tomahawk Safety
- Tomax
- Toolmen Corporation
- TorcSill
- Toro Downhole Tools
- Torque Tools Inc.

Texas (Continued)

- Total Instrumentation & Controls Inc.
- Total Safety
- Total Valve & Equipment, LLC
- TowWorks, LLC
- TRACERCO
- Trademarks Promotional Products, LP
- Transfer Oil Inc.
- Transocean
- TransPerfect Translations
- Tranter
- Tranter, Inc.
- Trelleborg Offshore
- Trendsetter Electronics
- Trendsetter Engineering Inc.
- Tri Tool
- Tri Wave, LLC
- Tri-Elements Petroleum Products, Inc.
- Trionics, Inc.
- Tristar Electronics Corporation
- Tri-Star Thread Protectors
- TSC Offshore Group, Ltd.
- TSP Mfg
- TTGM
- TTI, Inc.
- Tube Supply
- Tubular Instrumentation and Controls
- Tubular Perforating Manufacturing
- Tubular Perforating Manufacturing, Ltd.
- Turbofab
- Turner Oilfield Services
- TVC - Tiger Valve Company
- TXY-Tech Inc.
- Tyndale Company, Inc.
- Type B Solutions
- U.S. Bolt Manufacturing, Inc.
- U-Bolt-It, Inc.
- Ulterra
- Ultra Deep,LLC
- UNIBROM
- Union Wire Rope
- Unique Group
- Unitech International
- United Laboratories
- United Vision Logistics
- Univar Usa, Inc.
- Universal Bacteria Specialist, Inc.
- Universal Marine Electric Inc.
- Universal Power Group Inc.
- Universal Steel America, Inc.
- Universe Technical Translation Inc.
- Upstream Engineering, LLC
- USA Fasteners
- UTC Overseas
- Utex Industries
- Valaris
- Vallourec
- Vallution LLC
- ValTek Industries
- Valwu International Inc.
- VAM Drilling USA
- Van Beest
- Vanco Ring Gasket Specialty, Inc.
- Vantran / Bolin Industrial
- Varel International Energy Services
- Velosi
- Venable LLP
- Veriforce
- Veris Global, LLC
- Versabar, Inc.
- VIKING Life-Saving Equipment
- Vimarc Inc.
- Visuray
- Vitzrocell USA, Inc.
- VIV Solutions
- VME Process Inc.
- VN & Unique Solutions, Inc.
- Vortex Ventures Inc.
- W & O Supply Inc.
- Wagner Plate Works
- Warner & Hughes Corp.
- Warrior Rig USA
- Washing Equipment of Texas
- Waters International, Inc.
- Watkins & Associates Executive Search
- Weatherford
- Weiler Pipe
- Weir
- Welbor Technology, Inc.
- Weldinghouse, Inc.
- Well Resolutions Technology, Inc.
- Welldynamics Inc.
- Wellhead Distributors International
- West Engineering Services
- West Houston Valve & Fitting
- Western Data Systems
- Western Rubber & Mfg.
- Westland Bunker
- Westney Consulting Group, Inc.
- WGIM
- Whitefield Plastics
- Wholesale Electric Supply Co.
- Wichita Clutch
- Wild Well Control
- Wilkens Weather Technologies
- Wilson Industries Inc.
- Wilson Supply
- Windlass Engineers
- W-Industries
- Winston / Royal Guard
- Winters Instruments
- Wireline Technologies Inc.
- WM Healthcare Solutions, Inc.
- WMCO Brandt Instruments, Inc.
- WMG Enterprises II, Inc.
- WN Global
- WOM
- Womack Machine Supply Co.
- Wood
- Wood Mackenzie
- Woodco USA
- World Supply Inc.
- Worldwide Oilfield Machine, Inc.
- WorleyParsons
- Woven Metal Products
- Wozair USA
- WPI WELLKIN Inc.
- WPT Power Corporation
- WT Well Testing
- WW Industries
- Xodus Group Inc.
- Yellow Freight System, Inc.
- Zentech, Inc.
- Zep Incorporated
- Zerl's Welding and Fabrication Inc.
- Zyfire Hose Corporation

Utah

- Automation Products Group, Inc. (APG)
- Beijer Electronics, Inc.
- Ceramatec, Inc.
- ITT Acoustic Systems
- Juniper Systems
- Pepcon Systems
- Power Innovations International Inc.
- Quartzdyne
- Quartzdyne Electronics
- Rhotheta USA Inc.
- Seven Canyons Composites
- Tanklogix
- Trans-System Logistics LLC
- US Synthetic Bearings
- Weather Hawk

Vermont

- Superior Technical Ceramics Corp.

Virginia

- Aerial Machine and Tool Corp.
- Alfa Laval Inc.
- American Heavy Industries
- Anton Paar USA
- Approva Corporation
- Bauer Compressors, Inc.
- Booz Allen Hamilton
- BWX Technologies
- Coastal Training Technologies Corp.
- Energy Maritime Associates
- Focal
- Freyssinet, Inc.
- Independent Project Analysis
- Inst. Air Receiver
- Iridium
- Katec Inc.
- Liebherr USA, Co.
- Marine Spill Response Corp.
- Mobil Industrial Lubricants
- NBB Controls, Inc.
- Optical Cable Corporation
- Par Marine Services
- Roos Consulting Group
- SAIC
- Sea Technology Ltd.
- SF Marina Systems USA
- SkyBitz
- Software AG USA, Inc.
- Strongwell
- Syntech Technology, Inc.
- Triple Canopy, Inc.
- W R Systems
- Weidmuller

Washington

- Columbia Analytical Services Inc.
- Custom Sensor Design, Inc.
- Eagle Pro Industrial Tools, Inc.
- Elliott Bay Design Group
- Fluke Corporation
- Guido Perla & Associates, Inc.
- Kenworth Truck Company
- Laser Processing
- Markey Machinery Company Inc.
- Marsh Bellofram Group of Companies
- Measurement Technology NW
- Mustang Sampling
- Mustang Survival
- PACCAR International
- Paine Electronics, LLC
- Paroscientific Inc.
- PCC Energy Group
- Rasmussen Equipment Company
- Rugged Controls
- Safeworks
- Samson Rope
- Schweitzer Engineering Laboratories
- SkoFlo Industries Inc.
- Smith Berger Marine, Inc.
- Trident Fittings
- Washington Chain & Supply
- Winshuttle, Inc.

West Virginia

- Advanced Technical Solution, Inc.
- TorsionX

Wisconsin

- Alloy Products Corp.
- Appleton Marine, Inc.
- Cordstrap USA
- Diesel & Gas Turbine Worldwide
- Durst Power Transmission Products
- Dynatect
- Dynex/Rivett Inc.
- Ellsworth Corporation
- Enerpac
- Fairbanks Morse Engine
- Frentzel Products, Inc.
- Gleason Reel Corp.
- Hy-Safe Technology
- Inductotherm Group
- Innovative Hydraulics LLC
- Kabelschlepp America Inc.
- Marathon Electric Generators
- Marking Services, Inc.
- Mastergear USA
- Meltric Corporation
- Northern Pump
- Peterson
- Rockwell Automation
- Safway Services
- Snap-On
- Team Industries, Inc.
- Thermal Transfer Products
- Twin Disc
- WAGO Corporation
- Weinbrenner
- Young Touchstone

Wyoming

- American Mobile Research, Inc.
- Black Hills Lignite LLC
- L&H Industrial

Data Tables by Case

Gulf of Mexico Economic Impacts

Table 3: Projected Base Case Gulf of Mexico Oil and Natural Gas Production (BOE/D)

	2018	2019	2020	2021	2022	2023	2024	2025
Oil	1,760,000	1,890,000	1,802,741	1,819,873	1,923,915	2,016,547	2,127,102	2,172,814
Natural Gas	445,000	450,000	416,287	389,320	387,443	387,585	396,576	395,893
Total BOE	2,205,000	2,340,000	2,219,028	2,209,193	2,311,357	2,404,132	2,523,678	2,568,707

	2026	2027	2028	2029	2030	2031	2032	2033
Oil	2,228,486	2,257,200	2,305,052	2,313,179	2,360,485	2,382,172	2,385,983	2,333,358
Natural Gas	398,838	399,022	405,150	405,559	414,527	419,657	421,028	410,939
Total BOE	2,627,324	2,656,222	2,710,202	2,718,738	2,775,012	2,801,829	2,807,011	2,744,297

	2034	2035	2036	2037	2038	2039	2040
Oil	2,278,303	2,217,081	2,134,855	2,015,404	1,888,518	1,750,072	1,661,183
Natural Gas	400,567	390,143	376,626	356,058	334,084	310,848	295,939
Total BOE	2,678,870	2,607,224	2,511,481	2,371,462	2,222,602	2,060,920	1,957,123

Source: Energy and Industrial Advisory Partners

Table 4: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions

	2018	2019	2020	2021	2022
G&G	$160	$156	$148	$176	$241
Drilling Tangibles	$1,211	$1,310	$986	$814	$1,280
Trees	$627	$451	$336	$440	$518
Manifolds	$328	$237	$177	$231	$272
Other Subsea Hardware	$143	$130	$77	$81	$126
Control Umbilical, Flying Leads	$373	$268	$208	$280	$323
Infield FL	$119	$102	$54	$70	$100
Export PL	$782	$658	$385	$490	$691
Infield Risers	$61	$53	$29	$35	$50
Export Risers	$30	$25	$14	$19	$26
Fixed Platforms & Facilities	$135	$114	$123	$173	$212
Floating Production Units & Facilities	$1,155	$825	$990	$1,458	$1,375
Installation	$1,439	$1,328	$834	$1,009	$1,359
OPEX	$13,816	$13,829	$12,276	$13,406	$14,226
Decommissioning CAPEX	$1,100	$773	$696	$858	$785
Drilling	$5,560	$5,847	$4,682	$3,999	$7,273
Engineering CAPEX	$792	$663	$528	$638	$756
Engineering OPEX	$863	$864	$877	$882	$889
Natural Gas Processing and Transportation	$163	$157	$152	$141	$136
Total	$28,857	$27,789	$23,574	$25,199	$30,640

	2023	2024	2025	2026	2027
G&G	$263	$278	$296	$302	$300
Drilling Tangibles	$1,348	$1,235	$1,238	$1,226	$1,263
Trees	$496	$481	$479	$477	$481
Manifolds	$262	$253	$251	$251	$254
Other Subsea Hardware	$129	$126	$129	$132	$133
Control Umbilical, Flying Leads	$309	$302	$302	$300	$303
Infield FL	$95	$91	$94	$94	$90
Export PL	$669	$629	$616	$622	$637
Infield Risers	$49	$46	$46	$46	$46
Export Risers	$25	$24	$24	$24	$24
Fixed Platforms & Facilities	$183	$152	$158	$181	$199
Floating Production Units & Facilities	$1,283	$1,430	$1,412	$1,375	$1,283
Installation	$1,325	$1,253	$1,330	$1,297	$1,277
OPEX	$14,321	$14,435	$14,466	$14,513	$14,551
Decommissioning CAPEX	$827	$754	$827	$757	$803
Drilling	$8,435	$8,612	$9,473	$9,942	$10,354
Engineering CAPEX	$745	$723	$738	$724	$725
Engineering OPEX	$895	$902	$904	$907	$909
Natural Gas Processing and Transportation	$137	$138	$139	$139	$140
Total	$31,795	$31,863	$32,922	$33,309	$33,773

Source: Energy and Industrial Advisory Partners

Table 4: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions (Continued)

	2028	2029	2030	2031	2032
G&G	$291	$282	$274	$265	$255
Drilling Tangibles	$1,238	$1,196	$1,166	$1,125	$1,097
Trees	$491	$475	$429	$385	$364
Manifolds	$260	$251	$226	$202	$192
Other Subsea Hardware	$134	$133	$125	$114	$108
Control Umbilical, Flying Leads	$312	$304	$274	$245	$231
Infield FL	$92	$96	$90	$80	$72
Export PL	$669	$691	$633	$548	$489
Infield Risers	$47	$49	$45	$39	$36
Export Risers	$25	$26	$24	$21	$19
Fixed Platforms & Facilities	$211	$218	$199	$154	$110
Floating Production Units & Facilities	$1,430	$1,412	$1,320	$1,137	$1,100
Installation	$1,249	$1,332	$1,246	$1,130	$1,001
OPEX	$14,647	$14,710	$14,775	$14,784	$14,804
Decommissioning CAPEX	$733	$781	$710	$758	$688
Drilling	$10,111	$9,738	$9,474	$9,165	$8,980
Engineering CAPEX	$734	$740	$690	$634	$589
Engineering OPEX	$915	$919	$923	$924	$925
Natural Gas Processing and Transportation	$141	$143	$145	$146	$146
Total	$33,729	$33,494	$32,770	$31,858	$31,205

	2033	2034	2035	2036	2037
G&G	$239	$222	$206	$199	$202
Drilling Tangibles	$1,046	$993	$895	$832	$806
Trees	$347	$303	$245	$205	$205
Manifolds	$183	$159	$129	$108	$108
Other Subsea Hardware	$104	$97	$83	$71	$65
Control Umbilical, Flying Leads	$222	$195	$158	$130	$127
Infield FL	$70	$67	$55	$44	$37
Export PL	$480	$446	$366	$292	$250
Infield Risers	$35	$33	$27	$22	$18
Export Risers	$19	$18	$15	$12	$9
Fixed Platforms & Facilities	$79	$63	$65	$83	$94
Floating Production Units & Facilities	$1,045	$953	$715	$642	$550
Installation	$982	$907	$777	$599	$558
OPEX	$14,785	$14,779	$14,717	$14,679	$14,595
Decommissioning CAPEX	$736	$667	$716	$647	$695
Drilling	$8,576	$8,141	$7,346	$6,839	$6,616
Engineering CAPEX	$572	$524	$455	$397	$382
Engineering OPEX	$924	$924	$920	$917	$912
Natural Gas Processing and Transportation	$144	$140	$136	$131	$124
Total	$30,589	$29,630	$28,026	$26,847	$26,354

Source: Energy and Industrial Advisory Partners

Table 4: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions (Continued)

	2038	2039	2040
G&G	$215	$233	$241
Drilling Tangibles	$809	$864	$959
Trees	$253	$335	$408
Manifolds	$133	$176	$213
Other Subsea Hardware	$70	$85	$105
Control Umbilical, Flying Leads	$156	$208	$257
Infield FL	$41	$54	$74
Export PL	$279	$350	$474
Infield Risers	$21	$27	$37
Export Risers	$10	$14	$19
Fixed Platforms & Facilities	$82	$68	$78
Floating Production Units & Facilities	$807	$1,027	$1,393
Installation	$572	$816	$1,025
OPEX	$14,577	$14,537	$14,565
Decommissioning CAPEX	$626	$676	$608
Drilling	$6,630	$7,113	$7,936
Engineering CAPEX	$418	$507	$606
Engineering OPEX	$911	$909	$910
Natural Gas Processing and Transportation	$117	$110	$104
Total	$26,724	$28,106	$30,014

Source: Energy and Industrial Advisory Partners

Table 5: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment (Number of Jobs)

	2018	2019	2020	2021	2022	2023	2024	2025
Texas	155,767	147,462	124,455	132,628	161,355	167,533	166,195	171,812
Louisiana	95,089	94,621	83,231	87,732	102,937	106,897	107,441	110,391
Mississippi	20,926	20,415	17,940	19,056	22,452	23,284	23,273	23,961
Alabama	29,053	28,011	24,569	26,630	30,172	30,802	30,660	31,253
Other U.S. States	59,631	54,989	44,680	51,731	61,701	62,235	62,494	64,451
Total	360,465	345,498	294,876	317,778	378,617	390,751	390,063	401,868

	2026	2027	2028	2029	2030	2031	2032	2033
Texas	173,196	176,309	175,180	174,199	169,730	165,544	161,509	158,746
Louisiana	111,790	113,385	113,004	112,323	111,267	109,996	108,978	107,603
Mississippi	24,193	24,570	24,445	24,335	23,966	23,620	23,269	22,978
Alabama	31,351	31,707	31,664	31,698	31,232	30,796	30,305	30,041
Other U.S. States	64,436	64,434	64,993	65,563	63,389	60,306	58,029	56,936
Total	404,966	410,406	409,287	408,118	399,584	390,262	382,091	376,305

	2034	2035	2036	2037	2038	2039	2040
Texas	153,138	145,488	132,010	136,828	137,843	145,254	154,006
Louisiana	105,693	102,489	100,068	98,920	98,939	101,014	104,280
Mississippi	22,437	21,666	20,994	20,759	20,775	21,415	22,235
Alabama	29,406	28,590	27,803	27,545	27,596	28,371	29,280
Other U.S. States	54,473	50,070	46,449	44,874	46,658	51,715	57,767
Total	365,146	348,302	327,324	328,927	331,811	347,769	367,568

Source: Energy and Industrial Advisory Partners

Table 6: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Direct vs. Indirect and Induced Supported Employment (Number of Jobs)

	2018	2019	2020	2021	2022	2023
Direct	68,677	69,356	60,143	62,650	74,769	78,263
Indirect and Induced	291,788	276,142	234,732	255,128	303,848	312,488
Total	360,465	345,498	294,876	317,778	378,617	390,751

	2024	2025	2026	2027	2028	2029
Direct	79,142	81,604	83,035	84,298	84,010	83,249
Indirect and Induced	310,921	320,265	321,930	326,108	325,277	324,869
Total	390,063	401,868	404,966	410,406	409,287	408,118

	2030	2031	2032	2033	2034	2035
Direct	82,733	81,881	81,405	80,217	78,959	76,493
Indirect and Induced	316,851	308,382	300,686	296,087	286,187	271,809
Total	399,584	390,262	382,091	376,305	365,146	348,302

	2036	2037	2038	2039	2040
Direct	74,869	73,945	73,926	75,153	77,570
Indirect and Induced	252,455	254,982	257,885	272,616	289,998
Total	327,324	328,927	331,811	347,769	367,568

Source: Energy and Industrial Advisory Partners

Table 7: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Contributions to GDP $ Millions

	2018	2019	2020	2021	2022	2023
Texas	$13,196	$12,638	$10,730	$11,334	$13,922	$14,530
Louisiana	$7,929	$7,933	$6,962	$7,283	$8,666	$9,042
Mississippi	$1,525	$1,504	$1,321	$1,385	$1,671	$1,746
Alabama	$2,381	$2,323	$2,042	$2,197	$2,504	$2,563
Other U.S. States	$4,609	$4,291	$3,547	$4,065	$4,858	$4,933
Total	$29,640	$28,690	$24,602	$26,264	$31,620	$32,814

	2024	2025	2026	2027	2028	2029
Texas	$14,486	$15,010	$15,188	$15,465	$15,370	$15,246
Louisiana	$9,106	$9,382	$9,525	$9,671	$9,633	$9,556
Mississippi	$1,751	$1,810	$1,835	$1,867	$1,857	$1,842
Alabama	$2,562	$2,612	$2,628	$2,657	$2,656	$2,653
Other U.S. States	$4,988	$5,144	$5,167	$5,179	$5,231	$5,250
Total	$32,893	$33,959	$34,343	$34,839	$34,747	$34,547

	2030	2031	2032	2033	2034	2035
Texas	$14,893	$14,536	$14,224	$13,956	$13,489	$12,808
Louisiana	$9,468	$9,353	$9,271	$9,137	$8,970	$8,674
Mississippi	$1,815	$1,786	$1,761	$1,733	$1,691	$1,625
Alabama	$2,622	$2,586	$2,553	$2,528	$2,480	$2,410
Other U.S. States	$5,100	$4,877	$4,728	$4,635	$4,452	$4,114
Total	$33,897	$33,138	$32,536	$31,990	$31,082	$29,633

	2036	2037	2038	2039	2040
Texas	$11,501	$12,074	$12,166	$12,770	$13,535
Louisiana	$8,464	$8,358	$8,362	$8,540	$8,839
Mississippi	$1,574	$1,553	$1,555	$1,604	$1,674
Alabama	$2,351	$2,327	$2,333	$2,389	$2,464
Other U.S. States	$3,862	$3,735	$3,874	$4,221	$4,668
Total	$27,752	$28,047	$28,290	$29,524	$31,179

Source: Energy and Industrial Advisory Partners

America's Offshore Energy Industry

Table 8: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenues by Type $ Millions

	2018	2019	2020	2021	2022	2023
Bids	$291	$387	$180	$242	$351	$299
Rentals	$103	$107	$106	$106	$111	$115
Royalties	$4,715	$4,852	$2,451	$3,449	$5,110	$5,449
Other Revenues	$54	$15	$21	$30	$45	$48
Total	$5,163	$5,361	$2,759	$3,828	$5,617	$5,911

	2024	2025	2026	2027	2028	2029
Bids	$339	$359	$373	$364	$346	$339
Rentals	$121	$123	$126	$127	$130	$130
Royalties	$5,949	$6,235	$6,567	$6,814	$7,039	$7,216
Other Revenues	$52	$54	$57	$60	$61	$63
Total	$6,461	$6,772	$7,123	$7,365	$7,577	$7,748

	2030	2031	2032	2033	2034	2035
Bids	$329	$321	$289	$276	$273	$284
Rentals	$133	$134	$135	$132	$128	$125
Royalties	$7,488	$7,724	$7,826	$7,928	$7,864	$7,799
Other Revenues	$65	$67	$68	$69	$69	$68
Total	$8,015	$8,247	$8,317	$8,405	$8,335	$8,276

	2036	2037	2038	2039	2040
Bids	$303	$329	$353	$353	$317
Rentals	$120	$114	$107	$99	$94
Royalties	$7,698	$7,304	$6,970	$6,569	$6,304
Other Revenues	$67	$64	$61	$57	$55
Total	$8,189	$7,811	$7,491	$7,079	$6,770

Source: Energy and Industrial Advisory Partners

Table 9: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenues by State $ Millions

	2018	2019	2020	2021	2022	2023	2024
Texas	$51	$58	$95	$101	$101	$101	$101
Louisiana	$83	$95	$156	$165	$165	$165	$165
Mississippi	$28	$32	$52	$55	$55	$55	$55
Alabama	$27	$31	$50	$53	$53	$53	$53
Total	$188	$215	$353	$375	$375	$375	$375

	2025	2026	2027	2028	2029	2030	2031
Texas	$101	$101	$101	$101	$101	$101	$101
Louisiana	$165	$165	$165	$165	$165	$165	$165
Mississippi	$55	$55	$55	$55	$55	$55	$55
Alabama	$53	$53	$53	$53	$53	$53	$53
Total	$375	$375	$375	$375	$375	$375	$375

	2032	2033	2034	2035	2036	2037	2038
Texas	$101	$101	$101	$101	$101	$101	$101
Louisiana	$165	$165	$165	$165	$165	$165	$165
Mississippi	$55	$55	$55	$55	$55	$55	$55
Alabama	$53	$53	$53	$53	$53	$53	$53
Total	$375	$375	$375	$375	$375	$375	$375

	2039	2040
Texas	$101	$101
Louisiana	$165	$165
Mississippi	$55	$55
Alabama	$53	$53
Total	$375	$375

Source: Energy and Industrial Advisory Partners

Table 10: Projected Base Case LWCF Distributions $ Millions

	2018	2019	2020	2021	2022
LWCF	$0.89	$0.88	$0.46	$0.64	$0.95
LWCF - GOMESA	$0.08	$0.13	$0.13	$0.13	$0.13
Total	$0.97	$1.01	$0.59	$0.77	$1.07

	2023	2024	2025	2026	2027
LWCF	$1.00	$1.09	$1.14	$1.20	$1.24
LWCF - GOMESA	$0.13	$0.13	$0.13	$0.13	$0.13
Total	$1.12	$1.21	$1.27	$1.32	$1.37

	2028	2029	2030	2031	2032
LWCF	$1.28	$1.31	$1.35	$1.39	$1.40
LWCF - GOMESA	$0.13	$0.13	$0.13	$0.13	$0.13
Total	$1.40	$1.43	$1.47	$1.51	$1.53

	2033	2034	2035	2036	2037
LWCF	$1.42	$1.40	$1.39	$1.38	$1.32
LWCF - GOMESA	$0.13	$0.13	$0.13	$0.13	$0.13
Total	$1.54	$1.53	$1.52	$1.50	$1.44

	2038	2039	2040
LWCF	$1.26	$1.19	$1.14
LWCF - GOMESA	$0.13	$0.13	$0.13
Total	$1.39	$1.32	$1.27

Source: Energy and Industrial Advisory Partners

No Leasing Case Impacts

Table 11: Projected Base Case vs. No Leasing Case Gulf of Mexico Oil and Natural Gas Production (BOE/D)

	2018	2019	2020	2021	2022	2023
Oil (No Leasing Case)	1,760,000	1,890,000	1,802,741	1,819,873	1,923,915	2,016,547
Oil (Base Case)	1,760,000	1,890,000	1,802,741	1,819,873	1,923,915	2,016,547
Natural Gas (No Leasing Case)	445,000	450,000	416,287	389,320	387,443	387,585
Natural Gas (Base Case)	445,000	450,000	416,287	389,320	387,443	387,585
Total BOE (No Leasing Case)	2,205,000	2,340,000	2,219,028	2,209,193	2,311,357	2,404,132
Total BOE (Base Case)	2,205,000	2,340,000	2,219,028	2,209,193	2,311,357	2,404,132

	2024	2025	2026	2027	2028	2029
Oil (No Leasing Case)	2,121,811	2,162,987	2,208,075	2,188,331	2,156,312	2,008,952
Oil (Base Case)	2,127,102	2,172,814	2,228,486	2,257,200	2,305,052	2,313,179
Natural Gas (No Leasing Case)	395,017	392,998	392,824	384,126	375,090	345,986
Natural Gas (Base Case)	396,576	395,893	398,838	399,022	405,150	405,559
Total BOE (No Leasing Case)	2,516,828	2,555,985	2,600,900	2,572,457	2,531,402	2,354,938
Total BOE (Base Case)	2,523,678	2,568,707	2,627,324	2,656,222	2,710,202	2,718,738

	2030	2031	2032	2033	2034	2035
Oil (No Leasing Case)	1,905,410	1,797,492	1,725,256	1,630,683	1,499,771	1,364,187
Oil (Base Case)	2,360,485	2,382,172	2,385,983	2,333,358	2,278,303	2,217,081
Natural Gas (No Leasing Case)	325,156	304,320	291,561	274,804	250,731	225,796
Natural Gas (Base Case)	414,527	419,657	421,028	410,939	400,567	390,143
Total BOE (No Leasing Case)	2,230,566	2,101,812	2,016,816	1,905,487	1,750,501	1,589,984
Total BOE (Base Case)	2,775,012	2,801,829	2,807,011	2,744,297	2,678,870	2,607,224

	2036	2037	2038	2039	2040
Oil (No Leasing Case)	1,224,188	1,094,963	980,618	877,708	788,861
Oil (Base Case)	2,134,855	2,015,404	1,888,518	1,750,072	1,661,183
Natural Gas (No Leasing Case)	199,845	176,285	155,742	137,526	122,031
Natural Gas (Base Case)	376,626	356,058	334,084	310,848	295,939
Total BOE (No Leasing Case)	1,424,034	1,271,248	1,136,361	1,015,234	910,892
Total BOE (Base Case)	2,511,481	2,371,462	2,222,602	2,060,920	1,957,123

Source: Energy and Industrial Advisory Partners

Table 12: Projected No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions

	2018	2019	2020	2021	2022
G&G	$160	$156	$148	$176	$230
Drilling Tangibles	$1,211	$1,310	$986	$814	$1,266
Trees	$627	$451	$336	$440	$506
Manifolds	$328	$237	$177	$231	$267
Other Subsea Hardware	$143	$130	$77	$81	$125
Control Umbilical, Flying Leads	$373	$268	$208	$280	$318
Infield FL	$119	$102	$54	$70	$99
Export PL	$782	$658	$385	$490	$691
Infield Risers	$61	$53	$29	$35	$50
Export Risers	$30	$25	$14	$19	$26
Fixed Platforms & Facilities	$135	$114	$123	$173	$210
Floating Production Units & Facilities	$1,155	$825	$990	$1,458	$1,375
Installation	$1,439	$1,328	$834	$1,009	$1,345
OPEX	$13,816	$13,829	$12,276	$13,406	$14,215
Decommissioning CAPEX	$1,100	$773	$696	$858	$850
Drilling	$5,560	$5,847	$4,682	$3,999	$7,191
Engineering CAPEX	$792	$663	$528	$638	$757
Engineering OPEX	$863	$864	$877	$882	$888
Natural Gas Processing and Transportation	$163	$157	$152	$141	$136
Total	$28,857	$27,789	$23,574	$25,199	$30,545

	2023	2024	2025	2026	2027
G&G	$232	$208	$168	$121	$88
Drilling Tangibles	$1,287	$1,141	$980	$704	$489
Trees	$477	$437	$378	$288	$201
Manifolds	$253	$231	$199	$151	$104
Other Subsea Hardware	$125	$118	$108	$86	$59
Control Umbilical, Flying Leads	$301	$279	$241	$182	$124
Infield FL	$93	$88	$81	$68	$46
Export PL	$669	$629	$568	$469	$312
Infield Risers	$48	$45	$41	$33	$22
Export Risers	$25	$24	$22	$18	$12
Fixed Platforms & Facilities	$178	$147	$153	$157	$131
Floating Production Units & Facilities	$1,228	$1,283	$1,027	$862	$587
Installation	$1,292	$1,173	$1,131	$883	$685
OPEX	$14,259	$14,268	$14,151	$14,009	$13,810
Decommissioning CAPEX	$969	$1,052	$1,180	$1,236	$1,279
Drilling	$8,024	$7,921	$7,394	$5,593	$3,891
Engineering CAPEX	$739	$708	$651	$548	$436
Engineering OPEX	$891	$892	$884	$876	$863
Natural Gas Processing and Transportation	$137	$137	$138	$136	$134
Total	$31,226	$30,780	$29,494	$26,420	$23,274

Source: Energy and Industrial Advisory Partners

Table 11: Projected No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions (Continued)

	2028	2029	2030	2031	2032
G&G	$70	$61	$53	$42	$30
Drilling Tangibles	$341	$292	$264	$234	$183
Trees	$173	$178	$174	$144	$96
Manifolds	$88	$91	$91	$77	$52
Other Subsea Hardware	$42	$41	$41	$38	$27
Control Umbilical, Flying Leads	$106	$114	$113	$92	$58
Infield FL	$34	$38	$38	$34	$20
Export PL	$198	$215	$243	$250	$174
Infield Risers	$16	$17	$18	$17	$11
Export Risers	$7	$8	$9	$9	$6
Fixed Platforms & Facilities	$106	$100	$94	$69	$38
Floating Production Units & Facilities	$697	$678	$532	$257	$37
Installation	$484	$575	$538	$441	$244
OPEX	$13,561	$13,277	$12,983	$12,719	$12,442
Decommissioning CAPEX	$1,353	$1,362	$1,371	$1,347	$1,411
Drilling	$2,679	$2,292	$2,062	$1,825	$1,424
Engineering CAPEX	$397	$403	$381	$322	$254
Engineering OPEX	$848	$830	$811	$795	$778
Natural Gas Processing and Transportation	$129	$122	$114	$107	$102
Total	$21,328	$20,695	$19,930	$18,818	$17,386

	2033	2034	2035	2036	2037
G&G	$19	$11	$8	$8	$10
Drilling Tangibles	$125	$75	$44	$28	$35
Trees	$58	$33	$19	$15	$19
Manifolds	$30	$16	$9	$7	$9
Other Subsea Hardware	$17	$10	$5	$3	$4
Control Umbilical, Flying Leads	$32	$15	$8	$6	$8
Infield FL	$10	$6	$3	$2	$2
Export PL	$92	$32	$0	$0	$0
Infield Risers	$6	$3	$1	$1	$1
Export Risers	$3	$1	$0	$0	$0
Fixed Platforms & Facilities	$19	$6	$0	$0	$0
Floating Production Units & Facilities	$0	$0	$0	$0	$0
Installation	$109	$67	$43	$28	$33
OPEX	$12,167	$11,859	$11,514	$11,127	$10,712
Decommissioning CAPEX	$1,416	$1,429	$1,458	$1,500	$1,555
Drilling	$972	$575	$338	$215	$277
Engineering CAPEX	$210	$188	$179	$179	$187
Engineering OPEX	$760	$741	$720	$695	$670
Natural Gas Processing and Transportation	$95	$88	$79	$70	$62
Total	$16,142	$15,155	$14,429	$13,886	$13,583

Source: Energy and Industrial Advisory Partners

Table 11: Projected No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions (Continued)

	2038	2039	2040
G&G	$10	$9	$5
Drilling Tangibles	$41	$48	$37
Trees	$27	$27	$15
Manifolds	$13	$13	$7
Other Subsea Hardware	$5	$7	$5
Control Umbilical, Flying Leads	$11	$11	$6
Infield FL	$3	$4	$3
Export PL	$0	$0	$0
Infield Risers	$1	$2	$1
Export Risers	$0	$0	$0
Fixed Platforms & Facilities	$0	$0	$0
Floating Production Units & Facilities	$0	$0	$0
Installation	$43	$52	$38
OPEX	$10,313	$9,920	$9,603
Decommissioning CAPEX	$1,518	$1,520	$1,345
Drilling	$324	$386	$284
Engineering CAPEX	$187	$189	$164
Engineering OPEX	$645	$620	$600
Natural Gas Processing and Transportation	$55	$48	$43
Total	$13,194	$12,857	$12,158

Source: Energy and Industrial Advisory Partners

Table 13: Projected No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment Reductions (Number of Jobs)

	2018	2019	2020	2021	2022	2023	2024
Texas	0	0	0	0	-189	-1,923	-3,263
Louisiana	0	0	0	0	-246	-1,401	-2,540
Mississippi	0	0	0	0	-27	-232	-391
Alabama	0	0	0	0	0	-157	-273
Other U.S. States	0	0	0	0	-360	-1,258	-2,682
Total	**0**	**0**	**0**	**0**	**-821**	**-4,970**	**-9,150**

	2025	2026	2027	2028	2029	2030	2031
Texas	-14,696	-31,929	-50,979	-59,928	-61,974	-60,574	-61,311
Louisiana	-7,964	-16,420	-25,102	-30,031	-31,829	-32,940	-34,022
Mississippi	-1,624	-3,516	-5,568	-6,608	-6,967	-7,032	-7,243
Alabama	-1,497	-3,266	-5,390	-6,525	-7,073	-7,170	-7,515
Other U.S. States	-7,752	-14,405	-21,425	-25,560	-26,209	-26,126	-26,859
Total	**-33,532**	**-69,536**	**-108,463**	**-128,652**	**-134,051**	**-133,841**	**-136,951**

	2032	2033	2034	2035	2036	2037	2038
Texas	-63,657	-67,455	-67,076	-62,978	-75,872	-57,490	-60,555
Louisiana	-35,986	-37,779	-38,838	-38,116	-37,883	-38,392	-40,268
Mississippi	-7,578	-8,024	-8,129	-7,857	-7,581	-7,603	-7,984
Alabama	-7,927	-8,585	-8,744	-8,569	-8,313	-8,469	-9,097
Other U.S. States	-29,412	-31,407	-30,736	-27,615	-24,932	-23,868	-26,249
Total	**-144,560**	**-153,250**	**-153,524**	**-145,135**	**-154,581**	**-135,820**	**-144,153**

	2039	2040
Texas	-69,498	-83,179
Louisiana	-44,030	-49,676
Mississippi	-8,929	-10,363
Alabama	-10,362	-12,158
Other U.S. States	-31,802	-39,147
Total	-164,620	-194,524

Source: Energy and Industrial Advisory Partners

Table 14: Projected No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Direct and Indirect and Induced Supported Employment Reductions (Number of Jobs)

	2018	2019	2020	2021	2022	2023	2024
Direct	0	0	0	0	-821	-4,970	-9,150
Indirect and Induced	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0

	2025	2026	2027	2028	2029	2030	2031
Direct	-33,532	-69,536	-108,463	-128,652	-134,051	-133,841	-136,951
Indirect and Induced	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0

	2032	2033	2034	2035	2036	2037	2038
Direct	-144,560	-153,250	-153,524	-145,135	-154,581	-135,820	-144,153
Indirect and Induced	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0

	2039	2040
Direct	-164,620	-194,524
Indirect and Induced	0	0
Total	0	0

Source: Energy and Industrial Advisory Partners

Table 15: Projected No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Contributions to GDP Reductions $ Millions

	2018	2019	2020	2021	2022	2023
Texas	$0	$0	$0	$0	-$36	-$222
Louisiana	$0	$0	$0	$0	-$29	-$143
Mississippi	$0	$0	$0	$0	-$5	-$26
Alabama	$0	$0	$0	$0	-$4	-$23
Other U.S. States	$0	$0	$0	$0	-$33	-$111
Total	$0	$0	$0	$0	-$106	-$524

	2024	2025	2026	2027	2028	2029
Texas	-$392	-$1,442	-$1,442	-$3,036	-$4,729	-$5,550
Louisiana	-$258	-$763	-$763	-$1,557	-$2,352	-$2,802
Mississippi	-$45	-$153	-$153	-$321	-$494	-$584
Alabama	-$42	-$150	-$150	-$309	-$488	-$591
Other U.S. States	-$227	-$634	-$634	-$1,161	-$1,717	-$2,032
Total	-$965	-$3,142	-$3,142	-$6,384	-$9,781	-$11,559

	2030	2031	2032	2033	2034	2035
Texas	-$5,726	-$5,662	-$5,729	-$5,974	-$6,269	-$6,263
Louisiana	-$2,950	-$3,052	-$3,137	-$3,316	-$3,459	-$3,551
Mississippi	-$609	-$616	-$629	-$659	-$689	-$699
Alabama	-$637	-$655	-$683	-$725	-$776	-$796
Other U.S. States	-$2,092	-$2,112	-$2,181	-$2,384	-$2,516	-$2,478
Total	-$12,014	-$12,097	-$12,359	-$13,059	-$13,709	-$13,786

	2036	2037	2038	2039	2040
Texas	-$5,905	-$6,515	-$5,489	-$5,755	-$6,497
Louisiana	-$3,472	-$3,451	-$3,484	-$3,638	-$3,954
Mississippi	-$672	-$652	-$650	-$677	-$747
Alabama	-$783	-$773	-$789	-$843	-$942
Other U.S. States	-$2,248	-$2,078	-$2,002	-$2,196	-$2,590
Total	-$13,080	-$13,470	-$12,415	-$13,109	-$14,730

Source: Energy and Industrial Advisory Partners

Table 16: Projected No Leasing Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenue Reductions by Type $ Millions

	2018	2019	2020	2021	2022	2023
Bids	$0	$0	$0	$0	-$351	-$299
Rentals	$0	$0	$0	$0	$0	$0
Royalties	$0	$0	$0	$0	$0	$0
Other Revenues	$0	$0	$0	$0	$0	$0
Total	$0	$0	$0	$0	-$351	-$299

	2024	2025	2026	2027	2028	2029
Bids	-$339	-$359	-$373	-$364	-$346	-$339
Rentals	$0	-$1	-$1	-$4	-$9	-$17
Royalties	-$15	-$29	-$62	-$210	-$457	-$954
Other Revenues	$0	$0	-$1	-$2	-$4	-$8
Total	-$354	-$389	-$436	-$580	-$816	-$1,319

	2030	2031	2032	2033	2034	2035
Bids	-$329	-$321	-$289	-$276	-$273	-$284
Rentals	-$26	-$34	-$38	-$40	-$45	-$49
Royalties	-$1,450	-$1,905	-$2,176	-$2,396	-$2,697	-$3,011
Other Revenues	-$13	-$17	-$19	-$21	-$24	-$26
Total	-$1,818	-$2,276	-$2,522	-$2,734	-$3,038	-$3,370

	2036	2037	2038	2039	2040
Bids	-$303	-$329	-$353	-$353	-$317
Rentals	-$52	-$53	-$52	-$50	-$50
Royalties	-$3,296	-$3,349	-$3,364	-$3,289	-$3,324
Other Revenues	-$29	-$29	-$29	-$29	-$29
Total	-$3,680	-$3,760	-$3,799	-$3,721	-$3,721

Source: Energy and Industrial Advisory Partners

Table 17: Projected No Leasing Case LWCF Distributions $ Millions

	2018	2019	2020	2021	2022
LWCF	$0.89	$0.88	$0.84	$0.83	$0.89
LWCF - GOMESA	$0.08	$0.13	$0.13	$0.13	$0.13
Total	$0.97	$1.01	$0.96	$0.95	$1.01

	2023	2024	2025	2026	2027
LWCF	$0.95	$1.03	$1.08	$1.13	$1.14
LWCF - GOMESA	$0.13	$0.13	$0.13	$0.13	$0.13
Total	$1.07	$1.15	$1.20	$1.25	$1.27

	2028	2029	2030	2031	2032
LWCF	$1.14	$1.08	$1.04	$1.01	$0.98
LWCF - GOMESA	$0.13	$0.13	$0.13	$0.13	$0.13
Total	$1.26	$1.21	$1.17	$1.13	$1.10

	2033	2034	2035	2036	2037
LWCF	$0.96	$0.89	$0.83	$0.76	$0.68
LWCF - GOMESA	$0.13	$0.13	$0.13	$0.13	$0.13
Total	$1.08	$1.02	$0.95	$0.88	$0.81

	2038	2039	2040
LWCF	$0.62	$0.57	$0.51
LWCF - GOMESA	$0.13	$0.13	$0.13
Total	$0.75	$0.69	$0.64

No Permits Case Impacts

Table 18: Projected Base Case vs. No Permits Case Gulf of Mexico Oil and Natural Gas Production (BOE/D)

	2018	2019	2020	2021	2022	2023
Oil (No Permits Case)	1,760,000	1,890,000	1,802,741	1,819,873	1,776,423	1,662,671
Oil (Base Case)	1,760,000	1,890,000	1,802,741	1,819,873	1,923,915	2,016,547
Natural Gas (No Permits Case)	445,000	450,000	416,287	389,320	358,886	317,918
Natural Gas (Base Case)	445,000	450,000	416,287	389,320	387,443	387,585
Total BOE (No Permits Case)	2,205,000	2,340,000	2,219,028	2,209,193	2,135,309	1,980,589
Total BOE (Base Case)	2,205,000	2,340,000	2,219,028	2,209,193	2,311,357	2,404,132

	2024	2025	2026	2027	2028	2029
Oil (No Permits Case)	1,501,906	1,356,821	1,225,871	1,107,666	1,000,954	904,607
Oil (Base Case)	2,127,102	2,172,814	2,228,486	2,257,200	2,305,052	2,313,179
Natural Gas (No Permits Case)	272,426	233,503	200,193	171,681	147,270	126,365
Natural Gas (Base Case)	396,576	395,893	398,838	399,022	405,150	405,559
Total BOE (No Permits Case)	1,774,332	1,590,324	1,426,064	1,279,347	1,148,224	1,030,971
Total BOE (Base Case)	2,523,678	2,568,707	2,627,324	2,656,222	2,710,202	2,718,738

	2030	2031	2032	2033	2034	2035
Oil (No Permits Case)	817,608	739,043	668,086	603,994	546,098	493,793
Oil (Base Case)	2,360,485	2,382,172	2,385,983	2,333,358	2,278,303	2,217,081
Natural Gas (No Permits Case)	108,458	93,116	79,968	68,697	59,033	50,745
Natural Gas (Base Case)	414,527	419,657	421,028	410,939	400,567	390,143
Total BOE (No Permits Case)	926,066	832,159	748,054	672,692	605,131	544,537
Total BOE (Base Case)	2,775,012	2,801,829	2,807,011	2,744,297	2,678,870	2,607,224

	2036	2037	2038	2039	2040
Oil (No Permits Case)	446,534	403,831	365,240	330,364	298,840
Oil (Base Case)	2,134,855	2,015,404	1,888,518	1,750,072	1,661,183
Natural Gas (No Permits Case)	43,634	37,531	32,293	27,795	23,932
Natural Gas (Base Case)	376,626	356,058	334,084	310,848	295,939
Total BOE (No Permits Case)	490,168	441,362	397,534	358,159	322,772
Total BOE (Base Case)	2,511,481	2,371,462	2,222,602	2,060,920	1,957,123

Source: Energy and Industrial Advisory Partners

Table 19: No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions

	2018	2019	2020	2021	2022
G&G	$160	$156	$148	$176	$6
Drilling Tangibles	$1,211	$1,310	$986	$814	$97
Trees	$627	$451	$336	$440	$21
Manifolds	$328	$237	$177	$231	$11
Other Subsea Hardware	$143	$130	$77	$81	$10
Control Umbilical, Flying Leads	$373	$268	$208	$280	$13
Infield FL	$119	$102	$54	$70	$9
Export PL	$782	$658	$385	$490	$51
Infield Risers	$61	$53	$29	$35	$4
Export Risers	$30	$25	$14	$19	$2
Fixed Platforms & Facilities	$135	$114	$123	$173	$6
Floating Production Units & Facilities	$1,155	$825	$990	$1,458	$37
Installation	$1,439	$1,328	$834	$1,009	$139
OPEX	$13,816	$13,829	$12,276	$13,406	$13,755
Decommissioning CAPEX	$1,100	$773	$696	$858	$1,106
Drilling	$5,560	$5,847	$4,682	$3,999	$501
Engineering CAPEX	$792	$663	$528	$638	$166
Engineering OPEX	$863	$864	$877	$882	$860
Natural Gas Processing and Transportation	$163	$157	$152	$141	$124
Total	$28,857	$27,789	$23,574	$25,199	$16,919

	2023	2024	2025	2026	2027
G&G	$2	$0	$0	$0	$0
Drilling Tangibles	$24	$4	$1	$1	$0
Trees	$0	$0	$0	$0	$0
Manifolds	$0	$0	$0	$0	$0
Other Subsea Hardware	$1	$0	$0	$0	$0
Control Umbilical, Flying Leads	$0	$0	$0	$0	$0
Infield FL	$0	$0	$0	$0	$0
Export PL	$0	$0	$0	$0	$0
Infield Risers	$0	$0	$0	$0	$0
Export Risers	$0	$0	$0	$0	$0
Fixed Platforms & Facilities	$0	$0	$0	$0	$0
Floating Production Units & Facilities	$0	$0	$0	$0	$0
Installation	$0	$0	$0	$0	$0
OPEX	$13,363	$12,829	$12,233	$11,603	$10,968
Decommissioning CAPEX	$1,469	$1,897	$2,101	$2,252	$2,335
Drilling	$132	$20	$7	$7	$0
Engineering CAPEX	$168	$214	$236	$253	$263
Engineering OPEX	$835	$802	$765	$725	$685
Natural Gas Processing and Transportation	$111	$96	$82	$71	$61
Total	$16,104	$15,860	$15,425	$14,912	$14,311

Source: Energy and Industrial Advisory Partners

Table 17: No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions
(Continued)

	2028	2029	2030	2031	2032
G&G	$0	$0	$0	$0	$0
Drilling Tangibles	$0	$0	$0	$0	$0
Trees	$0	$0	$0	$0	$0
Manifolds	$0	$0	$0	$0	$0
Other Subsea Hardware	$0	$0	$0	$0	$0
Control Umbilical, Flying Leads	$0	$0	$0	$0	$0
Infield FL	$0	$0	$0	$0	$0
Export PL	$0	$0	$0	$0	$0
Infield Risers	$0	$0	$0	$0	$0
Export Risers	$0	$0	$0	$0	$0
Fixed Platforms & Facilities	$0	$0	$0	$0	$0
Floating Production Units & Facilities	$0	$0	$0	$0	$0
Installation	$0	$0	$0	$0	$0
OPEX	$10,304	$9,617	$8,939	$8,271	$7,588
Decommissioning CAPEX	$2,449	$2,531	$2,536	$2,533	$2,562
Drilling	$0	$0	$0	$0	$0
Engineering CAPEX	$276	$285	$285	$285	$288
Engineering OPEX	$644	$601	$559	$517	$474
Natural Gas Processing and Transportation	$52	$45	$38	$33	$28
Total	$13,725	$13,079	$12,358	$11,638	$10,941

	2033	2034	2035	2036	2037
G&G	$0	$0	$0	$0	$0
Drilling Tangibles	$0	$0	$0	$0	$0
Trees	$0	$0	$0	$0	$0
Manifolds	$0	$0	$0	$0	$0
Other Subsea Hardware	$0	$0	$0	$0	$0
Control Umbilical, Flying Leads	$0	$0	$0	$0	$0
Infield FL	$0	$0	$0	$0	$0
Export PL	$0	$0	$0	$0	$0
Infield Risers	$0	$0	$0	$0	$0
Export Risers	$0	$0	$0	$0	$0
Fixed Platforms & Facilities	$0	$0	$0	$0	$0
Floating Production Units & Facilities	$0	$0	$0	$0	$0
Installation	$0	$0	$0	$0	$0
OPEX	$6,897	$6,226	$5,580	$4,931	$4,284
Decommissioning CAPEX	$2,561	$2,497	$2,402	$2,359	$2,292
Drilling	$0	$0	$0	$0	$0
Engineering CAPEX	$288	$281	$270	$265	$258
Engineering OPEX	$431	$389	$349	$308	$268
Natural Gas Processing and Transportation	$24	$21	$18	$15	$13
Total	$10,202	$9,413	$8,619	$7,878	$7,115

Source: Energy and Industrial Advisory Partners

Table 17: No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Spending $ Millions (Continued)

	2038	2039	2040
G&G	$0	$0	$0
Drilling Tangibles	$0	$0	$0
Trees	$0	$0	$0
Manifolds	$0	$0	$0
Other Subsea Hardware	$0	$0	$0
Control Umbilical, Flying Leads	$0	$0	$0
Infield FL	$0	$0	$0
Export PL	$0	$0	$0
Infield Risers	$0	$0	$0
Export Risers	$0	$0	$0
Fixed Platforms & Facilities	$0	$0	$0
Floating Production Units & Facilities	$0	$0	$0
Installation	$0	$0	$0
OPEX	$3,676	$3,109	$2,558
Decomissioning CAPEX	$2,154	$1,994	$1,888
Drilling	$0	$0	$0
Engineering CAPEX	$242	$224	$212
Engineering OPEX	$230	$194	$160
Natural Gas Processing and Transportation	$11	$10	$8
Total	$6,313	$5,531	$4,826

Source: Energy and Industrial Advisory Partners

Table 20: Projected No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment Reductions (Number of Jobs)

	2018	2019	2020	2021	2022	2023	2024
Texas	0	0	0	0	-70,206	-77,634	-73,942
Louisiana	0	0	0	0	-27,949	-34,379	-36,871
Mississippi	0	0	0	0	-6,916	-8,033	-8,065
Alabama	0	0	0	0	-7,608	-8,489	-8,304
Other U.S. States	0	0	0	0	-35,267	-38,101	-38,424
Total	**0**	**0**	**0**	**0**	**-147,945**	**-166,637**	**-165,606**

	2025	2026	2027	2028	2029	2030	2031
Texas	-79,937	-82,509	-87,793	-88,525	-89,933	-88,857	-88,115
Louisiana	-42,367	-46,561	-51,176	-53,871	-56,420	-58,760	-60,837
Mississippi	-9,083	-9,732	-10,624	-11,003	-11,444	-11,721	-12,016
Alabama	-9,344	-10,033	-11,128	-11,802	-12,635	-13,116	-13,623
Other U.S. States	-40,907	-41,554	-42,373	-43,719	-45,155	-44,003	-41,933
Total	**-181,640**	**-190,389**	**-203,094**	**-208,920**	**-215,587**	**-216,457**	**-216,523**

	2032	2033	2034	2035	2036	2037	2038
Texas	-87,159	-87,876	-86,554	-83,464	-105,127	-82,850	-88,830
Louisiana	-63,163	-65,182	-66,786	-67,042	-67,935	-70,189	-73,588
Mississippi	-12,281	-12,629	-12,809	-12,771	-12,760	-13,226	-13,995
Alabama	-14,031	-14,715	-15,149	-15,425	-15,620	-16,402	-17,579
Other U.S. States	-40,616	-40,532	-39,206	-35,965	-33,385	-32,906	-35,885
Total	**-217,250**	**-220,933**	**-220,504**	**-214,668**	**-234,827**	**-215,573**	**-229,877**

	2039	2040
Texas	-101,285	-114,275
Louisiana	-78,895	-85,182
Mississippi	-15,378	-16,857
Alabama	-19,468	-21,362
Other U.S. States	-42,122	-49,211
Total	-257,148	-286,886

Source: Energy and Industrial Advisory Partners

Table 21: Projected No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment Reductions (Number of Jobs)

	2018	2019	2020	2021	2022	2023	2024
Direct	0	0	0	0	-20,783	-26,794	-29,987
Indirect and Induced	0	0	0	0	-127,162	-139,844	-135,619
Total	0	0	0	0	-147,945	-166,637	-165,606

	2025	2026	2027	2028	2029	2030	2031
Direct	-34,751	-38,581	-42,284	-44,519	-46,370	-48,439	-50,134
Indirect and Induced	-146,889	-151,808	-160,810	-164,400	-169,218	-168,018	-166,389
Total	-181,640	-190,389	-203,094	-208,920	-215,587	-216,457	-216,523

	2032	2033	2034	2035	2036	2037	2038
Direct	-52,253	-53,695	-54,998	-55,001	-56,022	-57,389	-59,698
Indirect and Induced	-164,997	-167,238	-165,506	-159,667	-178,806	-158,184	-170,179
Total	-217,250	-220,933	-220,504	-214,668	-234,827	-215,573	-229,877

	2039	2040
Direct	-63,096	-67,621
Indirect and Induced	-194,052	-219,266
Total	-257,148	-286,886

Source: Energy and Industrial Advisory Partners

Table 22: Projected No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Contributions to GDP Reductions $ Millions

	2018	2019	2020	2021	2022	2023
Texas	$0	$0	$0	$0	-$6,142	-$6,958
Louisiana	$0	$0	$0	$0	-$2,553	-$3,171
Mississippi	$0	$0	$0	$0	-$583	-$693
Alabama	$0	$0	$0	$0	-$633	-$735
Other U.S. States	$0	$0	$0	$0	-$2,659	-$2,914
Total	$0	$0	$0	$0	-$12,571	-$14,471

	2024	2025	2026	2027	2028	2029
Texas	-$6,848	-$7,474	-$7,474	-$7,808	-$8,308	-$8,418
Louisiana	-$3,432	-$3,934	-$3,934	-$4,318	-$4,719	-$4,944
Mississippi	-$714	-$803	-$803	-$862	-$933	-$962
Alabama	-$759	-$862	-$862	-$939	-$1,038	-$1,107
Other U.S. States	-$3,002	-$3,219	-$3,219	-$3,309	-$3,398	-$3,527
Total	-$14,755	-$16,290	-$16,290	-$17,237	-$18,397	-$18,957

	2030	2031	2032	2033	2034	2035
Texas	-$8,535	-$8,488	-$8,439	-$8,413	-$8,458	-$8,354
Louisiana	-$5,139	-$5,331	-$5,492	-$5,688	-$5,835	-$5,952
Mississippi	-$989	-$1,008	-$1,025	-$1,045	-$1,063	-$1,071
Alabama	-$1,179	-$1,229	-$1,276	-$1,322	-$1,379	-$1,419
Other U.S. States	-$3,626	-$3,566	-$3,431	-$3,367	-$3,362	-$3,273
Total	-$19,467	-$19,622	-$19,662	-$19,835	-$20,096	-$20,069

	2036	2037	2038	2039	2040
Texas	-$8,052	-$9,138	-$8,004	-$8,496	-$9,500
Louisiana	-$5,935	-$5,996	-$6,165	-$6,437	-$6,871
Mississippi	-$1,054	-$1,049	-$1,076	-$1,129	-$1,226
Alabama	-$1,438	-$1,461	-$1,523	-$1,617	-$1,758
Other U.S. States	-$3,031	-$2,865	-$2,830	-$3,063	-$3,502
Total	-$19,510	-$20,509	-$19,597	-$20,742	-$22,857

Source: Energy and Industrial Advisory Partners

Table 23: Projected No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenue Reductions by Type $ Millions

	2018	2019	2020	2021	2022	2023
Bids	$0	$0	$0	$0	-$351	-$299
Rentals	$0	$0	$0	$0	-$8	-$20
Royalties	$0	$0	$0	$0	-$391	-$957
Other Revenues	$0	$0	$0	$0	-$3	-$8
Total	$0	$0	$0	$0	-$754	-$1,284

	2024	2025	2026	2027	2028	2029
Bids	-$339	-$359	-$373	-$364	-$346	-$339
Rentals	-$36	-$47	-$58	-$66	-$75	-$81
Royalties	-$1,753	-$2,350	-$2,968	-$3,487	-$4,003	-$4,418
Other Revenues	-$15	-$21	-$26	-$30	-$35	-$39
Total	-$2,143	-$2,777	-$3,424	-$3,948	-$4,459	-$4,876

	2030	2031	2032	2033	2034	2035
Bids	-$329	-$321	-$289	-$276	-$273	-$284
Rentals	-$89	-$94	-$99	-$99	-$99	-$99
Royalties	-$4,920	-$5,354	-$5,662	-$5,903	-$6,007	-$6,089
Other Revenues	-$43	-$47	-$49	-$52	-$52	-$53
Total	-$5,380	-$5,817	-$6,099	-$6,330	-$6,432	-$6,525

	2036	2037	2038	2039	2040
Bids	-$303	-$329	-$353	-$353	-$317
Rentals	-$97	-$93	-$88	-$82	-$78
Royalties	-$6,114	-$5,866	-$5,647	-$5,353	-$5,192
Other Revenues	-$53	-$51	-$49	-$47	-$45
Total	-$6,567	-$6,339	-$6,137	-$5,834	-$5,633

Source: Energy and Industrial Advisory Partners

Table 24: Projected No Permits Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenues Reductions by State $ Millions

	2018	2019	2020	2021	2022	2023
Texas	0	0	0	0	0	-$1
Louisiana	0	0	0	0	0	-$1
Mississippi	0	0	0	0	0	$0
Alabama	0	0	0	0	0	$0
Total	$0	$0	$0	$0	$0	-$2

	2024	2025	2026	2027	2028	2029
Texas	-$4	-$8	-$12	-$16	-$21	-$25
Louisiana	-$7	-$14	-$20	-$27	-$34	-$41
Mississippi	-$2	-$5	-$7	-$9	-$11	-$14
Alabama	-$2	-$4	-$6	-$9	-$11	-$13
Total	-$15	-$31	-$45	-$60	-$78	-$92

	2030	2031	2032	2033	2034	2035
Texas	-$29	-$32	-$36	-$38	-$42	-$44
Louisiana	-$47	-$53	-$59	-$63	-$68	-$73
Mississippi	-$16	-$18	-$20	-$21	-$23	-$24
Alabama	-$15	-$17	-$19	-$20	-$22	-$23
Total	-$107	-$119	-$134	-$142	-$154	-$165

	2036	2037	2038	2039	2040
Texas	-$47	-$50	-$53	-$55	-$58
Louisiana	-$77	-$82	-$86	-$90	-$94
Mississippi	-$26	-$27	-$29	-$30	-$31
Alabama	-$25	-$26	-$28	-$29	-$30
Total	-$174	-$186	-$195	-$204	-$214

Source: Energy and Industrial Advisory Partners

Table 25: Projected No Permits Case LWCF Distributions $ Millions

	2018	2019	2020	2021	2022
LWCF	$0.89	$0.88	$0.46	$0.64	$0.82
LWCF - GOMESA	$0.08	$0.13	$0.13	$0.13	$0.13
Total	$0.97	$1.01	$0.59	$0.77	$0.94

	2023	2024	2025	2026	2027
LWCF	$0.78	$0.73	$0.67	$0.62	$0.58
LWCF - GOMESA	$0.13	$0.13	$0.13	$0.13	$0.13
Total	$0.90	$0.85	$0.80	$0.75	$0.70

	2028	2029	2030	2031	2032
LWCF	$0.53	$0.48	$0.44	$0.41	$0.37
LWCF - GOMESA	$0.13	$0.13	$0.13	$0.13	$0.13
Total	$0.65	$0.61	$0.57	$0.53	$0.50

	2033	2034	2035	2036	2037
LWCF	$0.35	$0.32	$0.29	$0.27	$0.25
LWCF - GOMESA	$0.13	$0.13	$0.13	$0.13	$0.13
Total	$0.47	$0.45	$0.42	$0.40	$0.37

	2038	2039	2040
LWCF	$0.23	$0.21	$0.19
LWCF - GOMESA	$0.13	$0.13	$0.13
Total	$0.35	$0.33	$0.32

Source: Energy and Industrial Advisory Partners

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EIAP
ENERGY & INDUSTRIAL ADVISORY PARTNERS

EXHIBIT C

U.S. DEPARTMENT OF THE INTERIOR

MENU

Bureau of Safety and Environmental Enforcement

Promoting Safety, Protecting the Environment and Conserving Offshore Resources

Status of Gulf of Mexico Well Permits

The permit to drill gives an operator approval to begin the process of drilling a well. Before a Permit to Drill can be granted, there are many direct and related approvals (including environmental compliance) that must be in place. There are several different types of permits that may be approved by BSEE.

New safeguards to protect offshore personnel and the environment took effect October of 2010. BSEE's *Drilling Safety Rule* significantly improves drilling safety by strengthening requirements. Operators must demonstrate that they are prepared to deal with the potential for a blowout and worst-case discharge and permit applications for drilling projects must meet new standards for well-design, casing, and cementing, and be independently certified by a professional engineer.

For more information on new applicable regulations and standards for both shallow and deep water drilling operations, see *Offshore Drilling Safety Reforms*.

The tables below demonstrate aggregate permitting statistics for both shallow water and deep water. The table for deep water includes both those permits that are subject to containment requirements and those that are not.

To download copies of approved permits see the eWell Online Query.

Read about the Permitting Workshop which took place Tuesday, August 30, 2011.

View the Status of Exploration and Development Plans Subject to Enhanced Safety and Environmental Requirements in the Gulf of Mexico.

Well Permits Statistics

Updated Monthly
Data last updated on 09/01/2024 11:00 AM (CST)

Permit Type	Water Depth Less than 500ft[1]			Water Depth Greater than 500ft[2]			Total Approved *all water depths
	Permits Approved August 1-31, 2024	Returned[3] as of August 1-31, 2024	Pending as of August 1-31, 2024	Permits Approved August 1-31, 2024	Returned[3] as of August 1-31, 2024	Pending as of August 1-31, 2024	
New Well	0	0	0	5	0	0	5
Revised New Well	0	0	0	21	0	0	21
Bypass	0	0	0	1	0	0	1
Revised Bypass	2	0	0	18	0	0	20
Sidetrack	2	0	0	2	0	1	4
Revised Sidetrack	2	0	0	20	0	0	22

[1]Shallow water drilling operations became subject to new rules and information requirements as of June 2010.
[2]Deep water drilling operations became subject to new rules and information requirements as of October 2010.
[3]Submitted permit applications may be returned for further information or clarification.

Approved Permits By Water Depth For All Types	Shallow Water (< 500 ft)						Deep Water (> 500 ft)					
	New Well	Revised New Well	Bypass	Revised Bypass	Sidetrack	Revised Sidetrack	New Well	Revised New Well	Bypass	Revised Bypass	Sidetrack	R Si
Totals for 2024	6	24	10	16	14	27	30	238	14	69	16	
August	0	0	0	2	2	2	5	21	1	18	2	

July		0	1	0	4	2	2	2	29	3	11	4
June		0	2	3	0	0	2	0	34	1	5	1
May		2	3	1	6	0	9	5	43	3	7	2
Apr		0	6	3	1	5	6	7	33	0	8	1
Mar		0	3	2	2	2	2	4	32	2	11	3
Feb		3	5	1	1	2	2	2	25	2	6	0
Jan		1	4	0	0	1	2	5	21	2	3	3
Totals for 2023		12	40	3	6	21	45	47	456	19	75	25
2023	Dec	1	0	0	0	0	1	0	16	3	4	3
	Nov	0	0	0	0	3	5	3	39	4	3	1
	Oct	0	1	0	3	3	4	2	44	1	5	4
	Sep	0	6	2	1	0	2	5	37	1	15	2
	Aug	0	3	0	0	3	8	2	20	1	12	2
	July	0	2	0	2	1	2	2	40	1	7	2
	June	1	3	1	0	2	5	6	51	2	9	2
	May	1	12	0	0	3	2	5	50	1	3	1
	Apr	3	4	0	0	1	0	5	30	1	1	0
	Mar	3	1	0	0	2	6	10	45	1	4	3
	Feb	1	6	0	0	2	7	4	50	1	6	2
	Jan	2	2	0	0	1	3	3	34	2	6	3
Total for 2022		7	29	8	14	25	50	46	374	20	72	16
2022	Dec	1	0	1	1	1	2	5	33	0	2	2
	Nov	0	1	0	0	0	2	5	21	1	5	0
	Oct	2	0	0	2	2	4	6	46	1	6	2
	Sep	0	0	0	5	2	5	7	58	1	6	2
	Aug	0	1	0	1	3	6	3	37	3	9	2
	Jul	0	2	1	1	2	5	1	25	2	5	1
	Jun	0	7	3	4	3	3	4	33	3	4	1
	May	0	10	0	0	2	2	1	33	2	1	2
	Apr	0	1	0	0	3	7	7	15	3	8	2
	Mar	4	3	0	0	2	5	5	21	2	8	0
	Feb	0	3	1	1	4	3	0	28	1	9	0
	Jan	0	1	2	0	2	6	2	24	1	9	3
Total for 2021		18	34	5	9	29	53	34	417	11	53	32
2021	Dec	0	3	1	2	3	1	0	36	2	9	3
	Nov	0	2	1	4	1	5	3	36	1	9	3

	Oct	1	3	1	2	2	3	1	33	2	6	3
	Sep	0	3	1	0	0	0	1	28	1	3	1
	Aug	1	4	0	0	0	5	5	36	1	1	1
	Jul	0	2	1	0	3	4	3	29	0	0	6
	Jun	0	2	0	0	1	6	2	32	0	0	2
	May	2	2	0	0	2	4	6	37	0	5	2
	Apr	0	2	0	0	3	6	2	48	0	4	4
	Mar	1	5	0	0	1	7	6	29	0	9	4
	Feb	2	4	0	0	5	4	0	37	3	2	1
	Jan	11	2	0	1	8	8	5	36	1	5	2
Total for 2020		10	25	3	1	21	23	54	410	20	85	21
2020	Dec	5	0	1	0	4	3	2	61	2	4	1
	Nov	2	0	0	0	3	1	4	37	0	9	1
	Oct	0	0	0	0	4	0	4	44	1	15	1
	Sep	0	2	0	0	1	0	12	48	1	14	2
	Aug	0	4	0	0	0	0	4	27	2	7	0
	Jul	1	0	0	0	0	0	1	35	3	4	3
	Jun	0	0	0	0	0	0	6	36	1	1	1
	May	1	3	0	0	0	1	5	24	0	11	3
	Apr	0	0	0	0	0	1	1	26	4	4	1
	Mar	0	4	0	0	2	6	9	25	1	3	3
	Feb	1	6	1	1	4	6	5	20	2	8	3
	Jan	0	6	1	0	3	5	1	27	3	5	2
Total for 2019		25	77	9	22	35	57	62	416	35	120	31
2019	Dec	4	1	0	0	6	2	3	34	4	11	5
	Nov	2	0	0	0	5	5	2	36	3	13	0
	Oct	1	1	0	0	1	4	11	42	4	7	3
	Sep	2	3	1	4	2	9	6	32	2	1	3
	Aug	0	18	1	0	3	7	3	40	1	9	1
	Jul	2	8	0	0	4	3	2	49	4	15	3
	Jun	2	9	1	0	1	3	6	29	2	12	1
	May	4	8	0	0	2	9	6	39	4	19	2
	Apr	1	6	2	2	4	2	3	27	7	10	2
	Mar	2	2	2	4	3	5	11	30	3	5	4
	Feb	1	8	1	7	3	5	2	30	1	9	4
	Jan	4	13	1	5	1	3	7	28	0	9	3

Total for 2018		18	69	5	7	34	52	65	341	41	103	37
2018	Dec	2	9	1	3	1	1	4	29	4	8	4
	Nov	1	7	1	2	1	1	7	42	2	9	2
	Oct	3	8	1	1	2	6	5	22	5	15	4
	Sep	3	10	0	0	2	4	2	26	1	9	1
	Aug	3	9	0	0	2	3	5	33	3	5	5
	Jul	2	7	1	0	6	6	5	14	2	9	1
	Jun	2	9	0	1	2	7	2	28	4	13	6
	May	0	3	1	0	3	8	0	40	9	8	1
	Apr	1	0	0	0	5	6	15	32	5	12	1
	Mar	0	0	0	0	6	5	6	21	1	3	5
	Feb	1	1	0	0	1	2	7	25	2	4	2
	Jan	0	6	0	0	3	3	7	29	3	8	5
Total for 2017		13	60	9	6	31	39	52	424	24	55	25
2017	Dec	0	6	0	1	2	1	5	34	4	6	2
	Nov	1	12	0	0	3	3	4	43	2	1	2
	Oct	3	4	0	0	1	0	5	30	1	1	0
	Sep	0	3	1	1	4	3	7	38	0	1	3
	Aug	0	3	0	0	2	6	2	30	0	3	4
	Jul	1	8	2	0	5	7	2	47	1	2	1
	Jun	1	7	1	0	5	3	3	40	1	5	4
	May	3	4	1	0	2	7	6	47	3	11	0
	Apr	1	3	0	2	2	2	6	24	4	9	1
	Mar	0	6	1	1	3	4	4	27	6	10	3
	Feb	2	3	2	0	0	2	1	28	1	3	2
	Jan	1	1	1	1	2	1	7	36	1	3	3
Total for 2016		10	20	5	4	13	24	65	437	28	61	20
2016	Dec	1	2	0	1	1	0	5	37	3	10	1
	Nov	0	3	1	0	1	2	1	28	1	8	2
	Oct	0	0	0	2	1	4	4	34	3	4	2
	Sep	0	2	0	1	0	4	6	47	1	0	3
	Aug	0	1	0	0	0	2	4	30	2	2	3
	Jul	0	3	1	0	2	2	3	43	0	1	0
	Jun	1	0	1	0	1	2	6	45	1	4	1
	May	2	1	0	0	1	4	10	33	2	5	1
	Apr	1	5	1	0	2	0	7	33	3	11	2

	Mar	2	0	1	0	1	2	4	28	7	12	0
	Feb	1	0	0	0	1	1	7	42	2	1	2
	Jan	2	3	0	0	2	1	8	37	3	3	3
Total for 2015		12	33	7	9	52	57	69	445	33	67	34
2015	Dec	1	0	0	1	2	1	4	26	4	6	4
	Nov	1	2	1	0	2	0	5	30	6	13	6
	Oct	0	0	1	1	2	2	8	31	5	6	3
	Sep	0	2	1	1	3	1	5	40	2	3	2
	Aug	1	2	1	0	7	3	8	40	2	0	2
	Jul	0	4	0	0	3	11	7	46	0	2	3
	Jun	2	0	0	3	6	4	6	53	1	4	4
	May	0	4	1	0	7	10	6	37	1	4	1
	Apr	1	7	0	1	4	5	11	36	2	7	0
	Mar	2	8	1	0	8	8	5	34	2	11	3
	Feb	2	1	1	2	1	6	2	30	4	8	3
	Jan	2	3	0	0	7	6	2	42	4	3	3
Total for 2014		65	117	35	34	82	101	68	406	38	65	29
2014	Dec	5	8	0	0	5	3	8	45	3	4	4
	Nov	9	4	1	1	6	6	6	42	3	5	0
	Oct	2	2	1	0	10	5	3	32	1	2	4
	Sep	4	8	0	3	5	5	4	32	3	11	3
	Aug	5	18	4	5	6	18	4	33	4	6	2
	Jul	6	8	4	3	12	20	12	28	5	5	3
	Jun	8	5	4	2	7	8	3	33	2	5	2
	May	4	13	5	4	8	8	8	31	3	3	2
	Apr	6	17	3	5	7	4	3	52	2	9	0
	Mar	6	19	1	8	5	9	5	32	5	8	4
	Feb	5	10	5	3	6	7	7	19	2	2	2
	Jan	5	5	6	0	5	8	5	27	5	5	3
Total for 2013		72	108	51	46	120	110	57	337	34	44	23
2013	Dec	8	9	1	2	14	10	8	18	1	6	1
	Nov	5	8	5	2	7	7	4	29	2	2	1
	Oct	7	9	5	2	13	5	4	28	3	4	0
	Sep	5	6	2	4	4	11	8	25	4	4	2
	Aug	4	7	3	7	11	14	5	26	1	6	2
	July	4	7	5	5	13	8	4	20	4	6	1

	June	3	18	6	5	7	11	5	34	4	1	3
	May	10	17	3	3	10	14	3	26	1	2	3
	Apr	4	10	4	5	12	9	4	40	5	5	1
	Mar	8	7	9	5	8	7	6	36	1	5	2
	Feb	1	5	3	3	15	7	3	21	2	1	4
	Jan	13	5	5	3	6	7	3	34	6	2	3
Total for 2012		67	104	42	41	108	84	112	283	25	41	23
2012	Dec	4	11	4	4	8	10	10	22	1	4	2
	Nov	7	8	5	2	15	5	11	33	3	5	0
	Oct	6	9	6	3	13	2	9	24	2	2	5
	Sept	3	5	4	3	4	9	7	25	1	0	3
	Aug	7	4	2	3	11	7	3	19	0	0	2
	July	3	13	4	5	8	7	5	31	2	3	3
	June	4	11	3	5	12	7	9	21	0	3	1
	May	2	15	2	4	10	11	15	18	5	3	1
	April	7	8	1	2	5	8	13	27	2	6	1
	Mar	7	4	4	2	8	8	5	23	4	7	4
	Feb	0	9	2	3	7	4	22	20	4	4	0
	Jan	7	7	5	5	7	6	3	20	1	4	1
Total for 2011		71	99	40	33	87	88	38	127	19	26	22
2011	Dec	2	8	8	9	13	2	3	16	1	4	1
	Nov	5	11	6	4	4	7	3	14	2	0	4
	Oct	11	9	7	1	7	5	10	15	1	2	6
	Sept	9	4	1	3	8	5	5	15	2	0	2
	Aug	3	3	3	2	7	9	6	15	0	2	2
	July	5	12	4	3	5	11	4	10	2	6	3
	June	7	11	2	4	6	8	3	8	4	4	0
	May	4	10	2	1	8	12	0	9	2	1	0
	April	9	9	2	1	6	5	0	12	2	3	2
	Mar	5	7	3	0	13	12	2	9	0	4	1
	Feb	9	4	0	4	6	8	2	2	1	0	1
	Jan	2	11	2	1	4	4	0	2	2	0	0
Total for 2010		28	67	13	6	53	62	2	3	0	1	3
2010	Dec	7	14	1	0	13	6	1	2	0	0	2
	Nov	6	9	3	0	4	6	1	0	0	0	0
	Oct[2]	6	13	2	3	8	3	0	1	0	1	1<

	Sept[1]	3	6	2	0	7	11						
	Aug[1]	2	5	4	2	6	14						
	July[1]	2	6	1	0	13	13						
	Jun[1]	2	14	0	1	2	9						

[1]Shallow water drilling operations became subject to new rules and information requirements as of June 2010.

[2]Deep water drilling operations became subject to new rules and information requirements as of October 2010

[3]Submitted permit applications may be returned for further information or clarification.

Drilling Permit Definitions

A new well involves an operator drilling an original wellbore hole in the seafloor to a geologic target.

A revision to a new well involves a change to the drilling of new well, which may be necessary for safety purposes, such as if an operator determines it necessary to set a liner deeper in the wellbore due to results from a formation integrity test.

A bypass is when an operator drills around a mechanical problem in the original hole to the original target from the existing wellbore.

A revision to a bypass involves a change to the drilling of a bypass from an existing well, which may be necessary for safety purposes, such as if an operator determines it necessary to set a liner deeper in the wellbore due to results from a formation integrity test.

A sidetrack involves an operator drilling to a new geologic target or a new location within the original target from an existing wellbore.

A revision to a sidetrack involves a change to the drilling of a sidetrack from an existing well, which may be necessary for safety purposes, such as if an operator determines it necessary to set a liner deeper in the wellbore due to results from a formation integrity test.

Permitting Workshop

A Permitting Workshop with industry representatives was held in the Gulf of Mexico Regional Office on August 30, 2011. Below are the presentations from that workshop.

The full-day workshop included a discussion of common errors and omissions found in the submission of permit applications, and overviews and updates on sub-sea containment and the bureau's well screening tool. One highlight was an industry panel that discussed proven methods and

strategies for the completion of fully compliant permit applications focusing on the well screening tool, a critical aspect of the sub-sea containment requirements which is most often a cause of returned permit applications.

Workshop Presentations:

- Overview of Permitting Process, Common Errors
- Discussion of Sub-sea Containment, Submissions
- Departures
- Discussion of Well Screening Tool, Analysis
- Industry Panel - WCST Overview (Shell Offshore)
- Industry Panel - Efficient methods for processing, what works (BP)
- Industry Panel - Level 2 Considerations (Nobel Energy)
- Industry Panel - Recent Chevron deepwater permitting experience (Chevron)

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, *et al.*, *Plaintiffs*, v. NATIONAL MARINE FISHERIES SERVICE, *et al.*, *Defendants*, and AMERICAN PETROLEUM INSTITUTE, *et al.*, *Intervenors-Defendants.*	No. 8:20-cv-03060-DLB Hon. Deborah L. Boardman

INTERVENORS-DEFENDANTS' EMERGENCY MOTION TO ALTER OR AMEND THE JUDGMENT OR, IN THE ALTERNATIVE, FOR A STAY PENDING APPEAL, AND FOR EXPEDITED RULING

Pursuant to Federal Rules of Civil Procedure 59(e) and 60(b), Intervenors-Defendants American Petroleum Institute, EnerGeo Alliance, National Ocean Industries Association, and Chevron U.S.A. Inc. move to alter or amend this Court's judgment (Dkt. 205) to the extent of delaying the Court's December 20, 2024 vacatur of the 2020 programmatic Biological Opinion (BiOp) and 2021 Amended Incidental Take Statement until at least May 21, 2025.

In the alternative, pursuant to Federal Rule of Civil Procedure 62 and consistent with Federal Rule of Appellate Procedure 8(a)(1), Intervenors move to stay the Court's judgment (Dkt. 205) pending resolution of Intervenors' appeals to the Fourth Circuit.

Finally, Intervenors move that the Court rule on this Motion **no later than October 21, 2024**, because, absent relief, Intervenors will need sufficient time to seek emergency relief in the

Fourth Circuit and, if necessary, the U.S. Supreme Court, and to afford those courts adequate time to consider Intervenors' applications. Intervenors intend to file a reply in support of their motion no later than October 7, 2024.

The grounds for the Motion are set out in the accompanying memorandum.

Counsel for Intervenors have conferred with counsel for Plaintiffs and Federal Defendants. Plaintiffs will take a position on the motion to extend the vacatur date after reviewing the papers. Plaintiffs oppose the motion to stay. Plaintiffs will respond to the motions in accordance with the court's local rules. The Federal Defendants do not oppose relief under Rule 59(e), but take no position on relief under Rule 60(b). The Federal Defendants also take no position on Intervenors' alternative request for a stay.

Respectfully submitted,

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September 16, 2024

CERTIFICATE OF SERVICE

I hereby certify that on September 16, 2024, I electronically filed the foregoing using the CM/ECF system, which will send notification of this filing to the attorneys of record.

/s/ Dana A. Raphael
Dana A. Raphael

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF NIKKI C. MARTIN**

DECLARATION OF NIKKI C. MARTIN

1. My name is Nikki C. Martin. I make this Declaration on the basis of personal knowledge and am competent to testify to the matters stated in this Declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the President and CEO of the EnerGeo Alliance ("EnerGeo"), and have worked for EnerGeo for over 10 years. In my role as President and CEO, I oversee all of EnerGeo's policy, governmental affairs, scientific, and environmental programs on behalf of EnerGeo's members, in the U.S. and internationally.

3. EnerGeo is a private non-profit trade association, based in Houston, Texas, that represents approximately 60 members from all segments of the energy geoscience industry. The energy geoscience industry is essential to the discovery and delivery of the world's energy resources. EnerGeo engages governments and stakeholders worldwide on issues central to geoscience operations and exploration access. EnerGeo's mission is to optimize the business and

regulatory climate for its members, enhance public understanding of the geoscience industry, and ensure a strong, viable industry. EnerGeo has existed for over 50 years, and is the only global trade organization solely dedicated to the energy geoscience industry.

4. EnerGeo's members include the primary companies conducting geological and geophysical ("G&G") surveys on the outer continental shelf in the Gulf of Mexico. G&G surveys are an essential part of oil and gas exploration, discovery, and development. G&G surveys provide critical information and are conducted in the Gulf to (1) obtain data for hydrocarbon and mineral exploration and production; (2) aid in the siting of oil and gas structures, facilities, and pipelines; (3) identify possible seafloor or shallow-depth geological hazards; and (4) locate potential archeological resources and benthic habitats that should be avoided. Depending on the type and need, a G&G survey may last a day, weeks, or even months. G&G surveys in the Gulf of Mexico require a permit from the Bureau of Ocean Energy Management ("BOEM").

5. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp") as well as the amended incidental take statement for the BiOp issued on April 26, 2021 ("ITS").

6. The BiOp comprehensively evaluates the impacts of G&G activities on threatened and endangered species in the Gulf of Mexico. At Table 5, the BiOp estimates that, over a 10-year period, there will be 716 HRG surveys, 561 VSP surveys, 100 SWD surveys, 23 2D surveys, 69 3D surveys, 62 WAZ surveys, and 101 4D surveys. Each of these surveys requires a BOEM permit. That is an average rate of more than three G&G permits per week.

7. The ITS concludes that "[n]o death is expected for any individual cetacean or sea turtle exposed to geophysical survey activities." The ITS does, however, estimate that sound from G&G surveys may cause behavioral harassment of some ESA-listed animals. The ITS therefore provides the terms and conditions that must be followed to minimize impacts to ESA-listed species.

8. The ESA generally prohibits the "take" of ESA-listed species, which includes certain types of harassment. However, the ITS functions as a permit because it exempts incidental take of listed species from the ESA's prohibition on take, provided that the terms and conditions of the ITS are complied with.

9. The BiOp is essential to BOEM's ability to issue G&G permits to EnerGeo's members. Before BOEM can issue a G&G permit, the ESA requires BOEM to consult with NMFS to ensure that each permit approval is not likely to jeopardize the continued existence of ESA-listed species or adversely modify or destroy designated critical habitat. The BiOp provides the programmatic framework for completing hundreds of ESA consultations each year for the issuance of G&G permits in the Gulf of Mexico.

10. I am aware that, on August 19, 2024, the district court in this case issued an order vacating the BiOp and the ITS, effective December 20, 2024. However, I understand that a new biological opinion will not be completed until May 21, 2025.[1] As a result, the Court's vacatur order will cause a gap of many months during which there will be no BiOp (and no ITS) in place for Gulf of Mexico oil and gas operations, including the G&G activities performed by EnerGeo's members.

[1] After the court issued its ruling, the Department of Justice represented that the new biological opinion would not be completed until August 2025. On Sunday, September 15, 2024, the Department of Justice changed the expected BiOp completion date to May 21, 2025. Many of the declarations submitted by EnerGeo members and others in this case were already signed by that time, and reflect this later August date.

11. This multiple-month gap in ESA coverage will cause immediate and irreparable injuries to EnerGeo's members. No EnerGeo member can conduct the G&G surveys identified in the BiOp without a BOEM permit. But BOEM cannot issue any permits until it has ensured that jeopardy is not likely through the ESA consultation process. Vacatur of the BiOp on December 20, 2024 means that there will be no analysis in place demonstrating compliance with ESA Section 7, and no incidental "take" coverage, until a new biological opinion is issued. It is theoretically possible for BOEM to engage in individual ESA consultations on each of the many G&G permit applications as they arrive, but, as explained in the Third Declaration of Samuel D. Rauch, Deputy Administrator of Regulatory Programs at NMFS, filed in this case at Docket 175-3, NMFS has no capacity to do so. Thus, in the event of vacatur, the entire permitting process for Gulf of Mexico G&G activities will grind to an immediate halt, starting on December 20, 2024, and lasting until a new biological opinion is issued. Worse still, even if NMFS could divert resources to consult on a few G&G permits on a case-by-case basis, Mr. Rauch has explained that would only divert resources away from NMFS's ongoing effort to complete a revised biological opinion, prolonging the period of permit disruption for the rest of EnerGeo's members and the oil and gas industry more broadly.

12. The effect of a multi-month shutdown of G&G permitting in the Gulf of Mexico is difficult to quantify, but the harms are both significant and lasting. For some EnerGeo member businesses, their principal (if not sole) business is conducting G&G surveys in the Gulf of Mexico, and a permit shutdown of many months would likely mean severe financial hardship, including layoffs and potential bankruptcy. Other EnerGeo members are also likely to experience significant financial hardship from being unable to conduct surveys for a multi-month duration as well as reputational harms associated with being unable to reliably provide the services

requested by their clients. These harms may be difficult or impossible to precisely quantify, but they are significant and irreparable.

13. Moreover, because G&G surveys are so pivotal to oil and gas activities, delays in G&G permits cascade to delays in other activities that may also require G&G surveys. For example, delays in G&G permitting means delays in the obtaining the data necessary for developing exploration plans and drilling plans (even assuming those plans could be authorized without the BiOp), and approval of those plans also requires ESA consultation. As a result, when the new biological opinion is issued, the backlog for processing permits for G&G surveys (and associated data) and other Gulf of Mexico activities that rely upon G&G surveys will linger for at least many months.

14. Further compounding the problem, the looming vacatur is likely to have a chilling effect on G&G surveys. A member who receives a G&G permit before December 20, 2024 must complete that survey by that date. If it does not, then the ITS will be vacated as of that date and the associated ESA take exemption would likewise vanish. That member would have to either forego the survey (and risk breaching contractual obligations) or proceed with the survey at risk of violating the ESA. Either option results in irreparable harm to the member. Thus, the adverse, irreparable consequences of vacatur begin to accrue before the vacatur occurs on December 20, 2024, as EnerGeo's members must make important business and operational decisions months earlier. The looming vacatur negatively influences those decisions, likely causing projects and associated investments to be significantly delayed.

15. I am aware that the district court's order informed parties that they could plan for the "transition" on December 20, 2024. But I am aware of no transition that could ameliorate the pending irreparable harm and permitting chaos produced by vacatur of the BiOp. EnerGeo and

its members have no control over when NMFS will complete the ongoing consultation and issue a new biological opinion. Nor do they have any ability to force NMFS and BOEM to create a new process for individual consultations. Nor is there any available information suggesting that any such process could be both timely developed and effective (and the available information states it cannot be). Thus, the harms to EnerGeo members from a December 20, 2024 vacatur of the BiOp and ITS (assuming a new biological opinion is not issued by that time) will be immediate, lasting, and irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my information and belief.

Executed on September 16, 2024.

Nikki C. Martin

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF ERIK MILITO**

DECLARATION OF ERIK MILITO

1. My name is Erik Milito. I make this Declaration on the basis of personal knowledge and am competent to testify to the matters stated in this Declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the President of the National Ocean Industries Association ("NOIA"), and I have been employed in this role for approximately five years. My work covers regulatory, legislative, and technical matters related to exploration, drilling, and production from offshore oil and gas leases, focusing on maintaining access to domestic supplies while ensuring safety and environmental protection. As such, my work constantly engages in enabling legislation, as well as the environmental and safety laws, regulations, and policies relevant to those activities. My work also covers similar issues related to offshore wind development and carbon capture and storage (CCS). I was employed by the American Petroleum Institute ("API") for 17 years prior to joining NOIA. At API, I was the Vice President for Upstream and Industry Operations with

responsibility for regulatory and legislative public policy matters related to oil and gas operations both onshore and offshore. I served as Managing Counsel in API's Office of General Counsel prior to my role as Vice President. Prior to API, I was employed by the U.S. Department of the Interior as a career attorney for two years, and, prior to that, I served on active duty in the U.S. Army for more than four years. Over the course of my career, I have performed a wide variety of tasks that included significant work related to federal offshore leasing and development policies and regulations. I have also authored and co-authored papers related to natural resources issues, served as a guest speaker on multiple occasions, and testified before Congress in various hearings.

3. Pursuant to our mission, NOIA represents and advances a dynamic and growing offshore energy industry, providing solutions that support communities and protect workers, the public, and the environment. NOIA has more than 130 member companies, representing operators and project developers in offshore oil and natural gas, wind, mineral production and CCS. We represent the full supply chain, including drilling contractors, service providers, geophysical explorers, manufacturers and suppliers, marine construction, marine and air transportation, and law, finance and professional services, among other offshore industry segments.

4. Oil and gas development in the United States is carried out exclusively through private and publicly traded oil and gas companies. These companies acquire leases through a sealed bidding process, and then engage in exploration efforts that, if successful, will lead to production. NOIA's members have extensive experience with successful exploration and development of U.S. oil and gas resources, including, in particular, with the oil and gas resources of the Gulf of Mexico. NOIA's members include operating companies with overall responsibility

for the development of the resources and the various contractors essential for the safe and responsible development of offshore energy.

5. NOIA's members currently operate many offshore wells in the Gulf of Mexico. NOIA's members are directly engaged in oil and gas exploration in the Gulf of Mexico and have for decades been among the principal developers of offshore leases in the Gulf of Mexico. In addition to leaseholders and operators, NOIA's members include companies that conduct geophysical and geological exploration activities and provide support services for offshore oil and gas development, such as marine construction and drilling activities. These members provide, among other things, material, equipment, and other support services to federal lessees in developing their oil and gas resources. Overall, NOIA's members invest billions of dollars each year to further the exploration and development of the oil and gas resources of the Gulf of Mexico. According to recent studies by the firm Energy and Industrial Advisory Partners, the Gulf of Mexico offshore oil and gas industry in 2023 was projected to support more than 412,000 jobs throughout the U.S. economy, contribute more than $34.3 billion to the U.S. gross domestic product, and generate more than $6.1 billion per year in revenues to the federal government.[1] There are companies in every state in the nation that get business from and support Gulf of Mexico oil and gas development, including companies in Maryland.[2] The Gulf of Mexico offshore oil and gas industry is also responsible for generating hundreds of millions of dollars each year for the Land & Water Conservation Fund, national park maintenance, and

[1] *See* https://www.noia.org/wp-content/uploads/2020/05/The-Economic-Impacts-of-the-Gulf-of-Mexico-Oil-and-Natural-Gas-Industry-2.pdf

[2] *See* https://www.noia.org/wp-content/uploads/2020/06/The-Economic-Impacts-of-the-Gulf-of-Mexico-Oil-and-Natural-Gas-Industry.pdf

coastal resiliency efforts. Finally, the U.S. Gulf of Mexico region provide substantial energy for the U.S. economy, producing more than one million barrels of oil per day since 1997 and increasing to near record levels today at about 1.8 million barrels per day. If the U.S. Gulf of Mexico were its own country, it would be one of the top 12 oil producing countries in the world.

6. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). The BiOp addresses, *inter alia*, Gulf of Mexico oil and gas leasing, exploration, development, production, and decommissioning activities authorized by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"). I am also familiar with the amended Incidental Take Statement ("ITS") issued in April 2021.

7. Before BOEM or BSEE can approve the thousands of permits needed each year to maintain the ongoing oil and gas activities in the Gulf of Mexico, they must consult with NMFS under the ESA to ensure that each permit approval is not likely to jeopardize the continued existence of ESA-listed species or adversely modify or destroy designated critical habitat. The BiOp establishes a programmatic framework that allows BOEM and BSEE to comply with the thousands of annual federal approvals that are necessary to maintain continued oil and gas operations in the Gulf of Mexico. The ITS functions as a permit because it exempts incidental take of ESA-listed species from the ESA's prohibition on "take" of threatened and endangered species, provided that the terms and conditions of the ITS are complied with. Unauthorized take of ESA-listed species can result in civil and criminal penalties, and the ESA expressly allows for the filing of citizen suits to enjoin the unauthorized take of such species.

8. On August 19, 2024, the Court issued an order that vacates the BiOp, effective December 20, 2024. However, my understanding is that NMFS will not issue a new biological opinion until May 21, 2025.[3] As a result, the Court's vacatur order will result in a gap of many months in which there will be no BiOp (and no ITS) in place for Gulf of Mexico oil and gas operations. The consequences to NOIA's members may be difficult or impossible to precisely quantify. But they are assuredly significant and irreparable, and likely devastating for the U.S. economy and American citizens.

9. At the outset, the ongoing process under which BOEM and BSEE issue the thousands of permits needed each year for Gulf of Mexico operations will immediately grind to a halt. According to the Third Declaration of Samuel D. Rauch, Deputy Administrator of Regulatory Programs at NMFS, filed in this case at Docket 175-3, NMFS has no capacity to process that volume of individual ESA consultations, as NMFS currently processes only 20 to 30 consultations per year (nationwide). Because BOEM and BSEE must ensure against likely jeopardy through consulting with NMFS before issuing permits, the result of vacatur is thus a *de facto* moratorium on plans, permits, and other approvals that immediately and negatively affects all of the many NOIA members that regularly require permits and approvals from BOEM and BSEE for their ongoing operations in the Gulf of Mexico. Those ongoing operations include activities that are required to properly and safely maintain infrastructure in the Gulf of Mexico, ensure health and safety, produce oil that contributes directly to U.S. energy supply, safely remove infrastructure as required by regulation, and protect the environment. Vacatur puts these

[3] After the court issued its ruling, the Department of Justice represented that the new biological opinion would not be completed until August 2025. On Sunday, September 15, 2024, the Department of Justice changed the expected biological opinion completion date to May 21, 2025. Many of the declarations submitted by NOIA members and others in this case were already signed by that time, and reflect this later August date.

essential activities at risk, creating an untenable situation for NOIA's members, its members' employees, and the American economy.

10. Existing oil and gas platforms are serviced and supported daily by vessels that bring crew members, food, fuels, medical supplies, water, and other necessary equipment. Many of these service and support operations are carried out by NOIA members. The BiOp estimates that between 55,842 and 169,614 vessel trips are made each year in the Gulf of Mexico in support of oil and gas operations. The impact of those trips is evaluated in the BiOp, and the ITS provides protection to vessel operators from civil and criminal liability if the operation of a vessel incidentally takes an ESA-listed species during one of those trips.

11. On December 20, 2024, each company operating those vessels will be forced to make a difficult choice, *i.e.* to either (a) stop the lawfully permitted activity until a new BiOp and ITS is produced to avoid the possibility of ESA take liability (and in so doing suffer severe financial losses and other harms) or (b) proceed with otherwise lawfully permitted activity at risk of incurring ESA liability and likely reputational damage. In short, the offshore platforms cannot operate without vessel support, but the vessels cannot provide that support without risking ESA liability in the absence of a BiOp and ITS.

12. This is an impossible situation. Gulf of Mexico operators cannot simply shut down ongoing platform operations, ongoing drilling or operations, or required pipeline maintenance activities without incurring enormous financial losses and creating public safety and environmental health issues. And they cannot do any of those activities without vessel support. Whether operations and activities proceed or not after December 20, 2024 (in the absence of a new biological opinion and incidental take statement), there is real, significant, and irreparable harm to NOIA members—both for service and supply companies and for all other members

operating in the Gulf who will be faced with the same impossible choice on December 20, 2024. And those negative, irreparable effects will accrue before December 20, 2024, as companies who operate in the Gulf must make important business, operational, and investment decisions months in advance of undertaking activities.

13. The precise magnitude of shuttering Gulf of Mexico oil and gas operations for several months is impossible to reliably estimate. This would be an unprecedented event, as even during the economy-wide COVID shutdown, Gulf of Mexico operations continued. Gulf of Mexico oil and gas operations produce about 1.8 million barrels of oil per day, about 15 percent of the entire U.S. supply. The public, economic, and national security consequences from eliminating that amount of oil from the Nation's oil supply could be devastating. At a bare minimum, such an event could result in oil price shocks that reverberate through to the consumer with expected significant increases in gasoline prices, negatively affecting essentially every citizen of the United States. Take for example the recent price shocks in the oil market as a result of instability in the Middle East. On Monday, August 26, 2024, oil prices increased by 3 percent in response to production cuts in Libya.[4] The U.S. Gulf of Mexico has much higher oil production than Libya, and Gulf of Mexico oil supplies feed directly into Gulf Coast refineries as feedstocks for refined products for the U.S. economy. The vacatur could thus have serious economic impacts in the provision of gasoline, diesel fuel, jet fuel, and other products throughout the U.S. economy. To be clear, the vacatur decision could singlehandedly impact the price of gasoline and other products for Americans throughout the country.

[4] *See* https://www.reuters.com/business/energy/oil-climbs-mideast-escalation-fears-us-rate-cut-expectations-2024-08-25/

14. There is no realistic way for NOIA's members, and the broader U.S. offshore industry, to meaningfully mitigate the damaging impacts of vacatur before they occur. They have no control over the timing of a new biological opinion and Mr. Rauch has already explained the anticipated timing of the new opinion and that requests for interim individual consultations would be both impossible to satisfy and further delay the issuance of a new biological opinion.

15. I am aware that the Court's order vacating the BiOp suggested that staying vacatur until December 20, 2024 would allow NMFS an opportunity to "prepare for the transition period" and that regulated parties "may avail themselves of this extra time to prepare for the transition." But I am aware of no "transition" that could address the problems caused by vacatur of the BiOp and ITS before a new biological opinion and incidental take statement are issued. It would take a statutory amendment to the ESA to alleviate the risk of ESA liability associated with continuing operations without the BiOp and ITS in place. Likewise, I am aware of no feasible way to eliminate or meaningfully lessen the ongoing need to maintain Gulf of Mexico infrastructure, decommission wells, produce oil, provide services and support, and carry out other activities in the Gulf of Mexico necessary for health and safety, environmental protection, and national security. It is important to recognize that reducing the supply of U.S. oil production in the global market—as the vacatur will most certainly do—would open the door for increases in international demand from foreign sources, such as Russia and Iran—countries that already are engaging in dangerous "dark" tanker deliveries to avoid U.S. and international sanctions.[5]

16. In sum, vacatur of the BiOp or the ITS would have irreparably harmful impacts on NOIA's members, enormously disruptive consequences for the oil and gas industry in the

[5] *See* https://www.washingtonpost.com/world/interactive/2024/china-dark-ships-south-china-sea/

Gulf of Mexico, and attendant negative effects on people, businesses, local and state governments, and the United States. Those irreparable impacts are already beginning to accrue and will continue to accrue until if and when the prospect of the "gap" in ESA coverage is removed.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 16, 2024.

Erik Milito

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, *et al.*, *Plaintiffs*, v. NATIONAL MARINE FISHERIES SERVICE, *et al.*, *Defendants*, and AMERICAN PETROLEUM INSTITUTE, *et al.*, *Intervenors-Defendants.*	No. 8:20-cv-03060-DLB Hon. Deborah L. Boardman

FOURTH DECLARATION OF JOE T. GORDON

I, Joe T. Gordon, hereby attest as follows:

1. I am over 21 years of age. I make this declaration based on personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Gulf of Mexico Regulatory Affairs Team Lead – Strategy, Operations and Advocacy for Chevron Americas Exploration and Production Company, a division of Chevron U.S.A. Inc. ("Chevron"). Based on my extensive knowledge of various activities (including regulatory processes and approvals) needed to execute exploration, appraisal, drilling and completions, development, production, and decommissioning operations for offshore oil and gas in the Gulf of Mexico, I have submitted three previous declarations in this matter, at ECF Nos. 124-1, 179-3, and 198-1.

I. Chevron's Interests and Operations in the Gulf of Mexico

3. Chevron is a significant producer in the Gulf of Mexico, currently delivering over 200,000 barrels of oil equivalent per day. Chevron's Gulf of Mexico business is focused on deepwater exploration, appraisal, drilling and completions, identifying and developing new projects, and production operations. Chevron maintains interests in over 300 Gulf leases and has invested billions of dollars in exploration, appraisal, project development, asset development and production, and decommissioning activities. Chevron currently operates six deepwater Gulf of Mexico production platforms and has interests in nine jointly owned production platforms operated by other companies. Over 1,500 employees are dedicated to Chevron's Gulf of Mexico business. Chevron also contracts with hundreds of service companies, equipment suppliers, and other businesses that provide equipment, thousands of additional labor and support personnel, and other specialized services to support its Gulf of Mexico business, including three mobile drilling rigs as well as one platform drilling rig.

4. Offshore oil and gas activities, including Chevron's Gulf of Mexico activities, are regulated and authorized by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") (collectively, "the Bureaus"). This includes activities such as seismic and geophysical operations, exploration for new sources of oil and gas, production from already-drilled wells, new wells to develop already-discovered oil and gas and maintain existing projects, day-to-day operations on and around production platforms, and ultimately the removal of oil and gas production infrastructure from facilities that are no longer in operation (referred to as decommissioning). As discussed in detail below, Chevron must obtain permits or other approvals, as well as revisions, supplements, or modifications to those permits and approvals, from BOEM and/or BSEE for nearly all of these activities, and Chevron must also comply with ad hoc agency orders that may result from site inspections or other agency directives.

II. Official Statements Regarding the Regulatory Agencies' Response to Vacatur of the Biological Opinion and Incidental Take Statement

5. I am familiar with the District Court's August 19, 2024 opinion and order ("Order") vacating, effective December 20, 2024, the Biological Opinion issued by the National Marine Fisheries Service ("NMFS") pursuant to Section 7 of the Endangered Species Act ("ESA") in March 2020, and the April 2021 Amended Incidental Take Statement.

6. The Biological Opinion and Amended Incidental Take Statement have been critical pieces of the regulatory structure for BOEM and BSEE permitting in the Gulf of Mexico since 2020. BOEM and BSEE require Chevron to comply with the terms and conditions of the Biological Opinion and Amended Incidental Take Statement as terms of Chevron's leases and/or as conditions of approval for the permits and authorizations.

7. Because BOEM and BSEE satisfy their obligations under the Endangered Species Act by conditioning permits and approvals on compliance with the Biological Opinion and Amended Incidental Take Statement, agency officials have indicated that vacatur of those programmatic documents on December 20, 2024, would "require the Bureaus to review *every* new or supplemental plan or permit application for the potential to adversely affect protected species and their critical habitat." Third Declaration of Walter D. Cruickshank ¶ 7, ECF No. 191-2. BOEM previously estimated that even "partial" vacatur would require it to conduct hundreds of individual ESA consultations on permits and other approvals in a single year, and BSEE estimated it would need to conduct thousands of consultations on applications for permits to drill ("APDs"); pipeline installation, modification, repair, and decommissioning permits; structure installation modification, conversion, and repair permits; structure removal permits; facility safety systems permits; and Right-of-Way ("ROW") applications for pipelines. *Id.* ¶¶ 8-9.

8. I understand that the Government has represented that it does not expect to issue a revised Biological Opinion or Incidental Take Statement until months after December 20, 2024, and possibly as late as August 2025.

9. I am familiar with the Government's representations that, given the volume of permitting in the Gulf of Mexico, neither BOEM and BSEE, nor NMFS, would be able to complete timely permit-specific consultations in the absence of the Biological Opinion and Amended Incidental Take Statement. Second Declaration of Walter Cruickshank ¶ 7, ECF No. 175-4; Fourth Declaration of Samuel D. Rauch, III ¶ 8, ECF No. 191-1. Specifically, I am aware of the Government's statements that vacatur of the Biological Opinion and Amended Incidental Take Statement would "overwhelm" the Bureaus and "inevitably delay processing of plans and permits." Third Cruickshank Decl. ¶¶ 11-12, ECF No. 191-2.

III. Regulatory Uncertainty and Delays Predicted by the Government Resulting from Vacatur are Adversely Affecting Chevron Now.

10. Most aspects of Chevron's Gulf of Mexico business are complex and involve complicated logistics that require significant advance planning. Chevron plans many geophysical, exploration, production, development, and decommissioning activities a year or more in advance. Long-term planning activities include contracting for specialized equipment or services, often more than a year before the work is scheduled. Long-term planning for Gulf of Mexico operations is based, in part, on normal timelines for the regulatory permits and approvals required to execute business plans.

11. The impending and abrupt changes to the regulatory scheme caused by the District Court's Order have already forced Chevron to incur significant legal expenses as it evaluates its options for Gulf of Mexico operations in this unprecedented scenario where BOEM and BSEE cannot maintain the current permitting process (as Mr. Cruickshank and Mr. Rauch have

described). These costs would not be incurred by Chevron but for the vacatur of the Biological Opinion and Amended Incidental Take Statement and will not be recouped.

12. Among other costs and disruptions, significant internal resources and costs are being incurred on a daily basis as teams assess the permitting complications described by Mr. Cruickshank and Mr. Rauch after December 20, 2024, and develop contingency plans if they are unable to obtain permit and plan approvals for months after December 20, 2024. In some situations, these contingency plans are causing Chevron to assess whether to continue with certain contract negotiations for equipment to be used in 2025.

13. These costs and disruptions caused by the Court's Order are expected to continue until the Court or the regulatory agencies provide clarity regarding the regulatory regime for Gulf of Mexico operations after the Biological Opinion and Amended Incidental Take Statement are vacated. Absent an extension of the date of the vacatur until NMFS can issue a new biological opinion and incidental take statement, these harms to Chevron caused by the regulatory uncertainty will continue to occur.

IV. When the Vacatur Takes Effect, Permitting Uncertainty and Delays Will Slow and Could Eventually Halt Normal Gulf of Mexico Operations, With Long-Term Impacts Long After a New Biological Opinion and Incidental Take Statement are Issued.

14. Virtually all of Chevron's Gulf of Mexico activities depend on the ability to efficiently obtain new or revised permits and approvals from BOEM and BSEE. Chevron currently holds numerous permits and other authorizations from BOEM and BSEE for operations that will continue beyond December 20, 2024. Chevron also plans to undertake various activities that have not yet been permitted or approved , as well as other activities that have permit/authorization requests pending and are scheduled to occur after December 20, 2024. Additionally, Chevron expects to need permit or other authorization amendments and/or supplements after December 20,

2024 to respond to routine operational needs and maintenance events. A delay in permitting for months after December 20, 2024 could have both short- and long-term effects. As noted above, Chevron often schedules a year or more in advance for the specialized equipment to execute planned activities according to business timelines on the assumption that it will be able to obtain permits on predictable schedules. A multi-month pause in timely permitting will disrupt this long-term planning. Prompt BOEM and BSEE approvals can be even more critical in the short-term to safely sustain ongoing activities. To continue ongoing permitted activities, Chevron frequently requires permit or plan supplements and amendments to conduct unplanned, day-to-day activities in response to newly discovered information during the routine and continuous monitoring that is required to responsibly operate in the Gulf of Mexico.

15. In this highly regulated industry, it is difficult or impossible to know precisely when, how many, and for what reason permits or permit and plan revisions or supplements may be required between December 20, 2024 and the date when a new biological opinion and incidental take statement are issued. However, in the month of August 2024 alone, Chevron submitted 16 revisions to BSEE for applications to permits to drill (just one type of the many permits Chevron needs to conduct normal operations). And Chevron required nearly 250 revisions and modifications to its permits to drill 15 wells over the last two years. These revisions and modifications to drilling permits require real-time agency approvals or responses to address casing design changes to account for unexpected geological features, changes to the cementing or drilling fluid programs as new information is gathered during the drilling process, and routine issues that arise with equipment during drilling operations.

16. Thus, once vacatur causes the Bureaus to "inevitably delay processing … plans and permits," Third Cruickshank Decl. ¶¶ 11-12, ECF No. 191-2, virtually all of Chevron's Gulf

activities will be negatively affected—either slowed, postponed, or temporarily halted until necessary permits can be obtained. Effects on each Gulf activity, including the resulting safety, environmental, and economic impacts, will be discussed in turn.

A. Chevron's Exploration Activities

17. Chevron is currently engaged in exploration activities on several prospects involving multiple leases in the Gulf of Mexico. The exploration process often includes conducting geophysical operations, licensing and analyzing seismic data from third parties, and ultimately drilling exploration wells on some prospects. Chevron's wells in the Deepwater Gulf of Mexico regularly exceed depths of 20,000 feet below the seafloor, and it usually takes months to drill to those depths.

18. To conduct exploration drilling, Chevron must obtain BOEM approval for its overall Exploration Plans ("EPs") and BSEE approval of an APD for each well. Drilling plans and permits for exploration wells are routinely modified for various reasons with one or more Revised Permit(s) to Drill ("RPD") and/or applications for permits to modify ("APMs"), which also require BSEE's approval. For example, Chevron regularly submits RPDs and/or APMs for exploration wells to change specifics on approved well locations for technical reasons (such as adapting to new information about subsurface geological conditions and pressures learned during the drilling process) or to address equipment changes. Given uncertainties about exact subsurface geological conditions during any drilling but particularly at the exploration stage, it is common for an initial drilling permit for exploration wells to require as many as 10-20 permitting actions during the drilling process. BSEE has engineers on call to address time-sensitive modification requests, and it often approves certain modifications to drilling permits in real time (within hours) via oral orders. Prompt approvals for certain modifications are necessary to respond to new information learned during the drilling process and continue to safely drill wells.

B. Chevron's Production Activities

19. Chevron also actively produces oil and gas from already-drilled and completed production wells at its six operated Deepwater production platforms in the Gulf of Mexico: Anchor, Big Foot, Blind Faith, Jack/St. Malo, Petronius, and Tahiti. Permitting to support existing production is an ongoing process. For existing production activities at or around these facilities through mid-2025, Chevron has received BOEM and BSEE approvals of Development Operations Coordination Documents ("DOCDs") and Deepwater Operations Plans ("DWOPs"). A DOCD is an overall plan for development and production. A DWOP supplements EPs and DOCDs to address operational safety and environmental protection issues. DOCDs and/or DWOPs are frequently supplemented or amended to account for routine maintenance and repairs and to allow facilities to handle production from new wells, among other issues.

20. Timely agency review and responses to DOCD amendment and supplement requests are critical to ongoing production because these plans are highly detailed, such that formal approvals are needed for most revisions to planned activities. For example, if certain equipment (such as a compressor or other essential equipment) breaks or requires repairs, Chevron needs to obtain an amended or supplemental DOCD before installing replacement equipment to support production activities at each of its operated facilities. BOEM must approve most changes before Chevron can implement them.

21. As a result, any permitting backlog created between December 20, 2024 and the issuance of a new biological opinion and incidental take statement would jeopardize Chevron's ability to obtain timely approvals of DOCD amendments and supplements and could result in significant complications. It could delay Chevron's ability to respond to unplanned, routine maintenance activities on production facilities. In some scenarios, the inability to obtain timely approvals of DOCD amendments and supplements could even cause curtailment of existing

production until Chevron receives agency approvals to replace equipment. It is difficult to predict precisely when, where, and how much curtailment could occur, as that depends on the specific facility and equipment at issue. However, routine maintenance and equipment replacements regularly occur across all six of Chevron's operated production facilities.

22. The Government has expressed concern that, without ESA take coverage, "all oil and gas activities [in the Gulf of Mexico] would cease altogether." Gov't Br. 46 n.21, ECF No. 175-1. If cessation of production operations occurred for any reason, including because operations could not be sustained due to extensive permitting backlogs, there would be numerous, significant adverse ramifications for Chevron.

23. There is no "off switch" that would allow Chevron to immediately cease Gulf operations. Rather, preparation for a prolonged curtailment of offshore activity (if that becomes necessary as the Government indicated) would require several weeks to execute in a safe and environmentally responsible manner, plus additional planning and coordination time ahead of execution. Deepwater Gulf of Mexico operations are highly complex. While individual production facilities or operations can quickly be made safe and temporarily brought to minimum capacity for emergencies (such as hurricanes), there would be enormous logistical complications and expenses for Chevron to implement such a process across all facilities in the Gulf of Mexico. These complications would be heightened if other Gulf of Mexico operators were also implementing similar processes across their operations, as there are limited vessels and aircraft immediately available for these activities in the Gulf Coast region.

24. For safety reasons and for the integrity of these multi-billion-dollar production facilities, they are not designed to and generally should not be "turned off," left "unmanned," and idled for months. Except for acute emergencies, regulations and industry best practices generally

require personnel to be present on producing facilities. Under normal circumstances, hundreds of personnel (comprised of both Chevron employees and its service providers' employees) are present across Chevron's six operated facilities on any given day. Highly technical and specialized equipment, which controls oil and gas (often produced at extremely high pressures), must be continuously monitored, operated, optimized, and maintained during operations. Some regular monitoring to ensure safe operations of facilities and wells is conducted by divers in the water or personnel deploying remote-operated vehicles from on site. If potential anomalies are detected, plans are made to immediately investigate further and/or quickly conduct repairs.

25. Ceasing or curtailing production would implicate multiple contracts with third-party operators. Chevron contracts for all manner of services for its Gulf operations, including marine vessel transport, certain helicopter transport, seismic surveys, groceries and other personnel supplies, drilling and other operations supplies, maintenance and monitoring, and many other services. If operations in the Gulf must cease because of a court-ordered vacatur of the Biological Opinion and Amended Incidental Take Statement, significant commercial ramifications would occur, including Chevron and its co-owners incurring expenses for contractual obligations unless the terms of individual contracts allow Chevron to suspend its performance. At a minimum, Chevron and others would incur additional legal fees to assess rights and obligations across dozens or hundreds of contracts in this scenario. The costs at issue under these contracts—which may become disputed in some situations if a court-ordered vacatur of the Biological Opinion and Amended Incidental Take Statement affects operations—are difficult to calculate given current uncertainties but would likely exceed multiple millions of dollars *per day* in several scenarios.

26. Restarting operations after months of shutdown would also be tremendously difficult. Chevron would be required to reverse the shutdown process by obtaining permits to

reinitiate activities, potentially renegotiate and reactivate contracts, remobilize equipment to sites across the Gulf, and return the work force. It is also uncertain whether specialized equipment and labor would be immediately available after a multi-month disruption to Gulf of Mexico operations. In some scenarios, service providers may send equipment or employees to other parts of the world and be unable to promptly return them to the Gulf of Mexico when regulatory logjams and other disruptions have resolved.

27. Chevron pays royalties on its production from Gulf of Mexico leases to the federal government through the Office of Natural Resources Revenue ("ONRR"). The royalty rate on most deepwater leases issued since 2008 is 18 and ¾ percent. Any curtailment of production caused by permitting logjams will decrease royalties. According to ONRR, the Gulf of Mexico was the single U.S. location contributing the most "revenue" in 2023, which ONRR defines to include royalties, bonus bids for new leases, rental payments, inspection fees, and other revenues, with a total revenue of $6,755,212,451 paid to ONRR across the Gulf of Mexico last year.[1]

C. Chevron's Development Activities

28. Chevron undertakes development activities to extend the life of producing assets to ensure efficient and uninterrupted future production. These activities generally include drilling and completing additional wells and connecting them (or "tying them back") to a production facility. These activities are included in DOCDs approved by BOEM and DWOPs approved by BSEE. Each development well also requires an APD approval (and often frequent revisions during

[1] U.S. Department of the Interior, Natural Resources Revenue Data, https://perma.cc/R9QH-YGDK (listing Gulf of Mexico at top of list for "Top Nationwide Locations").

drilling) from BSEE. Chevron must also obtain numerous other approvals from BSEE for ROWs, pipelines, and other subsea infrastructure supporting each well.

29. Chevron has plans to drill and complete new wells at and around its six operated production facilities through 2025 and later. Chevron has received BOEM and BSEE approvals of DOCDs and DWOPs covering some of these activities. However, supplements or amendments to DOCDs and DWOPs (in addition to drilling permits and amendments) will be required for other planned Chevron activities in 2025.

30. To support development activities planned for early- to mid-2025, Chevron has also obtained some ROWs for pipelines, and other permits or approvals, including (1) several approved APDs and APMs to drill and/or complete new wells, (2) permits to install pipelines to support new wells, (3) APMs to workover existing wells, and (4) other permits and regulatory approvals to conduct routine maintenance and repairs. However, additional ROWs, APDs, APMs, RPDs, and other BOEM and BSEE approvals will be necessary to support Chevron's planned development activities in 2025 and beyond, including during the period between December 20, 2024 and when NMFS projects a new biological opinion and incidental take statement will be issued.

31. As discussed above for exploration wells, an individual development well often requires months of drilling to reach its total depth, and each development well often requires multiple RPDs and/or APMs during the drilling and completions process to adapt as additional technical information becomes available. BSEE must approve RPDs and some APMs before Chevron can implement necessary changes during the drilling process. The current process to obtain BSEE's real-time approvals of permitting changes for development wells is similar to that described above for exploration wells.

32. Chevron has specific plans to conduct drilling between December 20, 2024 and the date when NMFS projects a new biological opinion and incidental take statement will be issued. For drilling activities that begin before December 20, 2024, but are planned to continue after that date, Chevron may not be able to promptly obtain the permit amendments necessary to safely drill the well to its planned depth because of the permitting complications described by Mr. Cruickshank and Mr. Rauch. After the Biological Opinion and Amended Incidental Take Statement are vacated, Chevron may also be unable to obtain the initial permits needed to begin drilling new wells.

33. If necessary permit revisions and amendments cannot be approved for drilling underway as of December 20, there is tremendous uncertainty about whether normal drilling operations can continue or, alternatively, whether Chevron and other operators need to be prepared to suspend drilling activities because permit revisions and amendments will be unavailable as of December 20, 2024. If timely drilling permit revisions and amendments will be unavailable after December 20, 2024, Chevron will need to decide several weeks in advance whether to implement alternatives for ongoing drilling (like installing temporary barriers in wells and preparing to discontinue drilling and demobilize). Those alternatives would also require additional advance agency approvals to implement.

34. If Chevron is ordered to or decides it must discontinue drilling operations because necessary and routine permit amendments will be unavailable after the December 20, 2024 vacatur of the Biological Opinion and Amended Incidental Take Statement, Chevron will incur substantial costs that it would not incur in a normal permitting environment. For each of the mobile drilling rigs contracted to it, Chevron would expect to incur millions of dollars in additional costs to demobilize, which would likely include setting the required barriers to make the well safe to

temporarily discontinue drilling; disconnecting drilling equipment; preparing and making drilling equipment safe to transport to shore; and moving the drilling unit, supporting equipment, and crews from the Deepwater Gulf of Mexico hundreds of miles to shorebases or ports to be idled. Once drilling could begin again, each drilling rig, along with supporting vessels, equipment, and crews, would have to re-mobilize. That process would include rigs, equipment, and crews traveling back to the Deepwater Gulf of Mexico location—a one-way trip from a shore base to Chevron's existing facilities is typically anywhere from 10-19 hours or more depending on the point of departure and location of the lease or site; re-initiating preparatory activities; re-entering the well; removing the barriers; and continuing drilling. All of that would be necessary for each mobile drilling unit just to get back to the point where drilling was stopped by permitting problems caused by vacatur of the Biological Opinion and Amended Incidental Take Statement. Additionally, BSEE approvals would be required both to set the temporary barriers before drilling is discontinued and to reinitiate drilling later.

35. If permitting logjams and regulatory uncertainty from vacatur of the Biological Opinion and Amended Incidental Take Statement preclude or delay planned drilling activities, there will be significant follow-on commercial consequences resulting from specialized drilling equipment sitting idle. Contracts will be evaluated to assess how the terms of each address the type of regulatory chaos described by Mr. Cruickshank and Mr. Rauch. Unless specific contracts allow Chevron to suspend or alter its commercial arrangements, Chevron and its co-owners will bear the enormous costs from being unable to conduct new drilling.

36. As just one example, the total daily cost for the equipment necessary to drill and complete a well is referred to in the industry as the "spread rate." This includes the costs of contracting for the specialized drilling rig, expenses for certain third-party personnel, and costs of

other necessary rental equipment. For ultra-deepwater Gulf of Mexico drilling projects like Chevron's, publicly available sources indicate that just the "daily rate" (the cost to rent the rig, usually about half of the spread rate) is often over $500,000 per day, with the total spread rate often in the range of $1,000,000 per day.[2] Without getting into the specifics of Chevron's confidential pricing information, this is also consistent with my experience. Unless commercial arrangements and existing contracts can be suspended, amended, or deferred, I anticipate that Chevron and its co-owners will incur additional costs in the range of hundreds of thousands of dollars to a million dollars or more *per rig, per day* if drilling is delayed or discontinued due to disruptions in permitting and approvals. If existing contracts can be suspended, amended, or deferred in response to this unprecedented situation, I would anticipate that Chevron's specialty equipment and service providers will be harmed. Additionally, if drilling is deferred or delayed, personnel working for specialty equipment and service providers during normal drilling operations may not be needed. Typically, when drilling is discontinued, these crews are minimized.

D. Chevron's Lease Maintenance Activities

37. Chevron has invested hundreds of millions of dollars in acquiring and maintaining interests in Gulf of Mexico leases. All Gulf of Mexico leases are subject to terms that require specific activities or production to maintain each lease beyond its primary term. The lack of permits or delays in obtaining permits and approvals resulting from the vacatur of the Biological Opinion could adversely impact Chevron's ability to produce or to meet other affirmative activity

[2] *See* Offshore, Bruce Beaubouef, "Report: 'Big 3 Offshore Drillers' Reporting Increasing Day Rates, 'Robust' Outlook" (Aug. 30, 2024) ("growing number of contracts have been awarded in the low- to mid-$500,000/day range"); Ogier, Haddad, Moreira, et al., "Cascade/Chinook Operations Show STMZ Systems' Viability in Completing Lower Tertiary Wells," American Oil & Gas Reporter, June 2012 Editor's Choice, https://perma.cc/4YJ4-G5WT (discussing ultra-deepwater development in the Walker Ridge area of the Gulf of Mexico and noting, "[w]ith operating spread rates in excess of $1 million a day, reducing the time to complete the wells is critical in improving the economics of the project").

requirements in its leases, thus threatening Chevron's ability to maintain certain leases. For example, certain Chevron leases that are beyond their primary term are subject to BSEE grants requiring Chevron to conduct affirmative activities on specified schedules and meet specific measurable milestones toward the commencement or restoration of certain activities. *See* 30 C.F.R. §§ 250.168-250.177.

E. Chevron's Decommissioning Activities

38. Chevron is currently under multiple orders from BSEE to monitor, maintain, and/or decommission certain wells, facilities, pipelines, and associated infrastructure according to set deadlines. Most of this work has recently been assigned to Chevron as a predecessor or prior lessee because the last operator(s) and more recent lessee(s) defaulted on their decommissioning obligations, often in connection with their bankruptcies—these situations are referred to in the industry as "boomerang" decommissioning projects. Permitting delays would threaten Chevron's ability to meet deadlines set by BSEE's decommissioning orders.

39. Certain BSEE orders require Chevron to affirmatively conduct activities between December 20, 2024, and when NMFS expects to issue the revised biological opinion and incidental take statement. For example, Chevron is currently under orders from BSEE to perform a number of monitoring and maintenance tasks for various facilities on prescribed timelines (for example, every three days, weekly, or monthly), including a requirement to have personnel on board the facility to inspect and monitor certain equipment. Some of this activity is conducted by boat or by using subsea remote-operated vehicles deployed on site including, but not limited to, maintenance and monitoring of specific facilities, conducting required platform inspections, and pollution inspections. If operations in the Gulf must be halted or curtailed such that Chevron could not access the decommissioning sites by boat or use remote-operated vehicles for necessary work, Chevron would not be able to meet its obligations or deadlines under the BSEE orders. Helicopter

flyovers are insufficient to complete all of these required tasks (including the requirement to have personnel on board at specific frequencies). Therefore, Chevron would need to obtain a variance from BSEE's current requirements and would be limited in its ability to conduct thorough inspections and monitoring.

40. Chevron has plans to conduct additional decommissioning activities in early- to mid-2025 to meet certain 2025 decommissioning milestones recently discussed with BSEE. However, if Chevron cannot obtain timely BSEE authorizations, including permits to modify wells and facilities and revised permits to modify for wells to address new information encountered during well plugging and abandonment, Chevron will be unable to safely plug and abandon "boomerang" wells. Similarly, Chevron will be unable to conduct structure removal and site-clearance activities necessary for decommissioning.

41. If Chevron is unable to carry out any decommissioning activities as of December 20, 2024, it will need to seek variances for or extensions of dozens of Government orders involving decommissioning. If those variances or extensions are not granted and Chevron cannot timely complete the work, BSEE could issue Chevron Incidents of Non-Compliance and could seek to impose civil penalties of up to $54,352 per day per violation, 30 C.F.R. § 250.1403.

42. Delays in permitting and approvals will delay decommissioning and the benefits of removing obsolete facilities and infrastructure from the Gulf of Mexico, potentially for substantial periods of time. This could lead to oil and gas infrastructure that is no longer in use, including wells, remaining on site in the Gulf of Mexico for additional months or years. For some boomerangs that were in poor shape before Chevron was ordered to decommission them and are high priorities for BSEE, delays in decommissioning caused by a permitting backlog will delay environmental benefits of decommissioning obsolete facilities.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information, and belief.

Executed on September 16, 2024, in Covington, Louisiana.

Joe T. Gordon

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	NO. 8:20-cv-03060-DLB **DECLARATION OF BRENDA R. LINSTER**

DECLARATION OF BRENDA R. LINSTER

1. My name is Brenda R. Linster. I make this declaration on the basis of personal knowledge and information gathered in the course of my business activities. I am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Discipline Lead, Environmental and Safety, for the Health Safety, Environment and Carbon Function for BP Exploration & Production Inc ("bp") and have been employed at bp since November 2015. My duties include supervising regulatory, environmental and compliance teams managing permitting and compliance efforts for bp's Gulf of Mexico operations. bp is a member of the American Petroleum Institute.

3. bp's resilient hydrocarbons business is a key pillar in bp's transformation into an integrated energy company. "Resilient" means hydrocarbons that can withstand volatility in the market and are connected to nearby, preexisting infrastructure. We are one of the region's largest

oil producers, and we're continuing investment and exploration around five offshore production facilities: Atlantis, Mad Dog, Na Kika, Thunder Horse and Argos. With more than three decades of experience in the region, bp continues to consider additional projects to sustain production through the second half of the decade, including from developments in the Paleogene formation.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") have required bp to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM and BSEE.

5. bp currently holds permits or other authorizations from BOEM and BSEE for operations that will continue beyond December 20, 2024. Each of those permits and authorizations is covered by the BiOp and ITS and contains conditions requiring bp and its contractors to comply with the terms of the ITS. My understanding is that compliance with those terms and conditions is intended to minimize or eliminate impacts on ESA-listed species. While disturbing or injuring ESA-listed species (called "take") is generally unlawful, the ITS operates functionally as a permit, allowing specific types of incidental take of ESA-listed species as part of permitted oil and gas activities. Total bp expenditures planned for the permitted activities listed below are estimated to be over $650 million. bp currently holds permits or other authorizations of the following types:

- 10 facility safety system modification permits;
- 3 permits to drill;

- 7 permits to modify;
- 2 geological and geophysical permits;
- 2 pipeline lease term modification permits;
- 1 pipeline decommissioning permit; and
- 1 ancillary activity permit

6. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until May 2025. If that were to occur, there would be a "gap" in ESA coverage for the permits and operations described above for a period of at least several months and perhaps significantly longer. I understand the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various GOM activities and operations would be removed and that, as a result, continuing certain operations under existing permits would be at risk because it could expose operators to civil and criminal liability under the ESA. Accordingly, in order to mitigate the risk of violating the ESA and the conditions of BOEM and BSEE permits until a new BiOp and ITS are issued, under such circumstances bp will be required by December 20, 2024, to assess its continuation of certain operations.

7. Consequently, vacatur would result in significant legal costs and other costs incurred internally to evaluate risk of non-compliance with the ESA and the conditions of BOEM and BSEE permits, as well as the risk of enforcement actions, civil lawsuits seeking injunctive relief, or other liabilities that would negatively impact bp. Those costs would not be incurred by bp but for the vacatur of the BiOp and ITS, and could not be recouped.

8. The option to halt permitted operations would also have significant adverse ramifications for bp. Doing so would result in hundreds of millions of dollars of irreparable harm primarily due to lost production and idle contract vessel fleets. Additionally, many of the activities listed are needed to improve the safety systems of the facilities and properly decommission equipment, so delay would create safety and environmental risks, including risks to ESA-listed that the BiOp was developed to protect. Also, many permits would have to be modified to extend operational dates. Moreover, if production of oil and natural gas from the facilities themselves were halted, this would not only result in a shortfall of production from some of the lowest carbon-intensity assets in the world, but it would create risks to personnel and the environment from the needless halting and subsequent ramp-up of production itself; the facilities are designed to run efficiently, not to swing rapidly through production rates and stoppages.

9. Further, halting progress on certain activities, as referred to above, would create safety and environmental risks. For example, many of these planned activities are needed modifications to safety systems, such as fire-fighting equipment, emergency generators, HVAC systems, subsea safety valves to control wells, and flammable gas leak detection systems. Also, many of the activities planned are improvements to systems designed to control impacts on the environment, e.g. systems designed to reduce produced water, natural gas leakage detection equipment, and greenhouse gas leakage measurement equipment. Finally, not performing the activities planned for safely decommissioning idle equipment –would increase the potential for oil spills. The order of the Court, therefore, puts the safety of personnel working offshore at greater risk and prevents operators like bp from improving their impacts to the environment, including ESA-listed species and critical habitats.

10. The full financial impact of halting these production operations for a period of months (or more), is difficult to predict with precision. What is certain is that the financial impact will be very substantial on the order of hundreds of millions of dollars and will negatively affect bp, its employees, its contractors, its contractors' employees, and the entire regional economy. Those financial impacts will not be recoupable.

11. bp plans to undertake activities that have not yet been permitted or authorized or that have permit/authorization requests pending and are scheduled to occur between December 20, 2024, and May 2025. bp plans to submit applications to BOEM, BSEE and EPA for the appropriate permits/authorizations at least 60 days in advance of the intended start dates. Exploration Plans (EPs) will be submitted at least 6 months and Development Operation Coordination Documents (DOCDs) will be submitted at least 12 months before field execution. In our experience, it typically takes the regulator approximately 30-60 days to process permits, 6 months for EPs, and 1 year for DOCDs, including any required "step-down" consultation pursuant to the terms of the BiOp. Total estimated costs for these activities that have not yet been permitted or authorized or that have permit/authorization requests pending are in the hundreds of millions of dollars.

12. If, as the Court has ordered, the BiOp and ITS are vacated as of December 20, 2024, and a new BiOp and ITS are not completed until May 2025, then it is my understanding that bp's permit applications would almost certainly not be granted until sometime after the new BiOp and ITS were issued. That would irreparably harm bp due to lost production, idle contractor time, inability to perform necessary work to manage safety and environmental risks, inability to safely decommission idle assets, and inability to commission new production assets. This would significantly and negatively impact bp's ability to manage its offshore operations.

13. The financial impact of the harms described above is difficult to predict with precision. What is certain is that the financial impact related to activities that have not yet been permitted or authorized or that have permit/authorization requests pending will be very substantial, over a billion dollars, and will negatively affect bp, its employees, its contractors, its contractors' employees, bp's co-owners in federal leases, its investors and the broader Gulf of Mexico economy. Those financial impacts will not be recoupable.

14. Additionally, bp will likely suffer reputational damage to its business if it is unable to proceed with the planned activities described above. It would result in cancellation of contracts, difficulty in bp meeting obligations to its co-owners in federal leases, shortfalls in production levels, inability to regularly maintain infrastructure, and delays in decommissioning idle assets The scope and magnitude of these types of reputational harm are difficult or impossible to estimate with specificity, but they are significant reputational injuries that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 16, 2024.

Brenda R. Linster

Brenda R. Linster

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	NO. 8:20-cv-03060-DLB **DECLARATION OF JOHN B. SPATH**

DECLARATION OF JOHN B. SPATH

1. My name is John B. Spath. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Executive Vice President and Head of Operations of Talos Energy, Inc., along with its subsidiaries (collectively, "Talos"), and have served in this role since December 2023. I joined Talos in 2013 as Drilling Manager, and in November 2015, I was appointed Vice President of Production Operations, overseeing multiple operational activities, including Production Operations, Production Engineering, Asset Retirement Obligations (ARO) Operations, and Facilities Engineering. In May 2018, I was promoted to Senior Vice President of Drilling and Production Operations and was responsible for several operational functions during varying times, including Production Operations, Production Engineering, Drilling and Completions, ARO Operations, Regulatory Compliance and Supply Chain, and was

subsequently promoted to my current role. I have over 28 years of experience in the energy industry, and have held various drilling, completions, facilities and production engineering roles at companies, which include McDermott, Marathon Oil Corporation, Mariner Energy, Stone Energy, Deep Gulf Energy and Helix Energy Solutions Group prior to joining Talos.

3. Talos is a publicly held independent oil and gas operator with exploration, exploitation and production operations primarily in the U.S. Gulf of Mexico, both in shallow and deep waters. Talos became a New York Stock Exchange-listed public company in May 2018. Since the company's formation in 2012, Talos has grown our offshore asset base significantly, both through the acquisition of producing fields and existing leases as well as through acquisitions of new leases at Federal OCS Gulf of Mexico lease sales. Today, Talos holds interests in approximately 260 Federal leases in the U.S. Gulf of Mexico and is the designated operator of the majority of these leases. Since forming in 2012, Talos has historically focused its operations in the Gulf of Mexico because of Talos's deep experience and technical expertise in the basin, which maintains favorable geologic and economic conditions, including multiple reservoir formations, comprehensive geologic and geophysical databases, extensive infrastructure and an attractive and robust asset acquisition market. Per the Bureau of Safety and Environmental Enforcement's ("BSEE") public data ranking oil and gas production volumes by operator in the Gulf of Mexico in 2024, Talos is the 6th largest oil producer and 2nd largest natural gas producer by operated volumes. From 2012 through 2023, Talos has paid the U.S. government ~$1.52 billion in Federal royalties. Talos is a member of EnerGeo Alliance and the National Ocean Industries Association.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the

National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and BSEE have required Talos to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM and BSEE.

5. Talos has submitted a drilling permit application to BSEE for the first of a three-well drilling program Talos plans to commence in the 4th quarter of 2024, with back-to-back drilling operations continuing into the 3rd quarter of 2025. Talos has contracted a deepwater drilling rig to drill these three wells. In addition, Talos has submitted applications for permits to complete and tie-back a well drilled earlier this year, with plans to commence these operations in November 2024. Each of the permits and authorizations, once approved by BSEE, will be covered by the BiOp and ITS and will contain conditions requiring Talos to comply with the terms of the ITS. My understanding is that compliance with those terms and conditions provide protections that minimizes impacts on ESA-listed species. And while injuring ESA-listed species (called "take") is generally unlawful, the ITS operates functionally as a permit, allowing incidental take of ESA-listed species as part of permitted oil and gas activities.

6. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will not be completed until late May 2025, resulting in a "gap" in ESA coverage for the permits and operations described above for a period of approximately five months. I understand the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various GOM activities and operations would be removed, and that, as a result, continuing operations under existing permits could

expose operators to civil and criminal liability under the ESA. Talos's daily operations produce an average of approximately 100,000 barrels of oil equivalent per day. Accordingly, under such circumstances, Talos would be forced to decide whether, on December 20, 2024, to (a) continue those operations and risk violating the ESA and the conditions of Talos's BOEM and BSEE permits or (b) halt the operations, potentially including shutting in most, if not all of our Gulf of Mexico production, until a new BiOp and ITS are issued. Either option would irreparably harm Talos.

7. The option to continue the operations at risk of violating the ESA and the conditions of Talos's BOEM and BSEE permits is inconsistent with Talos's policy of conducting operations in a manner that is compliant with federal law. As stated in Talos's Code of Business Conduct and Ethics, "To maintain the Company's valuable reputation, we must comply with both the law and Talos's policies, standards and business practices. Obeying the law, both in letter and in spirit, is the foundation on which this Company's ethical standards are built, and compliance with all regulations and laws takes priority over the opportunity to profit or gain competitive advantage." Moreover, proceeding under this option would expose Talos to potential enforcement actions, civil lawsuits seeking injunctive relief, or other liabilities that negatively impact Talos. Talos typically does not carry out operations with this type of significant legal exposure and, thus, proceeding under this option would cause Talos to incur significant legal costs and other internal costs to ensure that proceeding under this option creates the least possible amount of risk. Those costs would not be incurred by Talos but for the vacatur of the BiOp and ITS, and would not be recouped.

8. The option to halt operations would also have significant adverse ramifications for Talos, including the complete loss of revenues from the sale of our oil and gas production for

nearly half a year and the need to cover our hedges by buying production from another source due to being forced to shut in our production. In addition, we would be forced to lay off our offshore workforce and potentially others on our staff due to the lack of revenues from the sale of our production. Beyond the financially adverse ramifications, there are also operational risks that could occur, given that we would be unable maintain and service our facilities and pipelines without manpower on our platforms.

9. Because Talos has never been forced to halt its operations for a period of many months, the full financial impact of doing so is difficult to predict with precision. What is certain is that the financial impact will be very substantial and will negatively affect Talos, its employees, its contractors, and its contractors' employees. Those financial impacts will not be recoupable.

10. Talos plans to undertake multiple decommissioning activities that are scheduled to occur between December 2024 and Fall 2025. Some of these decommissioning activities have been permitted, some are partially permitted, and some have not yet been permitted. Absent the pending vacatur of the BiOp, we fully expect to apply for and receive approved permits for these currently unpermitted activities in ample time to meet our workplan. The decommissioning activities planned during this period and their permitting status are as follows:

A. Well Abandonments:

- **Total Wells:** 63 wells
- **Planned Locations:**
    - **MU A85 A:** 10 wells (Partially Permitted)
    - **VR 331 A:** 22 wells (Not Permitted)
    - **SM 93 A:** 3 wells (Permits Approved)

- **VR 284 C:** 3 wells (Not Permitted)
- **VR 279 A:** 10 wells (Not Permitted)
- **SM 122 A:** 2 wells (Not Permitted)
- **VR 215 A & B:** 13 wells (Permits Approved)

- **Timeline:** All well abandonments are scheduled to take place between December 2024 and Fall 2025. These activities are critical to ensure the safe decommissioning of non-producing wells, prevent environmental hazards, and comply with regulatory requirements.

B. Pipeline Abandonments:

- **Total Pipelines:** 14 pipelines
- **Planned Locations and PSNs:**
  - **SM 107:** PSN 5055 (Not Permitted)
  - **SM 122:** PSN 12582, 12583 (Not Permitted)
  - **SM 130:** PSN 3301, 5133, 5114, 3310, 5111, 5112, 7561, 7563, 7565, 19849, 4759 (Not Permitted)
- **Timeline:** The abandonment of these pipelines is planned for the same period. Delays in this work could lead to significant environmental risks, including potential leaks or damage to marine ecosystems, due to the prolonged presence of unused infrastructure.

C. Platform Removals and Site Clearance:

- **Total Platforms:** 10 platforms
- **Planned Locations:**
  - **SS 224 A, D & E** (Permit Approved)
  - **PL 23 D** (Permit Approved)

- **SM 93 A** (Permit Approved)
- **EC 339 A** (Permit Pending SARS Decision)
- **EC 345 A** (Permit Pending SARS Decision)[1]
- **VR 215 A, B & CF** (Not Permitted)

- **Timeline:** These platform removals and site clearances are part of a broader effort to decommission aging Talos infrastructure in the Gulf of Mexico. Delays in these activities may result in significant financial costs, legal liabilities, and environmental risks.

11. With regard to the planned decommissioning activities summarized above, vacatur of the BiOp on December 20, 2024 will have the following impacts:

- **Operational Delays:** The vacatur of the GOM BiOp will cause significant delays in the planned abandonment and decommissioning activities. The inability to proceed with well and pipeline abandonments, as well as platform removals, poses serious operational and environmental risks.
- **Financial Impact:** Delays are expected to result in substantial financial losses due to maintenance and upkeep of idle equipment, increased contractor fees on already negotiated and executed contracts, and potential penalties for non-compliance with regulatory deadlines, especially those related to BSEE decommissioning orders.

[1] "SARS" refers to "Special Artificial Reef Site." Talos has requested a special session with the Louisiana Reef Counsel to present the biological surveys we just conducted at EC 345. The counsel normally meets in the fall to review such request, but we are working with the Louisiana Department of Wildlife and Fisheries to schedule a special session sometime in Feb/Mar 2025. We would then add the counsel SARS approval to our application to decommission and submit per normal channels with the expectation of having the decommissioning permit approved by Fall for a 2025 removal. The vacatur of the GOM BiOp will likely cause the Louisiana Reef Counsel to deny our special session request and postpone that meeting until there is an updated biological opinion.

- **Compliance Risks:** Several of the delayed activities are subject to BSEE decommissioning orders, with deadlines that are now at risk of being missed. This non-compliance could result in further legal complications and fines.
- **Environmental Impact:** The delayed abandonment and decommissioning of wells, pipelines, and platforms increase the risk of environmental harm, including potential leaks, structural failures, and degradation of marine habitats, particularly if we are unable to perform any safety or environmental protection-related operations due to the inability to obtain the required permits to perform such operations.
- **Safety Risks:** Prolonging the presence of outdated and non-operational infrastructure in the Gulf of Mexico could result in safety hazards to marine and human life.

12. In addition, the strategic uncertainties associated with the delay of these and other Gulf of Mexico operators' decommissioning activities will have the following detrimental impacts:

- **Reduced Industry Footprint:** The looming vacatur of the GOM BiOp has introduced significant strategic uncertainty that may lead decommissioning companies to scale back their operations in the Gulf of Mexico, resulting in a reduced industry footprint.
- **Loss of Skilled Labor:** As the industry footprint shrinks, there is a significant risk of losing highly skilled labor. Workers with specialized knowledge in offshore production, maintenance, and decommissioning may be forced to seek employment elsewhere, leading to a talent drain and reduction in competent capacity. This loss of expertise could hinder future operations and the ability to respond effectively when the regulatory environment stabilizes.

- **Long-Term Economic Consequences:** The reduction in active facilities and the loss of quality labor may have lasting economic impacts. Beyond the immediate loss of jobs, the diminished industry presence could lead to reduced investment in the region, a weaker supply chain, and fewer opportunities for local businesses that depend on the offshore industry.
- **Backlog of Permitting Applications:** The uncertainty and delays associated with the vacatur could result in a backlog of decommissioning permit applications, which will presumably remain on hold until a new BiOp is issued. This backlog could exacerbate the already slow permitting process, further delaying the safe and timely removal of aging infrastructure.
- **Hesitation to Commit to Reefing Projects:** The unpredictability surrounding SARS approvals (see footnote 1 above) may cause companies to hesitate before committing to reefing projects. This reluctance could reduce participation in the rigs-to-reefs program, limiting the availability of structures suitable for conversion into artificial reefs and affecting the long-term success of the program.
- **Reduced Contribution to Marine Conservation:** Delays in SARS approvals could undermine Louisiana's marine conservation efforts. The rigs-to-reefs program is crucial for enhancing marine habitats, and any disruption in the approval process could slow down the creation of new reef sites, impacting marine biodiversity and local economies dependent on fishing and tourism.
- **Long-Term Environmental and Economic Impact:** The delayed or reduced participation in the artificial reef program due to challenges in obtaining SARS approval could have significant long-term environmental and economic consequences. Fewer

artificial reefs may lead to a decrease in marine biodiversity, and the local communities that benefit from these habitats could suffer economically due to reduced opportunities for fishing and tourism.

13. If, as the Court has ordered, the BiOp and ITS are vacated as of December 20, 2024, and a new BiOp and ITS are not completed until late May 2025, then it is my understanding that Talos's pending and future permit applications would almost certainly not be granted until sometime after the new BiOp and ITS were issued. That would irreparably harm Talos because we would be unable to drill and complete the wells in our current drilling schedule, and therefore not meet the expectations of our investors and shareholders. In addition, we would likely have to shut-in most, if not all, of our Gulf of Mexico production, which today averages approximately 100,000 barrels of oil equivalent per day. Without the ability to mobilize crews and equipment for inspections or maintenance, we face increased risks of excessive corrosion and potential pollution events. Any delay in lease-holding activities complicates obtaining permits and mobilizing operations. In case of an emergency well operation, structural repair, or facility repair, any permitting delays jeopardize both the safety of our offshore workforce and the environment.

14. The financial impact of the harms described above is difficult to predict with precision. What is certain is that the financial impact will be very substantial, and completely devastating if we are forced to shut-in our offshore oil and gas production for nearly half a year, and will negatively affect Talos, its employees, its contractors, and its contractors' employees. Those financial impacts will not be recoupable.

15. Additionally, Talos will likely suffer reputational damage to its business if it is unable to proceed with the planned activities described above. We are proud of our operational

record and the positive reputation we have built over the years, including among our co-owners, our contractors, our suppliers and service providers, our communities where we live and work and our investors and shareholders. Should we be required to cease all operations on December 20, 2024, because of the Maryland District Court's vacatur order, we would be unable to perform all operations on our offshore platforms, including performing any repairs or other operations required to maintain safety and environmental protection. In addition, we would be forced to cancel a rig contract and all existing orders with our suppliers and service providers, and to furlough or lay off many of our well-paid offshore workers. The scope and magnitude of these types of reputational harm are difficult or impossible to estimate with specificity, but they are significant reputational injuries that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 16, 2024.

John B. Spath
Executive Vice President and
Head of Operations

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF THOMAS A. JANISZEWSKI**

DECLARATION OF THOMAS A. JANISZEWSKI

1. My name is Thomas A. Janiszewski. I am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am a Vice President of Anadarko Petroleum Corporation and Anadarko US Offshore LLC (collectively, "Anadarko"). The facts set forth in this declaration are based on either my personal knowledge or information gathered in the course of my business activities.

3. Anadarko is a long-standing and active participant in oil and gas exploration and development activities, including in the Gulf of Mexico Outer Continental Shelf ("OCS") Region. Anadarko operates the largest number of deepwater floating platforms in the Gulf of Mexico with 9 platforms spanning over 600 miles (965 kilometers) across the OCS, operated by more than 2,000 people offshore on any given day. Anadarko is also one of the largest net OCS producers, ships over 10 percent of the Gulf of Mexico's total production, and it or its

predecessors have operated in the region for over 75 years. Anadarko is a member of the American Petroleum Institute.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") have required Anadarko to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM and BSEE.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and NMFS has represented that there will not be a new BiOp by this date. Indeed, I understand that the government has represented that a new BiOp and ITS will likely not be completed until August 2025. If that occurs, there will be a "gap" in ESA liability protection related to "take" of ESA-listed species for at least several months and perhaps even longer. In addition, the applicable agencies have provided no assurances that future permit applications will be granted if there is no BiOp or ITS in place.

6. As described more fully below, between December 20, 2024, and August 2025, Anadarko plans to commence both permitted operations and operations not subject to permit requirements. The cost of these activities is significant and will be substantially increased if activities must be deferred due to a BiOp and ITS not being in place.

7. Anadarko currently holds permits or other authorizations (both referred to herein as "Permits") from BOEM and BSEE for operations that will continue beyond December 20, 2024. Those Permits include an Application for Permit to Modify for an upcoming well plug and

abandonment. In addition, Anadarko holds Permits to install Right of Way and Lease Term pipelines that are tied to two separate development projects. Each of the Permits is covered by the BiOp and ITS and contains conditions requiring Anadarko to comply with the terms of the ITS. My understanding is that compliance with those terms and conditions provide protections that minimize potential impacts on ESA-listed species. And while Anadarko takes significant steps to avoid a take, the ITS operates functionally as a permit, allowing incidental take of ESA-listed species as part of lawful permitted oil and gas activities provided the operator has complied with the terms and conditions of the ITS intended to minimize the likelihood of any such take occurring. Vacatur of the ITS would remove this protection and impair Anadarko's ability to continue to operate under its existing Permits in a manner compliant with the requirements of the ESA.

8. In addition to the above, between December 20, 2024, and August 2025, Anadarko plans to undertake numerous activities related to existing operations that fall within the scope of the BiOp. These activities include, but are not limited to, maintaining the integrity of our assets and existing production, implementation of measures required for safety and regulatory compliance, Well Interventions for safety purposes, Exploration/Development Well Drills, Development Well Completions, Well Decommissioning for regulatory compliance purposes, Pipeline Installations and Decommissioning (i.e., Pipeline Application, Development Operations Coordination Document ("DOCD")), and Well Subsea Tiebacks (Facility Safety Systems, Supplemental Deepwater Operations Plan, DOCD). To facilitate these activities, Anadarko will need to use a contracted drillship, support vessels, and third-party contractor support, each of which also falls within the scope of the BiOp.

9. I understand the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA Take coverage" for various GOM activities and operations would be removed. Accordingly, to the extent there is a "gap" in coverage following the vacatur of the 2020 BiOp and before the issuance of a revised BiOp, Anadarko is likely to incur significant costs as a result of delays in its ability to obtain the ESA coverage necessary to conduct the broad range of routine and non-routine activities presently afforded by the BiOp. This inability to timely seek new permits would also have significant adverse ramifications for Anadarko. Further, given the offshore environment in which these operations occur, idling facilities and infrastructure offshore pending authorization presents unique challenges and risks. For instance, pipelines and infrastructure at deep depths often cannot be emptied of fluids without risking their collapse due to the weight of the ocean above them. However, idling fluid-filled equipment increases the risk that blockages will form, requiring intervention before the line and related equipment can be returned to service. And given the equipment's location at certain depths, such interventions are costly, logistically challenging, and increase the risk of potential environmental consequences. Additional negative impacts may include, but are not limited to, the following:

- Decreased vessel availability in the Gulf of Mexico should vessel contractors elect to send their assets into more stable work environments of the world, which would eliminate US jobs and raise the risk of response capability.
- Restrictions in the ability of vessels and helicopters to transport the personnel and equipment needed to safely operate and maintain its offshore facilities, potentially impairing Anadarko's ability to provide essential life supporting supplies and posing a risk of loss of assets, including platforms, wells, and other related facilities, along

with potential environmental consequences due to a reduced ability to respond to an integrity issue, personnel safety incident or environmental event.

- Impacts to asset and well integrity if Anadarko cannot timely obtain authorization to perform its planned asset and well integrity programs, which further complicate the ability to resume steady state production.
- An inability to monitor subsea infrastructure and perform subsea inspections ensuring infrastructure integrity is maintained.
- Impacts to downstream infrastructure integrity due to reduced or delayed production.

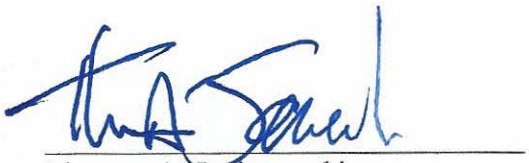
10. Given the broad scope of operations that fall within the scope of the BiOp and ITS, the full financial impact of their vacatur is difficult to predict. What is certain is that the financial impact from delays in operations could be substantial to Anadarko and could negatively affect Anadarko, its employees, its contractors and its contractors' employees, and its production. Anadarko's associated net production volume is approximately 145,000 barrels of oil equivalent per day. Any delays of Anadarko's operations could curtail this daily production. Those financial and production volume impacts would be difficult to recoup and could be felt for years. In addition, it is uncertain that production would return to the same volumes that existed prior to any significant curtailment of operations related to the vacatur of BiOp. Further, up to hundreds of millions of dollars in royalties/taxes paid to the federal and state governments could be lost due to a reduction in production volume, harming the public entities that depend on this funding source.

11. Finally, a substantial delay to Anadarko's operations could have a negative effect on the company's ability to maintain its highly trained and skilled workforce, which, in turn, could make it challenging for Anadarko to maintain asset integrity to its current standards. The

impact could be significant and could include substantial financial impacts that could negatively affect Anadarko, its employees, its contractors, and its contractors' employees.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 13, 2024.



Thomas A. Janiszewski

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	NO. 8:20-cv-03060-DLB **DECLARATION OF KATE BECK**

DECLARATION OF KATE BECK

1. My name is Kate Beck. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Manager, U.S. Operations of Equinor US Operations LLC, and have been employed by Equinor or predecessor entities since 2011. I have over 19 years of experience in the energy industry in oilfield engineering, operations, development, financial controls, planning, land management, asset management, and other aspects of oil and gas exploration, production, and transportation. Equinor is a member of the American Petroleum Institute.

3. Equinor USA E&P Inc. ("Equinor USA") produces hydrocarbons from Wells A001 and A002 in Mississippi Canyon Block 941 and Well A003 in Mississippi Canyon Block 942 and Platform A (Mirage/Titan) (Complex ID 2089) (collectively, "Titan"). In addition, Equinor USA or U.S. affiliates own non-operating working interests in the Gulf of Mexico ("GOM") in 9

producing fields in addition to Titan and 7 host production platforms, collectively producing Equinor equity volumes of approximately 140,000 barrels of oil equivalent per day. Equinor USA or its U.S. affiliates expect to participate in approximately 46 GOM well operations conducted by partners, including drilling, completion, intervention, and workover activities between September 2024 and December 2025. Equinor USA and its U.S. affiliates are indirect subsidiaries of Equinor ASA, an international energy company, headquartered in Stavanger, Norway, with a portfolio that encompasses oil and gas, renewables, and low carbon solutions.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") have required Equinor to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM and BSEE.

5. Equinor currently holds permits or other authorizations from BOEM and BSEE for operations that will continue beyond December 20, 2024. Specifically, Equinor produces hydrocarbons from Titan pursuant to a Revised Development Operations Coordinated Document ("DOCD") and Air Quality Report approved by BOEM on September 19, 2020, and an Oil Spill Response Plan ("OSRP") approved by BSEE on July 5, 2022 (with subsequent changes deemed "in compliance" most recently on December 13, 2023) and the National Pollution Discharge Elimination System ("NPDES") General Permit issued by the Environmental Protection Agency Region 6 in May 2023. Each of those permits and authorizations is covered by the BiOp and ITS and contains conditions requiring Equinor to comply with the terms of the ITS. My understanding

is that compliance with those terms and conditions provide protections that minimizes impacts on ESA-listed species. And while injuring ESA-listed species (called "take") is generally unlawful, the ITS operates functionally as a permit, allowing incidental take of ESA-listed species as part of permitted oil and gas activities.

6. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August 2025. If that were to occur, there would be a "gap" in ESA coverage for the permits and operations described above for a period of at least several months and perhaps significantly longer. I understand the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various GOM activities and operations would be removed, and that, as a result, continuing operations under existing permits could expose Equinor to civil and criminal liability under the ESA. Accordingly, under such circumstances, Equinor would be forced to decide whether, on December 20, 2024, to (a) continue the operations and risk violating the ESA and the conditions of Equinor's BOEM and BSEE permits or (b) to halt the operations until a new BiOp and ITS are issued. Either option would irreparably harm Equinor.

7. The option to continue the operations at risk of violating the ESA and the conditions of Equinor's BOEM and BSEE permits is inconsistent with Equinor's policy of conducting operations in a manner that is compliant with applicable laws. Moreover, proceeding under this option would expose Equinor to potential enforcement actions, civil lawsuits seeking injunctive relief, or other liabilities that negatively impact Equinor. Equinor typically does not carry out operations with this type of significant legal exposure and, thus, proceeding under this option would incur significant legal costs and other costs incurred internally to ensure that proceeding

under this option creates the least possible amount of risk. Those costs would not be incurred by Equinor but for the vacatur of the BiOp and ITS and would not be recouped.

8. The option to halt operations would also have significant adverse ramifications for Equinor. Titan was designed to be a manned platform, and a prolonged shut-in would pose significant safety and environmental challenges. For example, halting operations can result in enhanced deterioration of equipment due to stagnant fluids and the cessation of on-going routine functioning, inspections, and repairs, which would pose unpredictable consequences on restart. Moreover, environmental risks would be enhanced due to the inability to monitor or control leaks remotely or monitor status of the nitrogen pressure on the riser tensioners or to refill as is routinely needed. Insufficient pressure results in stress on the risers which could lead to leaks or other issues. A lack of power on the platform would prevent Equinor from knowing what is happening on the platform in real-time or what has happened after the fact. Any extended evacuation period would likely lead to a loss of key personnel (especially contractors). Equinor would also lose revenue from shut-in production and incur the cost to pay employees and key crew members to stay at home to retain their competence for remanning or restarting. We would also expect to incur additional costs for reconnaissance flights to visually assess the facility for issues and increased costs to restart due to inspections or testing required after a prolonged unmanned period.

9. The full economic and financial impacts to Equinor of halting its operations for a period of many months is difficult to predict with precision. What is certain is that the financial impact will be substantial and will negatively affect Equinor, its employees, its contractors, and its contractors' employees. Those financial impacts will not be recoupable.

10. Additionally, under either of the options above, Equinor will likely suffer reputational damage. Under the first option, it is likely that environmental activist organizations

will publicly criticize Equinor for continuing operations without a BiOp and ITS in place. Under the second option, it is likely that Equinor's business reputation would be harmed as a result of unmanning infrastructure that is designed to be manned. The scope and magnitude of these types of reputational harm are difficult or impossible to estimate with specificity, but they are significant reputational injuries that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief. The basis of my knowledge is my own personal knowledge and/or based on my review of the business records of Equinor USA.

Executed on September 13, 2024.

Kate Beck
Manager, U.S. Operations
Equinor US Operations LLC

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	NO. 8:20-cv-03060-DLB **DECLARATION OF DAVID HAJOVSKY**

DECLARATION OF DAVID HAJOVSKY

1. My name is David Hajovsky. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I have been employed with TGS since October 2017. I currently am the Executive Vice President – Multi-Client of TGS ASA and in this role, I am responsible for all of TGS's multi-client activities globally, including those in the U.S. Gulf of Mexico. Prior to this role, I was EVP – Western Hemisphere and was responsible for all multi-client activities throughout the Western Hemisphere, including activities in the Gulf of Mexico. My roles with TGS have provided me with vast experience regarding project development, client interest and operational activities in the Gulf of Mexico.

3. TGS is a full-service energy data company providing services to the global energy industry, with its primary focus on the acquisition, processing and licensing of seismic and other

data on a global basis. TGS is a member of EnerGeo Alliance and National Ocean Industries Association (NOIA). The Gulf of Mexico represents a significant portion of TGS's activities, with activities in the Gulf of Mexico encompassing the acquisition, on both a multi-client and proprietary basis, of seismic data using streamer and ocean bottom node technologies, as well as the processing of such data and the collection and analysis of data for carbon capture and storage and other renewable energy purposes. Each year, TGS invests tens of millions of dollars in its expansive multi-client data library in the Gulf of Mexico, using modern technologies such as state-of-the-art ocean bottom nodes, high-quality 3D streamer vessels and low-frequency source technologies, as well as advanced processing and imaging capabilities. These considerable investments by TGS in its multi-client data library in the Gulf of Mexico have accumulated to $2 billion over the past 40+ years and have driven exploration success by oil and gas companies who use this data to support exploration and production of oil and gas. This exploration and production have significantly contributed to, and will continue to contribute to, the energy independence of the United States.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safey and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August 2025. If that were to occur, there would be a "gap" in ESA coverage for the Gulf of Mexico permits and operations for a period of approximately eight months. I understand that the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various GOM activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA if activities and operations continued without the ESA take coverage in place.

6. This "gap" in ESA coverage, if it occurs, would place TGS in an extremely difficult situation. Operators who choose to shut down their operations would likely cancel or significantly delay their contracts with TGS, with substantial adverse consequences to TGS, as described below. For contracts that are not canceled by an operator, TGS would be put in the position of having to decide whether to proceed or to cancel or defer those contracts until a new BiOp is issued. Either situation would irreparably harm TGS.

7. If TGS were forced to suspend its Gulf of Mexico activities as a result of cancelling or deferring contracts, this would have a direct impact on TGS's seismic acquisition operations, specifically the acquisition of 3D or 4D OBN data, which is primarily supporting oil and gas companies' existing exploration and production. Any such suspension would not only have a significant impact in the short-term on TGS in the nature of lost revenue streams and costs to shut down and terminate operations (contract buyouts, demobilizations, etc.), it would have a substantial long-term impact to TGS and its clients from the loss of necessary data for future exploration and productions activities, as well as harm TGS's relationships with its clients,

suppliers and vendors. Acquisition and processing of data is a multi-year cycle, and the activities currently being conducted by TGS will produce data that are available in 2025 and beyond, with a useful life of many years. A cessation of the ongoing activities, even if temporary, will have a lasting and significant impact, not only to the business of TGS but to the U.S. oil and gas industry as a whole.

8. The full financial impact to TGS of a possible cessation of activities that extends to August 2025 cannot be predicted with precision. The financial impacts to TGS would include the potential loss of committed and future revenues from its activities on behalf of its clients in the Gulf of Mexico, amounting to millions of dollars. Additionally, terminations or renegotiation of existing contracts for scheduled work in 2025 would also negatively impact TGS's relationships with key global oil and gas companies and critical vendors and suppliers, having knock on impacts to other global activity. TGS's business in the Gulf of Mexico is heavily dependent on its relationships with clients, suppliers and vendors and on its reliability in the timely delivery of quality data, supplies, and services to clients. The scope and magnitude of the reputational harm resulting from TGS being forced to change the way it operates is difficult or impossible to estimate with specificity, but it would be a significant reputational injury that would be long lasting and likely irreparable and would impact not only the TGS reputation in the Gulf of Mexico but potentially worldwide.

9. Additionally, TGS's continued multi-client data investment in the Gulf of Mexico is reliant on a number of existing or pending permits (held or sought by TGS or industry partners) for new survey acquisitions, several of which are expected to commence before and shortly after December 20, 2024. If TGS were forced to suspend its Gulf of Mexico activities due to a lack of ESA take coverage, the inability to obtain the pending permits or make use of such

permits and plan for the earmarked timeframe provided by such permits would have a detrimental impact on TGS's ability to secure funding for those permitted projects, particularly where exploration decisions are time critical. The full financial impact to TGS of not being able make use of its existing or pending permits and plan effectively through secured project funding from clients is difficult to predict with precision but would be substantial, potentially exceeding $100 million. These costs would not be recoupable.

10. Industry-wide, a cessation of activities would impact hundreds of jobs, both onshore and offshore – affecting not only TGS but also its clients, suppliers and vendors. Suppliers and vendors supporting seismic activities would be impacted by having idle vessels, equipment and crews. A seismic vessel operation typically employs about 100 offshore personnel, which would be at risk of termination of employment if projects are canceled or delayed. Furthermore, the resultant collective cancellation of work due to the factors described above will impact onshore support, including project developers, data processors, operational and HSE staff, and ancillary and support services. TGS alone employs 450 people in Houston, with a number of those employees potentially directly impacted by the level of planned and contracted activity in the U.S. Gulf of Mexico, and industry-wide, the number of at-risk employees would be exponentially more.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 13, 2024.

David Hajovsky

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, *et al.*, *Plaintiffs*, v. NATIONAL MARINE FISHERIES SERVICE, *et al.*, *Defendants*, and AMERICAN PETROLEUM INSTITUTE, *et al.*, *Intervenors-Defendants.*	No. 8:20-cv-03060-DLB Hon. Deborah L. Boardman

INTERVENORS-DEFENDANTS' EMERGENCY MOTION TO ALTER OR AMEND THE JUDGMENT OR, IN THE ALTERNATIVE, FOR A STAY PENDING APPEAL, AND FOR EXPEDITED RULING

Pursuant to Federal Rules of Civil Procedure 59(e) and 60(b), Intervenors-Defendants American Petroleum Institute, EnerGeo Alliance, National Ocean Industries Association, and Chevron U.S.A. Inc. move to alter or amend this Court's judgment (Dkt. 205) to the extent of delaying the Court's December 20, 2024 vacatur of the 2020 programmatic Biological Opinion (BiOp) and 2021 Amended Incidental Take Statement until at least May 21, 2025.

In the alternative, pursuant to Federal Rule of Civil Procedure 62 and consistent with Federal Rule of Appellate Procedure 8(a)(1), Intervenors move to stay the Court's judgment (Dkt. 205) pending resolution of Intervenors' appeals to the Fourth Circuit.

Finally, Intervenors move that the Court rule on this Motion **no later than October 21, 2024**, because, absent relief, Intervenors will need sufficient time to seek emergency relief in the

Fourth Circuit and, if necessary, the U.S. Supreme Court, and to afford those courts adequate time to consider Intervenors' applications. Intervenors intend to file a reply in support of their motion no later than October 7, 2024.

The grounds for the Motion are set out in the accompanying memorandum.

Counsel for Intervenors have conferred with counsel for Plaintiffs and Federal Defendants. Plaintiffs will take a position on the motion to extend the vacatur date after reviewing the papers. Plaintiffs oppose the motion to stay. Plaintiffs will respond to the motions in accordance with the court's local rules. The Federal Defendants do not oppose relief under Rule 59(e), but take no position on relief under Rule 60(b). The Federal Defendants also take no position on Intervenors' alternative request for a stay.

Respectfully submitted,

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Counsel for Chevron U.S.A. Inc.

September 16, 2024

CERTIFICATE OF SERVICE

I hereby certify that on September 16, 2024, I electronically filed the foregoing using the CM/ECF system, which will send notification of this filing to the attorneys of record.

/s/ Dana A. Raphael
Dana A. Raphael

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF BRENT OZENNE**

DECLARATION OF BRENT OZENNE

1. My name is Brent Ozenne. I make this declaration based on personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief. I am over 18 years old, of sound mind, and capable of making this declaration.

2. I am the Chief Executive Officer of Arena Offshore, LP ("Arena"). I joined Arena in 2008 as a Production Engineer and assumed the roles and responsibilities of Production Manager in 2012. I became Chief Executive Officer of Arena in 2022. I hold a Bachelor of Science in Chemical Engineering from Louisiana State University, and I have more than twenty years of experience in production, facilities, and reservoir engineering in both the onshore and Gulf of Mexico oil and natural gas industry. Arena is a member of the National Ocean Industries Association.

3. Arena is one of the largest independent operators in the Gulf of Mexico, investing millions of dollars in capital per year to safely produce low emission and low-cost oil and natural gas in the shallow waters of the Gulf of Mexico. In 2024, we operate 133 platforms, 639 wells, and 230 pipelines, and two drilling rigs, all in the United States Gulf of Mexico.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, Arena has complied with the terms of the BiOp and ITS as required under the permits used by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and the Environmental Protection Agency ("EPA").

5. Arena currently holds permits or other authorizations from BOEM, BSEE, and the EPA for operations that will continue beyond December 20, 2024. Specifically, Arena holds Development Operations Coordination Documents ("DOCD"), and permits for facility modifications, pipeline installations and modifications, well maintenance, well workovers, drilling, and pipeline, structure, and well decommissioning activities over a majority, if not all, of our 133 platform assets. Arena also holds EPA-issued permits under the current National Pollutant Discharge Elimination System authorization for all of our assets covering all phases of production, drilling, and decommissioning operations. Most, if not all, of these activities involve contracting with various suppliers to complete the permitted operations in a safe and environmentally responsible manner. The time, costs, and resources associated with obtaining these permits can be substantial. Each of those permits and authorizations is covered by the BiOp and ITS and include conditions requiring Arena to comply with the terms of the ITS. My understanding is that

compliance with those terms and conditions includes protections to minimize impacts on ESA-listed species. And while injuring ESA-listed species (referred to as "takes") is generally unlawful, the ITS operates functionally as a permit, allowing incidental take of ESA-listed species in permitted oil and gas activities.

6. I understand that the Court has ordered the vacatur of the BiOp and ITS with an effective date of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the permits and operations described above for a period of at least several months and perhaps significantly longer. I understand the government has represented that in the event of vacatur of the BiOp and ITS, and before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations would be removed. As a result, continuing operations under existing permits could expose Arena to civil and criminal liability under the ESA. Accordingly, under such circumstances, Arena would be forced to decide whether, on December 20, 2024, to (a) continue the operations and risk violating the ESA and the conditions of Arena's BOEM and BSEE permits, or (b) halt the operations until a new BiOp and ITS are issued. Either option would irreparably harm Arena.

7. The option to continue the operations and risk violating the ESA could expose Arena to potential enforcement actions, civil lawsuits seeking injunctive relief, and other liabilities that would harm Arena. Proceeding under this option would likely force Arena to incur significant legal costs and other costs to mitigate the substantial risk of proceeding under this option. Those costs would not be incurred by Arena ***but for*** the vacatur of the BiOp and ITS and cannot be recouped.

8. The option to halt operations would also significantly harm Arena. Given the scope of the BiOp's application on essentially all oil and gas activities in the Gulf of Mexico, the consequences of discontinuing these activities would be crippling and would jeopardize worker safety and the environment. If all of Arena's operational activities were unable to proceed, Arena could not continue with its planned development activities, drilling activities, or workover well operations. Arena would be impaired from producing oil and gas from active platforms absent clarity regarding ESA compliance. Activities critical to maintaining or repairing wells, structures, pipelines, and equipment—and thus protecting workers, the public, and the environment from existing infrastructure—would cease. Additionally, Arena's ongoing efforts to responsibly and timely decommission infrastructure would be thwarted. This all assumes that such operations could be immediately stopped without risking the safety of those involved in these operations. Arena would suffer immediate financial loss due to lost production, as well as expose itself to the risk of infrastructure damage due to the inability to properly maintain assets. There also is the risk of environmental damage from the inability to conduct normal operations.

9. Because Arena has never been forced to halt its operations for a period of months (or more), the full financial impact of doing so is incapable of calculation with reasonable certainty. What is certain is that the financial impact will be significant, resulting in substantial financial losses to Arena and its employees, contractors, and contractors' employees. Those financial impacts will not be recoverable.

10. Arena is committed to its oil and gas-related operations in the Gulf of Mexico and has invested substantial time and capital planning activities beyond 2024, including activities that have not yet been permitted or have permit requests pending and are scheduled to occur between December 20, 2024, and August 2025. These activities consist of DOCDs, pipeline installations,

pipeline modifications, structure modifications, facility modifications, zone changes, well work, enhanced recovery operations, as well as requests for EPA discharge permits for drilling and decommissioning activities.

11. Arena has submitted ***203*** applications to BOEM and BSEE, which remain pending, and Arena plans to submit approximately ***154*** applications to BOEM and BSEE for the appropriate permits between now and Spring 2025. Arena also expects to submit approximately 20 additional applications for permits with the EPA related to these operations. In our experience, it typically takes the BSEE Regional Office approximately five to eight months to process the permits, the BSEE District Office anywhere from two weeks to two months, and BOEM four to six months to approve permits, including any required "step-down" consultation pursuant to the terms of the BiOp. The EPA's permit approval process is typically two weeks.

12. If, as the Court has ordered, the BiOp and ITS are vacated as of December 20, 2024, and a new BiOp and ITS are not completed until August 2025 (if not further delayed), then it is my understanding is that Arena's permit applications would almost certainly not be granted until sometime after the new BiOp and ITS are issued. That would irreparably harm Arena because Arena would be forced to halt operations or risk violating the ESA, with no recourse available to meaningfully mitigate these risks. Shallow water operations require a constant and ongoing process of applying for and obtaining permits and authorizations for effectively all operations. Failure to obtain these permits effectively halts not only production, but safety, maintenance, and decommissioning operations across all of Arena's assets and properties.

13. The financial impact of the harms described above is almost impossible to predict with precision given these unprecedented circumstances. It is an absolute certainty, however, that the financial impacts may be in the tens or hundreds of millions and will have far-reaching negative

consequences for Arena, as well as its employees, contractors, and its contractors' employees. Those financial impacts will not be recoupable.

14. I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 12, 2024.

Brent Ozenne
Chief Executive Officer
Arena Offshore, LP

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	NO. 8:20-cv-03060-DLB **DECLARATION OF CHRIS LORINO**

DECLARATION OF CHRIS LORINO

1. My name is Chris Lorino. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Senior Vice President of Operations for Murphy Exploration & Production Company – USA ("Murphy EXPRO"). I have held this position since April 2024. Previously, I held Vice President and General Manager positions (both in operations), as well as other operational roles at Murphy EXPRO. In my current role, I am responsible for exploration, production, decommissioning, and other operational activities undertaken by Murphy EXPRO in the Gulf of Mexico. Murphy EXPRO is a member of the American Petroleum Institute.

3. Murphy EXPRO is a longstanding and active participant in oil and gas exploration and development activities, including in the Gulf of Mexico Outer Continental Shelf

("OCS") Region. Murphy is one of the top five energy producers in the Gulf of Mexico, producing over 680 million barrels of oil and over 750 billion cubic feet of natural gas per year.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safey and Environmental Enforcement ("BSEE") have required Murphy EXPRO to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM and BSEE.

5. The BiOp covers a "broad scope and duration" of activities and effects (BiOp at 14). This broad scope includes "ongoing and future actions associated with permit issuance and plan approval under the OCSLA in the Gulf of Mexico [], Oil and Gas Program permitting under [the Clean Water Act], [Clean Air Act] and [Marine Mammal Protection Act], and from actions associated with all lease sales held in the 10-year period following issuance of this opinion (to approximately 2029) in the Gulf of Mexico" (BiOp at 17). Notably, this includes a wide range of routine and non-routine activities including lease sales, exploration work, development and production activities, decommissioning activities, pipeline construction and maintenance, air emissions permits for offshore facilities, vessel operations in support of offshore activities (e.g., service vessels to move personnel and supplies to offshore operations; G&G survey vessels; etc.), helicopter operations to transport crews to/from shore for shift-changes or health reasons, and oil spill response activities, among other things.

6. Murphy EXPRO currently holds permits or other authorizations from BOEM and BSEE for operations that will continue beyond December 20, 2024. As an example, one of

Murphy's contracted drilling rigs has three substantial projects scheduled through 2025. These projects are expected to provide 31,000 barrels *per day* of oil equivalent to meet U.S. and global energy demand. In order to complete these projects, additional Conservation Information Documents and Development Operations Coordination Documents will need approval from BOEM as soon as January 2025. Over the next 6 to 12 months, permits to drill, modify, or sidetrack wells will be required from BSEE. Murphy must also receive BSEE approval for repairs or maintenance to critical facility safety systems as soon as April 2025. Additionally, BSEE approval will be required for activities important for environmental protection, including decommissioning permits needed as soon as December 2024. These permits and authorizations are covered by the BiOp and ITS and contain terms and conditions by which Murphy EXPRO and other operators avoid and minimize impacts to listed species. Compliance with the ITS's terms and conditions also provides liability protection against claims of incidental take of ESA-listed species.

7. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August 2025. If that were to occur, there could be a "gap" in ESA coverage for the permits and operations described above for a period of at least several months and perhaps significantly longer.

8. If the vacatur becomes effective as currently scheduled, Murphy EXPRO would likely incur significant costs as a result of delays in permitting and managing its operations in a manner that takes into account the lack of a BiOp/ITS for the offshore program. This would be complicated and costly given the wide range of activities covered within the scope of the BiOp (as explained above) and the geographic footprint of Murphy EXPRO's operations across the

Gulf of Mexico. Those costs would not be incurred by Murphy EXPRO but for the vacatur of the BiOp and ITS and would not be recouped.

9. Importantly, while this Court recognized the importance of providing a "predictable, managed transition to a new biological opinion" and that "regulated parties" will need to "avail themselves of this extra time to prepare for the transition," the limited window of time between now and December 20, 2024 – *less than 120 days* – is wholly insufficient for the complex analysis, planning, and changes that would be needed for operations in the Gulf of Mexico. Given my many years of experience in operational activities in the energy industry in the Gulf of Mexico, I believe that many months longer would be necessary to allow industry adequate time to adjust to significant regulatory regimes that directly impact operational activities, as is the case here.

10. Vacatur of the BiOp/ITS in December 2024 would also likely result in significant adverse ramifications to operations in the Gulf of Mexico. This could include lost production of oil and gas resources, reductions in workforce, and lost revenue to operators. Additionally, state and federal governments would likely see reduced royalty and other revenues associated with offshore energy production. Like all other operators in the Gulf, Murphy EXPRO operates in reliance on a stable regulatory regime across all programs and requirements. Endangered Species Act concerns are one part of that overall regime. Vacatur of the BiOp/ITS, before replacement with a new BiOp/ITS, undermines regulatory stability and certainty, renders various environmentally-protective mitigation measures as no longer in effect, and creates risks to operations.

11. Notably, the BiOp/ITS specifically addresses transportation of crews via boat and helicopter to offshore facilities. Those activities, when done in compliance with the BiOp/ITS,

benefit from incidental take liability protections. And transporting crews safely is a paramount concern. The BiOp/ITS provides clarity concerning the ability of operators like Murphy to safely transport crews in a manner that minimizes potential effects to listed species.

12. Because the BiOp/ITS applies across a wide array of oil and gas activities in the Gulf of Mexico and vacatur creates significant regulatory uncertainty and instability, the financial impact would likely be substantial and would likely harm Murphy EXPRO, its employees, its contractors, and its contractors' employees. Those financial impacts will not be recoupable.

13. Murphy EXPRO plans to undertake various activities that have not yet been permitted once necessary permits/authorizations are obtained, as well as other activities that have permit requests pending and are scheduled to occur between December 20, 2024, and August 2025.

14. If as the Court has ordered, the BiOp and ITS are vacated as of December 20, 2024, and a new BiOp and ITS are not completed until August 2025 or a later date after vacatur occurs, then it is my understanding that the federal agencies will likely cease processing these permit applications until some time after the new BiOp and ITS are issued. This would irreparably harm Murphy EXPRO as a result of a halt in permit processing, indefinite delays in project approvals, disruption of contracts for services in the Gulf of Mexico, uncertainty about status of approvals for existing projects, cancelled projects, lost revenue, and lost jobs, among other things.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 11, 2024.

Chris Lorino
Senior Vice President of Operations
Murphy Exploration & Production Company

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF BROCK HAJDIK**

DECLARATION OF BROCK HAJDIK

1. My name is Brock Hajdik. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Vice President of the Gulf of Mexico Production at Hess Corporation ("Hess") and have been employed at Hess since 2004. I am accountable for all production operations in the Gulf of Mexico ("GOM") for Hess.

3. Hess is a leading United States-based global independent energy company engaged in the exploration and production of crude oil and natural gas. Hess has made significant investments to develop domestic and international energy resources both offshore and onshore

and to produce oil and gas safely and reliably. Hess has had a position in the GOM for over 50 years, with a current net production of approximately 30,000 barrels of oil equivalent per day which accounts for approximately 20 percent of our U.S. production. Our commitment to safeguarding the environment is central to our company and embedded in our values. Hess is a member of the American Petroleum Institute.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") (collectively, the "Bureaus"), have required Hess to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM and BSEE.

5. Hess currently holds permits or other authorizations from BOEM and BSEE for operations that will continue beyond December 20, 2024. Hess has ongoing exploration, production, drilling, completion, and decommissioning operations in the GOM which are all subject to permitting. Those permits and authorizations are covered by the BiOp and ITS and contain conditions requiring Hess to comply with the terms of the ITS. My understanding is that compliance with those terms and conditions provide protections that minimize impacts on ESA-listed species.

6. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August 2025. If that were to occur, there would be a "gap" in ESA

coverage for the permits and operations described above for a period of several months. I understand that vacatur of the BiOp and ITS would create an unworkable situation for the Bureaus and could delay or hinder many oil and gas industry activities in the GOM due to an unpredictable legal framework, including risk of violating Section 9 of the ESA (ie prohibition on take of endangered fish and wildlife).

7. In addition, Hess plans to undertake activities that have permit requests pending or are not yet permitted and are scheduled to occur between December 20, 2024 and August 2025. Hess has already executed a contract for the Deepwater Asgard drillship to support its 2024-26 GOM drilling campaign and has scheduled multiple drilling and completion activities during this period. Several different types of permits from BOEM and BSEE will be required prior to, and during, rig operations. Hess intends to submit complete applications for those remaining permits as the required data become available. In our experience, the amount of time to process the permits, including any required "step-down" consultation pursuant to the terms of the BiOp can vary and may take up to several months for review.

8. If, as the Court has ordered, the BiOp and ITS are vacated as of December 20, 2024, and a new BiOp and ITS are not completed until August 2025, then it is my understanding that Hess's permit applications would almost certainly not be granted until sometime after the new BiOp and ITS were issued. That would irreparably harm Hess leading to cancellation of projects and activities, inevitable economic losses, negative consequences associated with any cancellation/breach of contracts; negative consequences associated with the inability to properly maintain and supply platforms/crews and additional negative consequences for existing permits/terms that would be affected by not receiving new permits.

9. The financial impact of the harms described above is difficult to predict with precision. What is certain is that the financial impact will negatively affect Hess, its employees, its contractors, its contractors' employees, and its shareholders. Those financial impacts will not be recoupable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information, and belief.

Executed on September 12, 2024.

Brock Hajdik

Vice President Gulf of Mexico Production

Hess Corporation

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF JOSEPH M. LEIMKUHLER**

DECLARATION OF JOSEPH M. LEIMKUHLER

1. My name is Joseph M. Leimkuhler. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Chief Operating Officer of Beacon Offshore Energy ("Beacon") and also serve as the Chairman of HWCG LLC, a well containment consortium of deepwater operators. I have been employed by Beacon for the last five and a half years. Prior to Beacon, I worked for 32 years in engineering, operations and leadership positions in the deepwater Gulf of Mexico.

3. Beacon currently operates six producing properties and two deepwater drillships in the Gulf of Mexico, with three more projects under development. Beacon is a member of the National Ocean Industries Association.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the

National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") have required Beacon to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM and BSEE.

5. Beacon currently holds or is seeking permits or other authorizations from BOEM and BSEE for operations that will continue beyond December 20, 2024. This includes: (a) three drilling permits ("APDs"), (b) six well completion permits, (c) one well plug & abandonment permit, (c) one floating production system platform installation, (d) two subsea pipeline permits, (e) one development operations coordination document ,and (f) many project-related pipeline applications which are reasonably expected to be approved prior to December 20, 2024 for in-field installation operations to commence in late 2024. These specific applications will include a BiOp Condition of Approval based on the 2020 BiOp, which will impact associated work being conducted subsequent to December 20, 2024. Each of those permits and plan authorizations is covered by the BiOp and ITS and contains conditions requiring Beacon to comply with the terms of the ITS and BiOp. My understanding is that compliance with those terms and conditions provide protections that minimizes impacts on ESA-listed species. And while injuring ESA-listed species (called "take") is generally unlawful, the ITS operates functionally as a permit, allowing unintentional and incidental take of ESA-listed species as part of permitted oil and gas activities.

6. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in

ESA coverage for the permits and operations described above for a period of at least several months and perhaps significantly longer. I understand the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations would be removed, and that, as a result, continuing operations under existing permits could expose Beacon to civil and criminal liability under the ESA. Accordingly, under such circumstances, Beacon would be forced to decide whether, on December 20, 2024, to (a) continue the operations and risk violating the ESA and the conditions of Beacon's BOEM and BSEE permits or (b) to halt the operations until a new BiOp and ITS are issued. Either option would irreparably harm Beacon.

7. The option to continue the operations at the risk of violating the ESA could expose Beacon to potential enforcement actions, civil lawsuits seeking injunctive relief, or other liabilities that negatively impact Beacon. Proceeding under this option would likely incur significant legal costs and other costs incurred internally to ensure that proceeding under this option creates the least possible amount of risk. Those costs would not be incurred by Beacon but for the vacatur of the BiOp and ITS, and would not be recouped.

8. The impact to emergency response operations in the Gulf of Mexico from the impending likely vacatur of the BiOp and ITS on December 20, 2024, is significant. For example, one or more of the operations listed below likely are necessary if there is a well containment or loss of source control event. However, the EPA and other Federal agencies require an approved and in place BiOp to approve the following emergency response operations:

a. Site assessment and debris removal—the first step in emergency response operations;
b. Water column and air monitoring—required to ensure safety of onsite first responders;
c. Well capping operations—essential to limit and mitigate oil spill pollution events from subsea wells;

d. APD permits to drill one or more relief wells—relief wells are initiated as soon as possible as a contingency operation at the start of any subsea well blowout response;
e. "Top Hat" collection operations—initiated prior to the deployment of the well capping operations;
f. Flowback operations with floating production systems—required if the subject well has mechanical integrity issues;
g. Well capping operations in water depths <1,500 feet require deployment operations and subsea structure installations—critical for any emergency response in such locations, including the installation of temporary pipelines to achieve adequate offset for safe operations; and
h. Post-well kill operations—capping the well stops pollution, however, timely subsequent operations to ensure long term well integrity is essential to achieving a safe final status of the well.

In short, a valid BiOp and ITS is essential for the current emergency response system to function properly in a timely manner. Executing emergency response operations without these two critical components in place adds unacceptable delays that increases potential environmental exposure and also introduces unacceptable safety risks. Beacon has historically shown that the current emergency response system is effective. For example, in 2023, Beacon successfully executed a subsea well capping operation in an unannounced drill. This included capping a subsea well in 5,600 feet of water located 300 miles offshore from Houston in just 3.6 days. Beacon's quick response time would not have been possible without a viable BiOp and ITS in place.

9. The option to halt operations would also have significant adverse ramifications for Beacon. For example, Beacon is in the process of executing an over $2 billion development that will be detrimentally impacted if development operations had to be put on hold. Specifically, there will be significant adverse financial consequences for Beacon Suspension of Production ("SOP") milestone requirements. Beacon also has two drillships under contract, and keeping these drillships idle will cost approximately $1.1 million per day. In addition, Beacon will be unable to comply with its plugging and abandonment obligations, the company's suppliers will have to lay off significant portions of their workforce due to the suspension in Beacon's

operations, and there will be an increase in risks to worker and public health and safety associated with stopping and restarting operations. Further, a halt in operations will result in the cancellation and/or breach of third-party contracts, the inability to adequately maintain and supply platforms and crews, and a myriad of other logistical challenges involved in an abrupt cessation of operations. Finally, the loss of oil and gas production from our current and expected production from various assets under development will approach 130,000 barrel of crude oil per day by May 2025.

10. Because Beacon has never been forced to halt its operations for a period of months (or more), the full financial impact of doing so is difficult to predict with precision. What is certain is that the financial impact will be very substantial with losses into the hundreds of millions of dollars and will negatively affect Beacon, its employees, its contractors, and its contractors' employees. Those financial impacts will not be recoupable.

11. Additionally, Beacon will likely suffer reputational damage if it continues to operate without a BiOp and ITS in place or if it pauses its operations. Under the first option, it is likely that environmental activist organizations will publicly criticize Beacon for continuing operations without a BiOp and ITS in place. Under the second option, it is likely that Beacon's business reputation would be harmed as a result of cancelling contracts, laying off employees, failing to maintain infrastructure, and other similar actions. The scope and magnitude of these types of reputational harm are difficult or impossible to estimate with specificity, but they are significant reputational injuries that would be long lasting and likely irreparable.

12. If the BiOp and ITS are vacated as of December 20, 2024, and a new BiOp and ITS are not completed until August of 2025, then it is my understanding that Beacon's permit applications would almost certainly not be granted until after the new BiOp and ITS are issued.

That would irreparably harm Beacon because the company has ongoing projects and installation contracts with defined windows of time for its contractors to complete their work, and the delay in permit approvals will prevent contractors from meeting their deadlines. For example, Beacon has a subsea producing field operating under an approved SOP that requires Beacon to execute work to remediate blockage in the flow line and to either restore the field to production or initiate abandonment operations. The inability to obtain required permits until after August 2025 restricts Beacon from meeting its SOP and regulatory obligations.

13. The financial impact of the harms described above is difficult to predict with precision. What is certain is that the financial impact to delayed SOP operations will be very substantial (amounting up to millions of dollars) and will negatively affect Beacon, its employees, its contractors, and its contractors' employees. Those financial impacts will not be recoupable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 10, 2024.

Joseph M. Leimkuhler
Chief Operating Officer
Beacon Offshore Energy

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al.,

Plaintiffs,

vs.

NATIONAL MARINE FISHERIES SERVICE, et al.,

Defendants,

and

AMERICAN PETROLEUM INSTITUTE, et al.,

Intervenor-Defendants.

No. 8:20-cv-03060-DLB

DECLARATION OF SAMUEL A. GIBERGA

DECLARATION OF SAMUEL A. GIBERGA

1. My name is Samuel A. Giberga. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Executive Vice President, General Counsel and Secretary of Hornbeck Offshore Services, Inc. ("Hornbeck Offshore" or the "Company") and have been employed at Hornbeck Offshore since January 2004. I oversee all legal, compliance, corporate and regulatory affairs for the Company.

3. Hornbeck Offshore is among the largest owners and operators of offshore supply vessels and multi-service support vessels in the United States, with its U.S. operations focused in the Gulf of Mexico, servicing the offshore energy industry. The Company supports offshore drilling and development activities by transporting supplies to offshore facilities with its fleet of offshore supply vessels and installing subsea infrastructure with its fleet of multi-purpose supply

vessels. Hornbeck Offshore's direct and indirect customers are operators of leasehold interests on the Outer Continental Shelf, comprised mostly of integrated and independent energy companies. These entities operate under permits issued by federal authorities that authorize the activities that Hornbeck Offshore supports. Hornbeck Offshore is a member of the National Ocean Industries Association.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the Gulf of Mexico permits and operations for a period of at least several months and perhaps significantly longer. I understand that the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA.

6. This "gap" in ESA coverage would place Hornbeck Offshore's U.S. operations in an extremely difficult situation that would likely result in irreparable harm to our domestic operations. Hornbeck Offshore would have to decide whether it should continue operating in the Gulf of Mexico and risk violating the ESA, or, to suspend all or part of its U.S. operations in order to remove the risk of such a violation, which, if it occurred could bring significant legal and reputational consequences to the Company and the crews that operate its vessels. Hornbeck Offshore's customers will face the same dilemma.

7. Either situation would irreparably harm Hornbeck Offshore because it would be forced to reposition its U.S. flag vessels outside of the United States and either 1) permanently surrender the Jones Act status of one or more of its vessels or 2) lose the insulation from foreign competition provided by Jones Act qualification, which was the basis of Hornbeck Offshore's investment in these assets.

8. Fifty-eight of Hornbeck Offshore's 75 vessels are U.S. flagged "Jones Act qualified" vessels. U.S. law requires Outer Continental Shelf operations to be supported by Jones Act qualified vessels. The Jones Act requires a vessel to be constructed in the United States in accordance with United States Coast Guard standards and further requires that it be crewed by United States citizen mariners and owned and managed by a U.S. citizen, *i.e.*, Hornbeck Offshore.

9. The cost of constructing a Jones Act qualified vessel in the United States is considerably higher than the cost of non-Jones Act vessels. This is because shipyard costs in the United States are higher than shipyard costs in other parts of the world, such as China, India or Vietnam, where many offshore service vessels are constructed for use in other regions around the

world. Hornbeck Offshore made the decision to construct in higher-cost U.S. shipyards in order to protect itself from foreign competition on the U.S. Outer Continental Shelf.

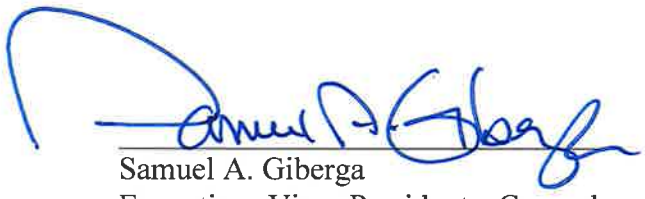
10. Because Hornbeck Offshore has invested in U.S. flagged Jones Act qualified vessels in order to support Outer Continental Shelf operations, the Company will be deprived of the use of these special pedigrees once the vessels are operating in foreign locations. In fact, Hornbeck Offshore may be forced, in many jurisdictions, to reflag its vessels, which will result in a permanent loss of U.S. Jones Act trading privileges for any vessels it reflags.

11. The harm to Hornbeck Offshore is irreparable in two ways. First, the advantages of being a Jones Act qualified vessel are lost once the vessel is competing internationally. Stated differently, Hornbeck Offshore would not have constructed vessels in a U.S. shipyard if it believed that the vessel is slated to operate in international waters only. Because a vessel has a useful life of approximately twenty years, each day that a Hornbeck Offshore Jones Act vessel is forced to operate internationally due to a gap in ESA coverage is a day that it has lost its ability to assert its Jones Act advantage for that vessel. Second, 72 percent of global deep-water operations are located in the United States and Mexican Gulf of Mexico, Brazil and other South American waters. In most of these jurisdictions, Hornbeck Offshore will be forced to relinquish its U.S. flag in order to compete effectively. Under U.S. law, such a reflagging permanently bars the vessel from regaining its Jones Act trading privileges in the United States. The loss of Jones Act pedigree on account of being forced to seek work abroad cannot be recovered, and is irreparable. The vessel will never again enjoy the privilege of immunity from foreign competition and will never again enjoy the privilege of operating in the United States coastwise trade, for which it was constructed, and where it would enjoy such immunity if it had not surrendered its U.S. flag.

12. In order to support its U.S. Outer Continental Shelf activities, Hornbeck Offshore acquired a leasehold interest in a 60-acre shore-based facility in Port Fourchon, Louisiana that supports its deepwater operations in the Gulf of Mexico. Hornbeck Offshore invested over $50 million to improve the 60-acre shore-based facility. Should Hornbeck Offshore relocate its U.S. fleet to foreign locations, it will erode the remaining term of its lease without benefit. Because Hornbeck Offshore does not own the facility, it cannot recover this lost use later. When the lease terminates, Hornbeck Offshore will have no legal right to continue possession and recover the days of lost use incurred because it was forced to take its vessels out of the Gulf of Mexico on account of an ESA gap.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 10, 2024.



Samuel A. Giberga
Executive Vice President, General Counsel, and Secretary
Hornbeck Offshore Services, Inc.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF COURTNEY B. RAMSAY**

DECLARATION OF COURTNEY B. RAMSAY

1. My name is Courtney B. ("Court") Ramsay. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the President of Aries Marine Corporation ("Aries Marine"), and have been employed in this role for approximately 25 years. In total, I have worked at Aries Marine for approximately 30 years. Aries Marine owns and manages energy related marine assets associated with drilling and production of oil and gas. Our customers include major oil and gas companies like Chevron and ExxonMobil, as well as independent oil and gas companies like Arena Offshore, LLC, Talos Energy Inc., and W&T Offshore, Inc. Aries Marine is a member of the National Ocean Industries Association.

3. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the

National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

4. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the Gulf of Mexico permits and operations for a period of at least several months and perhaps significantly longer. I understand that the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA.

5. This "gap" in ESA coverage would place Aries Marine in an extremely difficult situation. Operators who choose to shut down their operations would likely cancel their contracts with Aries Marine, with substantial adverse consequences to Aries Marine, as described below. As for contracts that are not cancelled by an operator, Aries Marine would have to decide whether it should cancel those contracts to avoid any risk of Aries Marine violating the ESA. Either situation would irreparably harm Aries Marine.

6. The halt of our operations, resulting from cancelled contracts or any other decisions necessitated by a "gap" in ESA coverage, would have significant adverse ramifications

for Aries Marine. Because our workforce consists of specialized licensed Jones Act mariners, any interruption in work jeopardizes their employment. The cost associated with crewing a ship differs little based on whether the ship is actively engaged in operations, or not. If vessel utilization declines for any protracted period, the company will be forced to lay off crews. There is an additional larger impact with respect to crews being laid off because the number of ready mariners available for U.S. security measures will decline, which will take years to build back up. The full financial impact of these consequences is difficult to predict with precision. What is certain is that the financial impact will be very substantial and will negatively affect Aries Marine and its employees. Those financial impacts will not be recoupable.

7. Additionally, if Aries Marine is forced to cancel any contracts with our clients, it is likely that Aries Marine's business reputation would be harmed. Our business is heavily dependent on our relationships with operators in the Gulf of Mexico and on our reliability in the timely delivery of staffing, supplies, and services to operators. The scope and magnitude of the reputational harm resulting from Aries Marine being forced to change the way we operate is difficult or impossible to estimate with specificity, but it would be a significant reputational injury that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 9, 2024.

Courtney B. ("Court") Ramsay
Aries Marine Corporation
President

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	NO. 8:20-cv-03060-DLB **DECLARATION OF STEVEN STITH**

DECLARATION OF STEVEN STITH

1. My name is Steven Stith. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the General Manager of Safety, Regulatory, Environmental and Transformation supporting Upstream activities in the Gulf of Mexico conducted by Shell Offshore, Inc., and its affiliates ("Shell"). I have worked for Shell companies for 13 years, 5 of which I served in various capacities supporting the Gulf of Mexico. Through my work with Shell over the years and through extensive coordinated work with Shell colleagues, I have acquired knowledge regarding Shell's businesses, including oil and gas activities and, in particular, Shell's investments, standards, plans and operations on the Gulf of Mexico ("GOM") outer continental shelf.

3. Shell has participated in federal oil and gas leasing in the GOM for decades. Shell has invested billions of dollars to acquire, explore, develop, and produce from its GOM leases. Based on its current investments and prospective business goals, Shell plans to continue producing from its GOM leases.

4. Shell is the leading private leaseholder on the GOM outer continental shelf. Shell holds 448 active leases in the GOM and operates more than 200 producing wells. All told, in 2022 Shell's GOM holdings produced 106,131,763 barrels of oil and 20,475,020 barrels of oil equivalent natural gas. This production is shipped by pipelines and tankers to fuel the energy needs of Shell's customers and helps to power the U.S. economy. Indeed, Shell's oil and gas operations account for more than a quarter of all oil and gas production on the GOM outer continental shelf.

5. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") have required Shell to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM and BSEE. My understanding is that compliance with the BiOp and ITS terms and conditions provides protections that minimize impacts on ESA-listed species. And the ITS operates to allow incidental take of ESA-listed species as part of permitted oil and gas activities.

6. Conducting and managing exploration, production, and decommissioning activities requires a staggering investment of resources. Simply creating the exploration plan—

and later development and production plan—that will drive oil and gas operations on a leasehold typically takes several years and costs tens of millions of dollars prior even to obtaining plan or permit approvals from BOEM or BSEE.

7. Once approved, the drilling and maintenance of an offshore well involves intricate advance coordination of vendors and activities involving complicated, expensive operations. Consistent with the requirements of conducting and coordinating operations on its leases, Shell currently holds permits and other authorizations from BOEM and BSEE for these types of operations that will continue up to and beyond December 20, 2024, and anticipates—based on current business plans and the continuous nature of offshore well maintenance—seeking government approval of additional, supplemental or revised permits and authorizations prior to the expected issuance of a new BiOp. Specifically, as of the date of this Declaration, Shell has over 100 plans that are either already approved by BOEM, pending BOEM approval or planned for submittal to BOEM. Over 70 of these plans are already approved by BOEM and cover ongoing drilling, decommissioning and other activities, critical to meeting government requirements in leases and orders or providing vital energy to the U.S. economy. Many of those permits and authorizations are subject to the requirements of the 2020 BiOp and ITS that were implemented for environmentally sound operations. Additional critical activities, including drilling and activities to commence production are planned in late 2024, which would also require permits and authorizations impacted by the decision because they may be subject to ESA consultation.

8. I understand that the Court has ordered the existing BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until May 2025. The vacatur therefore injects significant uncertainty

into the intricate planning required for safe and productive offshore operations, including the continuous shipping of supplies and personnel necessary to maintain offshore wells in safe operation. This planning is already underway for activities that will need permits and other authorizations up to and beyond December 20, 2024.

9. I understand the government has represented that vacatur of the BiOp and the ITS would effectively remove the ESA take liability exemption and could delay or inhibit many oil and gas industry activities in the GOM because companies that continue operations without such ESA exemptions could risk violation of the ESA. While BOEM and BSEE could potentially request individual ESA consultations with NMFS on every industry GOM plan and permit submitted for approval, the government has represented that such process would quickly become unworkable. *See* ECF 176-2, ¶ 4. The government's statements indicate that BOEM and BSEE will proceed in the GOM on these assumptions. As the district court recognized, vacatur is therefore likely to disrupt the innumerable offshore operations that require permits and "disrupt efforts to keep workers safe and prevent serious accidents." ECF 204 at 81.

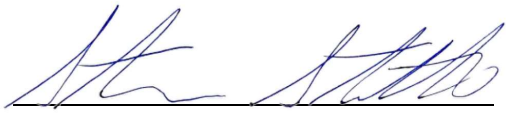
10. At the very least, the district court's order vacating the BiOp and ITS will result in significant delays in approval of plans and permits for Shell's offshore operations. Delayed permits and approvals on an uncertain schedule result in enormous logistical and operational problems. Working around these delays within the highly complex and coordinated context of offshore GOM operations involving numerous leases and vendors will result in substantial financial impacts.

11. Similarly, delays and uncertainty in the approved shipment of necessary equipment and supplies—such as the drilling fluid used to maintain well control—threatens both the stability of the well and the safety of offshore workers and the surrounding environment.

Any resulting damage from the lack of timely approvals by BOEM and BSEE is likewise irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 16, 2024.



Steven Stith

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, *et al.*, *Plaintiffs*, v. NATIONAL MARINE FISHERIES SERVICE, *et al.*, *Defendants*, and AMERICAN PETROLEUM INSTITUTE, *et al.*, *Intervenors-Defendants.*	No. 8:20-cv-03060-DLB Hon. Deborah L. Boardman

INTERVENORS-DEFENDANTS' EMERGENCY MOTION TO ALTER OR AMEND THE JUDGMENT OR, IN THE ALTERNATIVE, FOR A STAY PENDING APPEAL, AND FOR EXPEDITED RULING

Pursuant to Federal Rules of Civil Procedure 59(e) and 60(b), Intervenors-Defendants American Petroleum Institute, EnerGeo Alliance, National Ocean Industries Association, and Chevron U.S.A. Inc. move to alter or amend this Court's judgment (Dkt. 205) to the extent of delaying the Court's December 20, 2024 vacatur of the 2020 programmatic Biological Opinion (BiOp) and 2021 Amended Incidental Take Statement until at least May 21, 2025.

In the alternative, pursuant to Federal Rule of Civil Procedure 62 and consistent with Federal Rule of Appellate Procedure 8(a)(1), Intervenors move to stay the Court's judgment (Dkt. 205) pending resolution of Intervenors' appeals to the Fourth Circuit.

Finally, Intervenors move that the Court rule on this Motion **no later than October 21, 2024**, because, absent relief, Intervenors will need sufficient time to seek emergency relief in the

Fourth Circuit and, if necessary, the U.S. Supreme Court, and to afford those courts adequate time to consider Intervenors' applications. Intervenors intend to file a reply in support of their motion no later than October 7, 2024.

The grounds for the Motion are set out in the accompanying memorandum.

Counsel for Intervenors have conferred with counsel for Plaintiffs and Federal Defendants. Plaintiffs will take a position on the motion to extend the vacatur date after reviewing the papers. Plaintiffs oppose the motion to stay. Plaintiffs will respond to the motions in accordance with the court's local rules. The Federal Defendants do not oppose relief under Rule 59(e), but take no position on relief under Rule 60(b). The Federal Defendants also take no position on Intervenors' alternative request for a stay.

Respectfully submitted,

/s/ Nathan C. Brunette
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Counsel for American Petroleum Institute, EnerGeo Alliance, and National Ocean Industries Association

/s/ Dana A. Raphael
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Sean Marotta (*pro hac vice*)
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Counsel for Chevron U.S.A. Inc.

September 16, 2024

CERTIFICATE OF SERVICE

I hereby certify that on September 16, 2024, I electronically filed the foregoing using the CM/ECF system, which will send notification of this filing to the attorneys of record.

/s/ Dana A. Raphael
Dana A. Raphael

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF PAA-JOE AKOTO-AMPAW**

DECLARATION OF PAA-JOE AKOTO-AMPAW

1. My name is Paa-Joe Akoto-Ampaw. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Vice President US Gulf of Mexico ("GOM") responsible for Woodside Energy (Deepwater) Inc's. and its affiliated companies' (collectively, "Woodside") operations in the GOM, and I have been employed at Woodside Energy USA Services, Inc. since May 16, 2024. Woodside is a member of the American Petroleum Institute.

3. Woodside is a global energy company founded in Australia, with three strategic pillars of oil, gas and new energy. Woodside's GOM portfolio includes, as reported on its Half-Year 2024 Report for the period ended 30 June 2024, the following operated and non-operated assets and interests:

Shenzi. Shenzi is a conventional oil and gas field developed through a tension leg platform located in the GOM. Woodside's share of production in H1 2024 was 5.2 MMboe. Woodside is operator and holds a 72% participating interest.

Atlantis. Atlantis is a conventional oil and gas development and is one of the largest producing fields in the GOM. The Atlantis development includes a semi-submersible facility with 28 active producer wells and three water injector wells. Woodside's share of production in H1 2024 was 5.1 MMboe. In H1 2024, the first horizontal well in the field was successfully completed, potentially unlocking future infill opportunities for the asset. A Final Investment Decision ("FID") was taken on a further two-well tie back to the Atlantis facility. Woodside holds a 44% non-operating participating interest.

Mad Dog. Mad Dog is a conventional oil and gas development located in the GOM. Mad Dog Phase 2 is a development of the southern flank of the Mad Dog field though the new Argos floating production facility. Woodside's share of production in H1 2024 was 6.0 MMboe. The Argos facility continued to safely and systematically ramp up production in H1 2024 and achieved peak production of approximately 130 Mbbl/d. The first water injection at the Argos platform was achieved in April 2024. Woodside holds a 23.9% non-operating participating interest.

Associations. Woodside also holds interests in the following associations with activities in and supporting the GOM:

Caesar Oil Pipeline Company, LLC, 25% ownership interest;

Cleopatra Gas Gathering Company LLC, 22% ownership interest; and

Marine Well Containment Company LLC, 10% ownership interest.

Exploration. Woodside recently acquired 18 leases in Lease Sale 261 in the central and western Gulf of Mexico areas within the highly contested Paleogene trends; specifically: GB 780, GB 824, GB 825, GB 821, GB 866, EB 636, EB 637, EB 550, EB 594, EB 638, KC 859, KC 903, KC 904, KC 905, KC 948, KC 949, WR 795, and WR 796. A list of Woodside's GOM Exploration holdings, current as of 30th June 2024, is attached as Exhibit A.

4. I am aware of the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also aware of the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") have required Woodside to comply with the terms of the BiOp, and ITS, as conditions of offshore oil and gas permits issued by BOEM and BSEE.

5. Woodside currently holds permits or other authorizations and anticipates to request permits or other authorizations from BOEM and BSEE for operations that will continue beyond, or commence on or after, December 20, 2024, related to or associated with the operation and development of the assets, interests and holdings described in Paragraph 3 of this declaration. I understand that many, if not all, of such existing permits and authorizations are covered by the BiOp and ITS and contain conditions with which Woodside is required to comply. My understanding is that compliance with those terms and conditions provides protections that minimizes impacts on ESA-listed species. And while injuring ESA-listed species (called "take") is generally unlawful; the ITS operates functionally as a permit, allowing incidental take of ESA-listed species as part of permitted oil and gas activities. However, Woodside attempts to avoid incidental takes in conducting its operations. In the case of permits

and authorizations for Woodside's anticipated ongoing and future operations on or after December 20, 2024, it is unclear how BOEM and/or BSEE will coordinate the submission, processing and granting of permits or authorizations for such continuing and future activities in the potential absence of a BiOp and ITS.

6. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government will not have a new BiOp and ITS in place until late May 2025. If that were to occur, there would be a "gap" in ESA coverage for the permits, authorizations and related operations described above for a period of time. I understand that in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, if Woodside continues operations without the programmatic ESA exemption authorized under the ITS, any "take" that occurs could result in a violation of the ESA. I also understand that it may be difficult, or impossible for the government to issue new permits for oil and gas operations during that "gap."

7. A "gap" in ESA coverage would cause irreparable harm to Woodside. Principally, Woodside would likely not be able to timely secure the permits necessary to for ongoing operations at its production operations or to explore the 18 leases it acquired in Lease Sale 261, for a period of at least five months. This delay would likely diminish the value of Woodside's leases.

8. The gap also places Woodside in a bind for ongoing operations. If Woodside was to continue the operations at risk of violating the ESA and the conditions of Woodside's BOEM and BSEE permits, Woodside's actions would potentially be inconsistent with Woodside's Code of Conduct which states: "Woodside complies with all laws and regulations which apply to our activities anywhere in the world." This risk could apply even to legally required and prudent

maintenance operations related to safety and environmental protection, resulting in a dilemma for Woodside (and other operators in GOM) to balance the risk of conducting critical safety and environmental operations versus avoiding potential violations of the law in conducting such operations. The legal uncertainty created by the potential gap in ESA coverage is anticipated to negatively impact future Woodside operations in the GOM.

9. If Woodside were to halt operations until a new BiOp is in place or otherwise await the lengthier review process for permits and authorizations required in the absence of the BiOp, it could potentially have significant adverse ramifications for Woodside and others, including but not limited to: delays in approval of operations for the safe maintenance of Woodside's facilities and associated infrastructure, including potential impacts to the environment as a result of halted or delayed maintenance operations; and economic losses, including when viewed on an industry-wide scale, local, state, and federal revenue, job losses, impacts to suppliers and related contractual obligations and significant loss of production resulting in potential critical supply interruption to the energy markets.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 16, 2024.

Paa-Joe Akoto-Ampaw
Woodside Energy
Vice President Gulf of Mexico

Exhibit A
Woodside's Exploration Holdings

North America				
US Gulf of Mexico	GB 780, GB 824, GB 825, GB 821, GB 866, EB 636, EB 637, EB 550, EB 594, EB 638, KC 859, KC 903, KC 904, KC 905, KC 948, KC 949, WR 795, WR 796	Operator	100%	Oil prone basin
	GB 640, GB 641, GB 685, GB 555, GB 726, GB 770, GB 771, GB 604, GB 605, GB 647, GB 648, GB 772, GB 728, GB 729, GB 773, GB 774, GB 421, GB 464, GB 465, GB 508, GB 509, GC 598	Non-operator	40%	Oil prone basin
	GB 574, GB 575, GB 619, GB 529, GB 530, GB 531	Operator	40%	Oil prone basin
	GC 436, GC 480	Non-operator	44%	Oil prone basin
	GB 501, GB 502, GB 545, GB 630, GB 672, GB 676, GB 677, GB 716, GB 719, GB 720, GB 721, GB 760, GB 762, GB 763, GB 805, GB 806, GB 807, GB 851, GB 852, GB 895	Operator	60%	Oil prone basin
	GC 282, GC 237	Non-operator	50%	Oil prone basin
	GB 663, GB 664, GB 678, GC 210, GC 211	Operator	100%	Oil prone basin
	EB 655, EB 656, EB 699, EB 700, EB 701, EB 566, EB 567, EB 610, EB 611, AC 34, AC 36, AC 78, AC 80, EB 914	Operator	70%	Oil prone basin
	MC 798, MC 842	Non-operator	45%	Oil prone basin
	AC 125, AC 126, AC 81, AC 82	Operator	45%	Oil prone basin
	GC 679, GC 768	Non-operator	31.9%	Oil prone basin
	MC 368, MC 369, MC 411, MC 412, MC 455, MC 456	Non-operator	25%	Oil prone basin
	GC 80, GC 123, GC 124, GC 168	Operator	75%	Oil prone basin
	GC 870	Non-operator	23.9%	Oil prone basin
	AT 228, AT 273, AT 274, AT 409, AT 452, AT 453, AT 454, AT 424, AT 425, AT 469, AT 479	Non-operator	30%	Oil prone basin

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants.*	No. 8:20-cv-03060-DLB **DECLARATION OF ERIC ZIMMERMANN**

DECLARATION OF ERIC ZIMMERMANN

1. My name is Eric Zimmermann. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Chief Operating Officer of LLOG Exploration Offshore, L.L.C. ("LLOG"), and have held this role since 2020. I have been employed by LLOG since 2007 in various roles. My current responsibilities include managing the production, drilling, and development operations for LLOG Exploration and our partners. I also oversee the acquisition and divestiture side of the business. From a technical standpoint, I manage the Subsurface Engineering, Geology, and Petrophyiscal Departments, as well as the marketing arrangements for our company. I also oversee all major projects for the company.

3. LLOG is an exploration and production operating company focused on the deepwater Gulf of Mexico. LLOG was founded in 1977, and for the past 47 years, LLOG has developed some of the best offshore drilling prospects available to the industry with an uncompromising commitment to safe practices and ethical standards. LLOG is headquartered in Covington, Louisiana, and currently employs nearly 150 employees and utilizes the services of many contractors as well. LLOG is a member of the National Ocean Industries Association.

4. LLOG owns 128 Outer Continental Shelf blocks and operates approximately 100,000 barrels of oil equivalents per day ("MBOEPD") of production from 24 wells. LLOG has achieved a 68 percent success rate in deepwater exploration, as well as a 94 percent success rate in deepwater development, having drilled over 300 wells to-date, with an additional 30 deepwater prospects in the portfolio. LLOG also owns and operates the Who Dat floating production system ("FPS") in the Gulf of Mexico and is constructing the Salamanca FPS. When installed next year, Salamanca will produce around 50,000 barrels of oil per day. A unique aspect of Salamanca is that the FPS is the first refurbishment of a facility that was in production and is being brought back into commerce as a producing asset. This operation will result in a reduction of approximately 70 percent of emissions in the development of the asset compared to a new build facility. In addition, major construction for the Salamanca project takes place in shipyards and construction yards in Texas and Louisiana, as opposed to other major construction for new build facilities that takes place in Asia. LLOG currently contracts two deepwater water drilling rigs in the Gulf of Mexico and plans to drill and complete 14 wells through the year end 2025.

5. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also

familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") have required LLOG to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM and BSEE.

6. LLOG currently holds permits or other authorizations from BOEM and BSEE for operations that will continue beyond December 20, 2024.Each of these permits and authorizations is covered by the BiOp and ITS and contains conditions requiring LLOG to comply with the terms of the ITS. My understanding is that compliance with those terms and conditions provides protections that minimizes impacts on ESA-listed species. And while injuring ESA-listed species (called "take") is generally unlawful, the ITS operates functionally as a permit, allowing incidental take of ESA-listed species as part of permitted oil and gas activities.

7. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the permits and operations described above for a period of at least several months and perhaps significantly longer. I understand the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations would be removed, and that, as a result, continuing operations under existing permits could expose LLOG to civil and criminal liability under the ESA. Accordingly, under such circumstances, LLOG would be forced to decide whether, on December 20, 2024, to (a) continue the operations and risk violating

the ESA and the conditions of LLOG's BOEM and BSEE permits or (b) to halt the operations until a new BiOp and ITS are issued. Either option would irreparably harm LLOG.

8. The option to continue the operations at risk of violating the ESA could potentially expose LLOG to enforcement actions, civil lawsuits seeking injunctive relief, or other liabilities that negatively impact LLOG. Proceeding under this option would likely incur significant legal costs and other costs incurred internally in an effort to create the least possible amount of risk. Those costs would not be incurred by LLOG but for the vacatur of the BiOp and ITS, and would not be recouped.

9. The option to halt operations would also have significant adverse ramifications for LLOG. LLOG would need to cancel third-party contracts and shut in oil and gas production, which means preventing a well from producing oil or gas. Both of these results would cause significant financial issues for LLOG, its working interest partners, and LLOG's third-party vendors.

10. Because LLOG has never been forced to halt its operations for a period of months (or more), the full financial impact of doing so is difficult to predict with precision. What is certain is that the financial impact will be very substantial, likely reaching into the tens to hundreds of millions of dollars in losses, and will negatively affect LLOG, its employees, its contractors, and its contractors' employees. Those financial impacts will not be recoupable. LLOG has a major project on schedule to come on line and enter into production within the next twenty four months, and the vacatur puts billions of dollars of capital investment at risk for this project.

11. Additionally, under either of the options above, LLOG will likely suffer reputational damage. Under the first option, it is likely that environmental activist organizations

will publicly criticize LLOG for continuing operations without a BiOp and ITS in place. Under the second option, it is likely that LLOG's business reputation would be harmed as a result of cancelling contracts, laying off employees and shutting in oil and gas production. The scope and magnitude of these types of reputational harm are difficult or impossible to estimate with specificity, but they are significant reputational injuries that would be long lasting and likely irreparable.

12. LLOG plans to undertake activities that have not yet been permitted or have permit requests pending and are scheduled to occur between December 20, 2024, and August 2025. LLOG also plans to submit four applications for a permit to drill ("APDs") and applications for a permit to modify ("APM") to BSEE by December 1, 2024. In our experience, it typically takes BOEM approximately six weeks to process the APDs/APMs, including any required "step-down" consultation pursuant to the terms of the BiOp.

13. If, as the Court has ordered, the BiOp and ITS are vacated as of December 20, 2024, and a new BiOp and ITS are not completed until August 2025, then it is my understanding that LLOG's permit applications would almost certainly not be granted until sometime after the new BiOp and ITS are issued. That would irreparably harm LLOG because as described above, LLOG would need to cancel third-party contracts and shut-in oil and gas production. These events would create serious financial issues for LLOG, its working interest partners, and its third-party vendors.

14. The financial impact of the harms described above is difficult to predict with precision. What is certain is that the financial impact will be very substantial and will negatively affect LLOG, its employees, its contractors, and its contractors' employees. Those financial impacts will not be recoupable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 10, 2024.

Eric Zimmermann
Chief Operating Officer
LLOG Exploration Offshore, L.L.C.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al.,

Plaintiffs,

vs.

NATIONAL MARINE FISHERIES SERVICE, et al.,

Defendants,

and

AMERICAN PETROLEUM INSTITUTE, et al.,

Intervenor-Defendants.

NO. 8:20-cv-03060-DLB

DECLARATION OF REENA RAMCHARITAR

DECLARATION OF REENA RAMCHARITAR

1. My name is Reena Ramcharitar. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Technical Business Development Manager of Shearwater GeoServices Inc and have been employed at Shearwater GeoServices Inc for the over 3 years. In my role as Technical Business Development Manager, I oversee all our activity in the US and across North and South America. Shearwater GeoServices Inc is a member of EnerGeo Alliance.

3. Shearwater GeoServices Holding AS (parent) operates a fleet of new generation, high-capacity seismic vessels and offers contract seismic surveys, marine acquisition, multi-client projects including a multi-client library, and marine data processing services on a worldwide basis. Shearwater is pre-qualified with many E&P (exploration and production) companies in the oil and gas industry and has operated in most of the major exploration

provinces worldwide since establishing its offices in 2011. Marine seismic surveys provide imaging of the seabed and beneath, so E&P companies can make better informed decisions about the energy supplies of the future, improve effectiveness, and minimize the potential environmental impact

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will not be completed until August 2025. If that were to occur, there would be a "gap" in ESA coverage for the Gulf of Mexico permits and operations for a period of many months. I understand that the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various GOM activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA.

6. This "gap" in ESA coverage would place Shearwater GeoServices Inc in an extremely difficult situation as we are working toward securing contracts for the provision of seismic acquisition services in the Gulf of Mexico. Operators who choose to scale-back or shut-

down their operations, as a result of an inability to timely obtain permits or for other reasons, would likely not move ahead with their contracts with Shearwater GeoServices Inc, with substantial adverse consequences to Shearwater GeoServices Inc, as described below.

7. The inability to secure contracts, resulting from a "gap" in ESA coverage, would have significant adverse ramifications for Shearwater GeoServices Inc. The absence of ESA coverage will likely result in canceled or postponed projects, making it difficult to close deals that are currently in progress or under negotiation. Without these contracts, we will miss out on critical opportunities that would have generated substantial revenue and supported the continued growth of our business. The financial consequences of this delay will ripple through various facets of the company. Onshore operations, which are dependent on securing offshore work, will also suffer, impacting teams responsible for data processing, analysis, and other downstream activities. The logistical costs of preparing for these operations, only to have them delayed indefinitely, will add to the financial strain. These disruptions in the contracting process will create challenges in project planning and staffing, further escalating operational costs. While it is difficult to predict the full financial impact with precision, it is certain that the effects will be considerable, potentially resulting in millions in lost revenue. These losses, once incurred, will not be recoupable, leaving a lasting impact on Shearwater GeoServices Inc. and its employees

8. Additionally, if Shearwater GeoServices Inc is forced to cancel any contracts with operators, it is likely that Shearwater GeoServices Inc business reputation would be harmed. Our business is heavily dependent on our relationships with operators in the Gulf of Mexico and on our reliability in the timely delivery of staffing, supplies, and services to operators. The scope and magnitude of the reputational harm resulting from our Shearwater GeoServices Inc being

forced to change the way we operate is difficult or impossible to estimate with specificity, but it would be a significant reputational injury that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 9th, 2024.

Reena Ramcharitar

Reena Ramcharitar

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	NO. 8:20-cv-03060-DLB **DECLARATION OF ALAIN VIAU**

DECLARATION OF ALAIN VIAU

1. My name is Alain Viau. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Global Permitting Director of CGG and have been employed at CGG Services (U.S.) Inc., a member of the global Viridien group of companies since December 12, 1989. My primary responsibility is overseeing and managing CGG's regulatory compliance and permitting process for seismic exploration activities in offshore oil and gas exploration projects worldwide.

3. CGG provides multi-client geophysical data acquisition, processing and imaging services to clients with oil and gas assets in the Gulf of Mexico. CGG is a member of EnerGeo Alliance.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the

National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") have required CGG to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM.

5. CGG currently holds permits from BOEM for operations that will continue beyond December 20, 2024. Specifically, CGG holds two BOEM permits along with NMFS Letters of Authorization for seismic acquisition valid until December 31, 2024 and July 31, 2025, respectively. Currently, CGG is acquiring geophysical data with multiple vessels under one permit, with plans to start acquisition under the second permit by October, 2024. Each of those permits and authorizations is covered by the BiOp and ITS and contains conditions requiring CGG to comply with the terms of the ITS. My understanding is that compliance with those terms and conditions provides protections that minimizes impacts on ESA-listed species. And while injuring ESA-listed species (called "take") is generally unlawful, the ITS operates functionally as a permit, allowing incidental take of ESA-listed species as part of permitted oil and gas activities.

6. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the permits and operations described above for a period of approximately eight months. I understand the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various GOM activities and operations would be removed, and that, as a result, continuing operations under existing permits could expose CGG to civil and criminal liability under the ESA. Accordingly,

under such circumstances, CGG would be forced to decide whether, on December 20, 2024, to (a) continue the operations and risk possibly violating the ESA and the conditions of CGG's BOEM and BSEE permits or (b) to halt the operations until a new BiOp and ITS are issued. Either option would irreparably harm CGG.

7. The option to continue the operations at risk of possibly violating the ESA and the conditions of CGG's BOEM and BSEE permits is inconsistent with CGG's policy of conducting operations in a manner that is compliant with federal law. Moreover, proceeding under this option would expose CGG to potential enforcement actions, civil lawsuits seeking injunctive relief, or other liabilities that negatively impact CGG. By proceeding under this option CGG would incur significant legal costs and other costs incurred internally to ensure that proceeding under this option creates the least possible amount of risk. Those costs would not be incurred by CGG but for the vacatur of the BiOp and ITS, and such costs would not be recouped.

8. The option to halt operations would also have significant adverse ramifications for CGG. The consequences from halting the operations, as described above, would have a drastic financial impact due to the inability of CGG to meet its obligations to deliver data and associated products in a timely fashion as specified in each contract with its clients. CGG would also be exposed to financial penalties associated with cancelling/breach of third-party contracts that provide the necessary operations and support for data acquisition. As such, CGG may lose its ability to reserve vessel allocation slots and secure proprietary technology to restart operations. CGG will also be burdened with the logistical challenges and costs to resume operations. Furthermore, in anticipation of current projects completing on a scheduled timeline, CGG has assigned internal resources that have foregone other potential opportunities that cannot be recovered.

9. Because CGG has never been forced to halt its operations for a period of months (or more), the full financial impact of doing so is difficult to predict with precision. What is

certain is that the financial impact will be very substantial and will negatively affect CGG, its employees, its contractors, and its contractors' employees. Those financial impacts will not be recoupable.

10. Additionally, under either of the options above, CGG will likely suffer reputational damage. Under the first option, it is likely that environmental activist organizations will publicly criticize CGG for continuing operations without a BiOp and ITS in place. Under the second option, it is likely that CGG's business reputation would be harmed as a result of its inability to provide a commitment to clients of when they can expect deliverables as agreed. The scope and magnitude of these types of reputational harm are difficult or impossible to estimate with specificity, but they are significant reputational injuries that would be long lasting and likely irreparable.

11. CGG plans to undertake activities that have not yet been permitted and are scheduled to occur between December 20, 2024 and July 31, 2025. These activities consist additional phases of current data acquisition projects. CGG plans to submit applications to BOEM for the appropriate permits by October 1, 2024. In our experience, it typically takes BOEM approximately six months to process the permits, including any required "step-down" consultation pursuant to the terms of the BiOp.

12. If, as the Court has ordered, the BiOp and ITS are vacated as of December 20, 2024, and a new BiOp and ITS are not completed until August 2025, then it is my understanding is that CGG's permit applications would almost certainly not be granted until sometime after the new BiOp and ITS were issued. That would irreparably harm CGG because of the possibility a project will be cancelled indefinitely due to CGG's inability to secure financial commitments from potential underwriters. The financial impact of these harms is difficult to predict with precision, but it too would be very substantial and would negatively affect CGG, its employees, its contractors, and its contractors' employees. The financial impact would not be recoupable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 09, 2024.

Alain Viau

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF PHILLIP MORGAN**

DECLARATION OF PHILLIP MORGAN

1. My name is Phillip Morgan. I make this declaration based on personal knowledge. I am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Vice President of Gulf of Mexico Operations at Halliburton Energy Services, Inc. ("Halliburton"). I have been employed at Halliburton since 2007 and have 25 years in the oil and gas industry.

3. Halliburton is an oilfield services company that provides drilling and completion services for customers throughout the world. One of Halliburton's service offerings is leasing vessels to support oil and gas well completion activities in the Gulf of Mexico. Halliburton has contracts with oil and gas operators who perform federally permitted activities in the Gulf of Mexico. Halliburton is a member of the National Ocean Industries Association.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for many months. I understand the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various GOM activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA.

6. Such a gap could lead to a halt in offshore oil and gas operations or a significant delay in permit processing. That in turn could result in a reduction of services provided to operators and the equipment required by those operators, such as the types of services and equipment that Halliburton provides to the operators it works with in the Gulf of Mexico. Such a gap and any resulting reduction in work or services would reduce the ability for Gulf of Mexico operators to deliver oil and gas to meet production demands. There would no longer be a steady work flow and job opportunities for the approximately 1,800 employees and contractors Halliburton employs in the Gulf of Mexico.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 13, 2024.

Phillip Morgan
Vice President, Gulf of Mexico Operations
Halliburton Energy Services, Inc.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF RONALD E. NEAL**

DECLARATION OF RONALD E. NEAL

1. My name is Ronald E. Neal. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the President of the General Partner at Houston Energy, L.P. ("Houston Energy"), and co-founded Houston Energy in March 1988. I oversee an office that has 41 employees. Houston Energy is a member of the National Ocean Industries Association.

3. The business model of Houston Energy is the identification of oil and gas reservoirs in the Gulf of Mexico (a "Prospect"). Once Houston Energy identifies a Prospect, it will present the Prospect to companies that are active in drilling wells in the Gulf of Mexico (each an "Operator"). If an Operator drills a successful well on a Prospect, then as part of the business transaction, Houston Energy receives a significant financial interest in the revenues attributable to oil and gas produced from the Prospect. Some of the Operators that have drilled

successful wells on Prospects include Murphy Exploration & Production Company – USA; LLOG Exploration Offshore, L.L.C.; and Beacon Offshore Energy, LLC.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") have required permit holders to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM and BSEE.

5. Several of the Operators currently hold permits or other authorizations from BOEM and BSEE for operations on Prospects that will continue beyond December 20, 2024. Houston Energy relies on the Operators to obtain the necessary permits and authorizations to drill wells, conduct operations and produce oil and gas from the Prospects. Such permits and authorizations are covered by the BiOp and ITS and contain conditions requiring the Operators to comply with the terms of the ITS. My understanding is that compliance with those terms and conditions provide protections that minimizes impacts on ESA-listed species. While injuring ESA-listed species (called "take") is generally unlawful, the ITS operates functionally as a permit, allowing incidental take of ESA-listed species as part of permitted oil and gas activities.

6. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the permits and operations described above for a period of at least several months and perhaps significantly longer. I understand the government has represented that, in the

event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, the Operators' "ESA take coverage" for various Gulf of Mexico activities and operations would be removed, and that, as a result, continuing operations under existing permits could expose the Operators to civil and criminal liability under the ESA. Accordingly, under such circumstances, the Operators may be forced to halt the operations until a new BiOp and ITS are issued.

7. If an Operator halts activities on a Prospect, then Houston Energy would experience significant adverse ramifications. For example, if operations are halted on a Prospect, then the wells on the Prospect would no longer produce oil and gas, and the revenues that Houston Energy receives from the sale of oil and gas produced from such Prospect would cease. This loss of revenue will negatively affect Houston Energy, and may affect its ability to pay its employees, contractors, and the contractors' employees. Such financial impacts will not be recoupable.

8. Each of the Operators plan to undertake activities that have not yet been permitted and are scheduled to occur between December 20, 2024, and August 2025. These activities consist of drilling and completing wells and installing platforms and other facilities. If, as the Court has ordered, the BiOp and ITS are vacated as of December 20, 2024, and a new BiOp and ITS are not completed until August 2025, then it is my understanding that the Operators' permit applications would almost certainly not be granted until sometime after the new BiOp and ITS were issued. That would irreparably harm Houston Energy because of delayed or lost revenue from the oil and gas production resulting from such activities, which would not be recoupable. Although this financial impact is difficult to predict with precision, it would be very substantial and would negatively affect Houton Energy, its employees, contractors, and the contractors' employees.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 10, 2024.

Ronald E. Neal
President
Houston Energy, L.P.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF GREGG H. FALGOUT**

DECLARATION OF GREGG H. FALGOUT

1. My name is Gregg H. Falgout. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the President of Island Operating Co., Inc., ("Island") and have served in this role since its inception. In total, I have been employed at Island since 1986.

3. Island provides essential manpower and logistics to energy producers in the Gulf of Mexico. Island employs over eight hundred employees who service oil and gas producing and non-producing properties from the North Padre area of the Gulf of Mexico to the Mobile Bay area of the Gulf of Mexico. Our services are vital to the safe and compliant operation of producing facilities and wells, in addition to the safety of non-producing assets that are in various stages of oil and gas well abandonment. Island is a member of the National Ocean Industries Association.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the Gulf of Mexico permits and operations for a period of at least several months and perhaps significantly longer. I understand that the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA.

6. This "gap" in ESA coverage would place Island in an extremely difficult situation. Operators who choose to shut down their operations would likely cancel their contracts with Island, with substantial adverse consequences to Island, as described below.

7. The halt of our operations, resulting from cancelled contracts or any other decisions necessitated by a "gap" in ESA coverage, would have significant adverse ramifications for Island. If contracts were cancelled and services terminated, over five hundred of our

operators' jobs will be eliminated. The associated termination of our contracts with service providers (such as helicopter and boat operators) will further negatively impact jobs, along with the sales of supplies that are tangential to this line of work. Many of these employees that would be laid off would seek employment elsewhere and may not return to the positions that they were released from. The full financial impact of these consequences is difficult to predict with precision. What is certain is that the financial impact will be very substantial, in the tens of millions (if not hundreds of millions of dollars) in lost revenue and associated profits. These financial impacts will not be recoupable.

8. Additionally, if Island is forced to cancel any contracts with operators, it is likely that Island's business reputation would be harmed. Our business is heavily dependent on our relationships with operators in the Gulf of Mexico and on our reliability in the timely delivery of staffing, supplies, and services to operators. The scope and magnitude of the reputational harm resulting from Island being forced to change the way we operate is difficult or impossible to estimate with specificity, but it would be a significant reputational injury that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 9, 2024.

Gregg H. Falgout
President
Island Operating Co., Inc.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF JOHN T. SHELTON, III**

DECLARATION OF JOHN T. SHELTON, III

1. My name is John T. Shelton, III. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Chief Executive Officer ("CEO") of Delmar Systems, Inc. ("Delmar"). I have been employed by Delmar for twenty years. I hold a Bachelor of Science in Ocean Engineering and a Master of Business Administration degree from Texas A&M University, and I am a licensed Professional Engineer. Prior to being named the CEO of Delmar, I held a variety of engineering and leadership roles at the company, most recently as Chief Operating Officer, overseeing all aspects of Delmar's domestic and global operations. As CEO, my primary role and duties are to provide leadership and strategic direction for the organization, ensuring alignment between the company's mission and its operational activities. I am responsible for setting and executing long-term goals, making high-level decisions, and fostering a positive

organizational culture. I also oversee the financial performance of Delmar and lead the senior management team in guiding Delmar toward sustained success in a dynamic business environment.

3. Delmar is a privately owned company that has served the offshore oil and gas industry since 1968 as the primary supplier of mooring systems for Mobile Offshore Drilling Units in the Gulf of Mexico. Headquartered in Houston, Texas, Delmar employs approximately 70 people in the United States, with offices and yard storage facilities in Broussard and Port Fourchon, Louisiana. Delmar provides safe, efficient, and emission reducing mooring solutions which include a vast portfolio of offshore mooring products and services such as, engineering design and analysis; a large inventory of rental mooring equipment for releasable; insert, present and conventional mooring systems; anchor and mooring products; mooring specification and procurement services; offshore mooring installation labor expertise and procedure development; mooring equipment integrity management; and provision of specialized offshore mooring personnel. Delmar also offers dockside mobilization and demobilization support for mooring operations from its Port Fourchon facility. Delmar has an expansive and diverse customer base and has performed services for and has contracts with almost all major and independent operators that perform federally permitted activities in the Gulf of Mexico. Delmar is a member of the National Ocean Industries Association.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the

Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the Gulf of Mexico permits and operations for a period of at least several months and perhaps significantly longer. I understand that the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA.

6. This "gap" in ESA coverage would place Delmar in an extremely difficult situation. Operators who choose to shut down their operations would likely cancel their contracts with Delmar, with substantial adverse consequences to Delmar, as described below. As for contracts that are not cancelled by an operator, Delmar would have to decide whether it should cancel those contracts to avoid any risk of Delmar violating the ESA. Either situation would irreparably harm Delmar.

7. The halt of our operations, resulting from cancelled contracts or any other decisions necessitated by a "gap" in ESA coverage, would have significant adverse ramifications for Delmar. If contracts are cancelled, by either Delmar or its customer, or if operations are suspended by Delmar's customers, there will be the obvious direct negative financial impact of halted or decreased revenue directly to Delmar due to offshore project being suspended or

cancelled. Delmar's equipment will no longer be needed and rented to its customers, and Delmar's personnel will not be needed for onshore and offshore support. This will also have direct and severe personal financial consequences for Delmar's land based and offshore employees because their payroll hours likely will be reduced and potentially eliminated. Additionally, if suspensions or cancellation are prolonged, their future employment and financial stability will be in jeopardy as Delmar, without demand for the expertise of its personnel, likely will have no need to continue their employment, and Delmar will have to consider laying off employees.

8. If Delmar were required to unilaterally cancel its contracts with its customers due to the risk of violating the ESA, that could have a much more severe and prolonged financial effect on Delmar. Delmar's customers could initiate legal action against Delmar for deliberately breaching its contract. Such legal claims could expose Delmar to claims from its customers for consequential damages such as loss of revenue, loss of profit and production, which would be impossible for a company of Delmar's size to recover from if those claims were successful. Claims of that nature in the offshore industry could easily be tens of millions of dollars. Delmar could also potentially be responsible for all third-party costs that its customers may incur as a result of having to hire another contractor to perform the work that Delmar cancelled. Finally, cancelling its contracts with is customers during ongoing operations would have a catastrophic impact on Delmar's ongoing and future relationships with its customers that the company has worked so hard to build and maintain during its 56 years of being in business. The full financial impact of these consequences is difficult to predict with precision. What is certain is that the financial impact will be very substantial and will negatively affect Delmar and its employees. Those financial impacts will not be recoupable.

9. Additionally, if Delmar is forced to cancel any contracts with operators, it is likely that Delmar's business reputation would be harmed. Our business is heavily dependent on our relationships with operators in the Gulf of Mexico and on our reliability in the timely delivery of staffing, supplies, and services to operators. The scope and magnitude of the reputational harm resulting from Delmar being forced to change the way we operate is difficult or impossible to estimate with specificity, but it would be a significant reputational injury that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 10, 2024.

John T. Shelton, III
Chief Executive Officer
Delmar Systems, Inc.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF MICHAEL J. COLE**

DECLARATION OF MICHAEL J. COLE

1. My name is Michael J. Cole. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Director of Positioning at Fugro USA Marine, Inc. ("Fugro"), and have been employed in this role since 2017. In total, I have worked for Fugro since 2004. In my current role, I oversee Fugro services that are provided for offshore surveying and positioning services in the Gulf of Mexico. Fugro is a member of the National Ocean Industries Association.

3. Fugro, formerly John E. Chance and Associates, has been providing services in the Gulf of Mexico for over 65 years. Fugro's services allow for operators and contractors to perform their operations safely, both physically and environmentally, using the most advanced surveying and positioning solutions in the industry.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the Gulf of Mexico permits and operations for a period of at least several months and perhaps significantly longer. I understand that the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA.

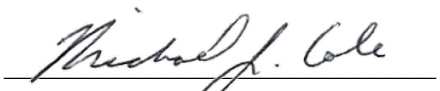
6. This "gap" in ESA coverage would place Fugro in an extremely difficult situation. Operators who choose to shut down their operations would likely cancel their work orders and/or contracts with Fugro, with substantial adverse consequences to Fugro, as described below. As for work orders and/or contracts that are not cancelled by an operator, Fugro would have to decide whether it should cancel those work orders and/or contracts to avoid any risk of Fugro violating the ESA. Either situation would irreparably harm Fugro.

7. The halt of our operations, resulting from cancelled work orders and/or contracts, or any other decisions necessitated by a "gap" in ESA coverage, will have significant adverse ramifications for Fugro. Fugro employs over 150 personnel that either work directly on projects in the Gulf of Mexico, or indirectly support them. In addition, there are dozens of other positions in Fugro that likely will be affected as these operations contribute to Fugro's regional central staff. Without a valid BiOp in place, these 150 positions will be put at risk because Fugro relies on the revenue generated from its work orders and/or contracts with oil and gas-related operators and contractors in the Gulf of Mexico to pay these employees. Fugro's mission is to help our clients perform operations safely, from both physical and environmental risks. A pause in Fugro's operations will put the company in an onerous position because the employees that make up Fugro's industry knowledge base and support the company's reputation for providing high-quality services are not easily replaceable. For example, Fugro has weathered many industry downturns, hurricanes, and, most recently, a global pandemic, and every recovery period has proven more difficult to rebuild our personnel talent levels. Based on my personal knowledge of Fugro's past difficulties as previously described, a complete cessation of its operations (which has never happened in the company's history) will prove to be even more difficult to re-establishing service capabilities when a new biological opinion is in place, and could force the company to leave the market. This will lead to an increase in accidents and environmental damage when operators and contractors are able to resume operations. The full financial impact of these consequences is difficult to predict with precision. What is certain is that the financial impact will be in the millions and will negatively affect Fugro and its employees. Those financial impacts will not be recoupable.

8. Additionally, if Fugro is forced to cancel any work orders and/or contracts with operators, it is likely that Fugro's business reputation will be harmed. Our business is heavily dependent on our relationships with operators in the Gulf of Mexico and on our reliability in the timely delivery of services to operators. The scope and magnitude of the reputational harm resulting from Fugro being forced to change the way we operate is difficult or impossible to estimate with specificity, but it would be a significant reputational injury that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 10, 2024.



Michael J. Cole
Director of Positioning
Fugro USA Marine, Inc.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, *et al.*, *Plaintiffs*, v. NATIONAL MARINE FISHERIES SERVICE, *et al.*, *Defendants*, and AMERICAN PETROLEUM INSTITUTE, *et al.*, *Intervenors-Defendants.*	No. 8:20-cv-03060-DLB Hon. Deborah L. Boardman

INTERVENORS-DEFENDANTS' EMERGENCY MOTION TO ALTER OR AMEND THE JUDGMENT OR, IN THE ALTERNATIVE, FOR A STAY PENDING APPEAL, AND FOR EXPEDITED RULING

Pursuant to Federal Rules of Civil Procedure 59(e) and 60(b), Intervenors-Defendants American Petroleum Institute, EnerGeo Alliance, National Ocean Industries Association, and Chevron U.S.A. Inc. move to alter or amend this Court's judgment (Dkt. 205) to the extent of delaying the Court's December 20, 2024 vacatur of the 2020 programmatic Biological Opinion (BiOp) and 2021 Amended Incidental Take Statement until at least May 21, 2025.

In the alternative, pursuant to Federal Rule of Civil Procedure 62 and consistent with Federal Rule of Appellate Procedure 8(a)(1), Intervenors move to stay the Court's judgment (Dkt. 205) pending resolution of Intervenors' appeals to the Fourth Circuit.

Finally, Intervenors move that the Court rule on this Motion **no later than October 21, 2024**, because, absent relief, Intervenors will need sufficient time to seek emergency relief in the

Fourth Circuit and, if necessary, the U.S. Supreme Court, and to afford those courts adequate time to consider Intervenors' applications. Intervenors intend to file a reply in support of their motion no later than October 7, 2024.

The grounds for the Motion are set out in the accompanying memorandum.

Counsel for Intervenors have conferred with counsel for Plaintiffs and Federal Defendants. Plaintiffs will take a position on the motion to extend the vacatur date after reviewing the papers. Plaintiffs oppose the motion to stay. Plaintiffs will respond to the motions in accordance with the court's local rules. The Federal Defendants do not oppose relief under Rule 59(e), but take no position on relief under Rule 60(b). The Federal Defendants also take no position on Intervenors' alternative request for a stay.

Respectfully submitted,

/s/ Nathan C. Brunette
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Counsel for American Petroleum Institute, EnerGeo Alliance, and National Ocean Industries Association

/s/ Dana A. Raphael
Catherine E. Stetson (*pro hac vice*)
Sean Marotta (*pro hac vice*)
Dana A. Raphael (D. Md. Bar No. 30434)
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KING & SPALDING LLP
1700 Pennsylvania Ave. N.W., Suite 200
Washington D.C. 20006
(202) 661-7800
njindal@kslaw.com

Counsel for Chevron U.S.A. Inc.

September 16, 2024

CERTIFICATE OF SERVICE

I hereby certify that on September 16, 2024, I electronically filed the foregoing using the CM/ECF system, which will send notification of this filing to the attorneys of record.

/s/ Dana A. Raphael
Dana A. Raphael

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF PAUL DANOS**

DECLARATION OF PAUL DANOS

1. My name is Paul Danos. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Chief Executive Officer of Danos LLC ("Danos") and have served in this capacity since 2020. In total, I been employed at Danos since 2004.

3. Danos is a family-owned and operated business with over 3,000 employees. Since 1947, Danos has supported the oil and gas industry in the Gulf of Mexico. We provide a wide range of services to over 100 customers working in the Gulf of Mexico. Danos is a member of the National Ocean Industries Association.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also

familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the Gulf of Mexico permits and operations for a period of at least several months and perhaps significantly longer. I understand that the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA.

6. This "gap" in ESA coverage would place Danos in an extremely difficult situation. Operators who choose to shut down their operations would likely cancel their contracts with Danos, with substantial adverse consequences to the company, as described below. As for contracts that are not cancelled by an operator, Danos would have to decide whether it should cancel those contracts to avoid any risk of Danos violating the ESA. Either situation would irreparably harm Danos.

7. The halt of our operations, resulting from cancelled contracts or any other decisions necessitated by a "gap" in ESA coverage, would have significant adverse ramifications for Danos. As an employer of over 3,000 people, the most significant impact will be the loss of

jobs. We are a contract supplier of personnel who work directly in our customers' workforce or who provide services as contractors for various projects. With over 77 years of excellent service, we have developed a pipeline of work that provides steady employment and source of income for our employees. In fact, many of our employees have worked for Danos for ten, twenty, and even over thirty years. However, if our cache of work were to stop abruptly, our customers would have no choice to but send our employees home, which will force Danos to lay off those employees. The impact of these layoffs will extend to our employees' communities and families. Many of our employees come from towns that rely on the oil and gas industry to drive their economies. The supply chain for the oil and gas industry involves multiple moving components that rely upon each other to function as one larger machine. It cannot be easily stopped and restarted without leaving behind a trail of short-term and long-term adverse effects at every level of the supply chain. Hundreds of small and large companies, including Danos, invest millions in capital, equipment and people to keep the process moving. Further, a pause in operations will negatively impact energy prices. The full financial impact of these consequences is difficult to predict with precision. What is certain is that the financial impact will be very substantial and will negatively affect Danos and its employees. Those financial impacts will not be recoupable.

8. Additionally, if Danos is forced to cancel any contracts with operators, it is likely that Danos's business reputation would be harmed. Our business is heavily dependent on our relationships with operators in the Gulf of Mexico and on our reliability in the timely delivery of staffing, supplies, and services to operators. The scope and magnitude of the reputational harm resulting from Danos being forced to change the way we operate is difficult or impossible to estimate with specificity, but it would be a significant reputational injury that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 10, 2024.

Paul Danos
Chief Executive Officer
Danos LLC

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF CHRISTOPHER BRADSHAW**

DECLARATION OF CHRISTOPHER BRADSHAW

1. My name is Christopher Bradshaw. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the President and Chief Executive Officer of Bristow Group Inc. ("Bristow"), and have been employed at Bristow and its predecessor company, ERA Group Inc., since 2012. My responsibilities include executing the company's strategic objectives across our different business lines, appropriately allocating capital and investment, and—along with the Board of Directors—developing and communicating Bristow's objectives and decisions to internal and external stakeholders.

3. Bristow is the global leader in innovative and sustainable vertical flight solutions. We provide personnel transportation service to many of the leading companies conducting oil and gas exploration and production activity in the Gulf of Mexico. The companies we serve

conduct those exploration and production tasks via permits issued by the United States government. Bristow is a member of the National Ocean Industries Association.

4. I am aware of the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also aware of the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the Gulf of Mexico permits and operations for a period of at least several months and perhaps significantly longer. I understand that the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA.

6. This "gap" in ESA coverage would place Bristow in an extremely difficult situation. Operators who choose to shut down their operations would likely attempt to cancel or reduce their contracts with Bristow, with substantial adverse consequences. As for contracts that are not cancelled by an operator, Bristow would have to consider whether it should cancel those

contracts to avoid any risk of violating the ESA. Either situation would irreparably harm Bristow.

7. The halt of our Gulf of Mexico operations, resulting from cancelled contracts or any other decisions necessitated by a "gap" in ESA coverage, would have significant adverse ramifications for Bristow. Our company employs approximately 1,000 people in the United States, with most of them living and working in the Gulf Coast region. We have business relationships with suppliers and service providers throughout the oil and gas value chain and are under contract to provide transportation services worth millions of dollars. Cessation of Bristow's operations in the Gulf of Mexico would put all those relationships and contracts, and the associated positive economic impact they have, at risk. The full financial impact of these consequences is difficult to predict with precision. What is certain is that the financial impact will be severe and will negatively affect Bristow and its employees. Those financial impacts will not be recoverable.

8. Additionally, if Bristow is forced to cancel any contracts with operators, it is likely that Bristow's business reputation would be harmed. Our business is heavily dependent on our relationships with operators in the Gulf of Mexico and on our reliability in the timely delivery of services to operators. The scope and magnitude of the reputational harm resulting from Bristow being forced to change the way we operate is difficult or impossible to estimate with specificity, but it would be a significant reputational injury that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 12, 2024.

Christopher Bradshaw
President and CEO
Bristow Group Inc.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF SIMON JOHNSON**

DECLARATION OF SIMON JOHNSON

1. My name is Simon Johnson. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Chief Executive Officer of Seadrill Limited ("Seadrill"), and have been employed at Seadrill since March 2022. I have worked for over 28 years in various senior roles with several leading offshore drilling companies including Seadrill, Diamond Offshore, Noble Drilling and Borr Drilling.

3. Seadrill is a leading global provider of offshore drilling services. Seadrill operates a modern fleet of deepwater and harsh environment drilling units. Seadrill has a long operating history in the U.S. Gulf of Mexico and maintains a significant presence there. We currently own and operate three deepwater drilling rigs in the U.S. Gulf of Mexico (approximately 20 percent of our fleet), with our longest tenured customer having contracted one of our units continuously

in the region for over ten years. Globally, we employ over 2,500 people, the vast majority of whom work offshore onboard our vessels. In the U.S. Gulf of Mexico, we employ over 300 men and women offshore. Our corporate headquarters are located in Houston, Texas. Seadrill is a member of the National Ocean Industries Association.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for many months. I understand that the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA.

6. This "gap" in ESA coverage would place Seadrill in an extremely difficult situation. Operators who choose to shut down their operations or who cannot obtain necessary permits due to the gap in ESA coverage, may attempt to cancel their contracts with us, with substantial adverse consequences to Seadrill and our employees, as described below. And for contracts that are not cancelled by an operator, Seadrill would have to decide whether it should suspend performance of those contracts to avoid any risk of violating the ESA. Either situation could harm Seadrill.

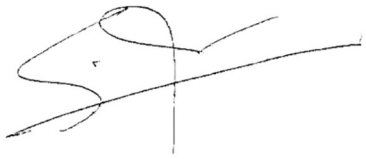
7. The halt of our operations, resulting from cancelled contracts or any other decisions necessitated by a "gap" in ESA coverage, would have significant adverse ramifications for Seadrill. If we ceased operations because our drilling contracts were cancelled or suspended, we would need to find a location to safely stack our vessels, and consider terminating or furloughing close to 300 offshore employees associated with the vessels whose services would not be required given the suspension of operations. The annual impact to Seadrill's revenue of such decisions would be substantial given the daily revenue each vessel could otherwise generate (Seadrill's revenue for fiscal year 2023 in the U.S. Gulf of Mexico was approximately $450 million) and may not be recoupable. If a contract were to be terminated, there is no guarantee that our customers would recontract the vessel, or may seek to later recontract them on different terms or rate, if this happens. The full financial impact of these consequences is difficult to predict with precision.

8. Additionally, if Seadrill is forced to cancel or suspend performance under any contracts with operators, there is significant risk that our business reputation would be harmed. Our business is heavily dependent on our relationships with operators, including operators in the Gulf of Mexico, and on our reliability in the timely delivery of staffing, supplies, and services to

operators. The scope and magnitude of the reputational harm resulting from Seadrill being forced to suspend operations is difficult or impossible to estimate with specificity, but it could be a significant and long-lasting reputational injury.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 13, 2024.



Simon Johnson
Chief Executive Officer
Seadrill Limited

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF RICHARD A. KIRKLAND**

DECLARATION OF RICHARD KIRKLAND

1. My name is Richard A. Kirkland. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Chief Executive Officer ("CEO") and founder of Cantium LLC ("Cantium"), and have been with Cantium since its inception on June 30, 2017. As CEO, I am involved in all aspects of the business, from technical to financial to personnel.

3. Cantium is a shallow water Gulf of Mexico producer. We hold approximately 200,000 acres via leases with the federal government and the State of Louisiana. We work as an operator of all our properties, which consists of three major fields and an onshore tank facility. Cantium is a member of the National Ocean Industries Association.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") have required Cantium to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM and BSEE.

5. Cantium currently holds or is seeking permits or other authorizations from BOEM and BSEE for operations that will continue beyond December 20, 2024. Specifically, we have a rig scheduled and associated planned wells through 2025 and into 2026. Each of those permits and authorizations is covered by the BiOp and ITS and contains conditions requiring Cantium to comply with the terms of the ITS. My understanding is that compliance with those terms and conditions provide protections that minimizes impacts on ESA-listed species. And while injuring ESA-listed species (called "take") is generally unlawful, the ITS operates functionally as a permit, allowing incidental take of ESA-listed species as part of permitted oil and gas activities.

6. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the permits and operations described above for a period of at least several months and perhaps significantly longer. I understand the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations would be removed, and that, as a result, continuing operations under existing permits could expose Cantium to civil and

criminal liability under the ESA. Accordingly, under such circumstances, Cantium would be forced to decide whether, on December 20, 2024, to (a) continue the operations and risk violating the ESA and the conditions of Cantium's BOEM and BSEE permits or (b) to halt the operations until a new BiOp and ITS are issued. Either option would irreparably harm Cantium.

7. The option to continue the operations at risk of violating the ESA could expose Cantium to potential enforcement actions, civil lawsuits seeking injunctive relief, or other liabilities that negatively impact Cantium. Proceeding under this option would likely incur significant legal costs and other costs incurred internally to ensure that proceeding under this option creates the least possible amount of risk. Those costs would not be incurred by Cantium but for the vacatur of the BiOp and ITS, and would not be recouped.

8. The option to halt operations would also have significant adverse ramifications for Cantium. We have a multi-year rig commitment, and a halt in permits would be financially catastrophic to our company. With no permits (and therefore no drilling), Cantium would need to adjust its workforce, such as eliminating jobs, because our company primarily provides services as active drillers in the Gulf of Mexico. When there is no need for active drillers, Cantium's production and revenues will significantly decrease. The lost revenue and halted drilling operations would cascade down to our banks and surety providers, which may require additional onerous financial concessions. In other words, Cantium's viability as a company will be at risk, and the ensuing job loss and economic impact would be substantial. Furthermore, without an adequate permitting system, there likely will be potential risks to worker and public health and safety (e.g., if halted work is pipeline maintenance, decommissioning, replacement); risks of industrial and infrastructure damage; risks of environmental damage from the inability to carry out normal operations and maintenance; loss of oil and gas production; negative consequences

associated with the cancellation or breach of third-party contracts; negative consequences associated with the inability to properly maintain and supply platforms and crews; logistical challenges of stopping operations; inability to complete additional permitting required to stop operations; other related effects to onshore operations; and logistical challenges and substantial costs associated with resuming operations.

9. The full financial impact to Cantium of this action is difficult to predict with precision. However, what is certain is that the financial impact will be very substantial, and possibly lead to business failure, and at the very least, it will negatively affect Cantium, its employees, its contractors, and its contractors' employees. Those financial impacts will not be recoupable.

10. Additionally, Cantium will likely suffer reputational damage with its investors, its vendors and its community. It is likely that Cantium's business reputation would be harmed as a result of cancelling contracts, laying off employees, not maintaining infrastructure, etc. The scope and magnitude of these types of reputational harm are difficult or impossible to estimate with specificity, but they are significant reputational injuries that would be long lasting and likely irreparable.

11. Cantium plans to undertake the drilling of six to eight wells, and other activities that require a permit that are scheduled to occur between December 20, 2024, and August 2025. Cantium plans to submit applications for these permits in a timely manner, but will be unable to request or receive future permits beyond a limited amount of time in the future. We do not know what the impact of the BiOp will be on the turnaround time for our permits, which makes it difficult to plan for the future.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 9th, 2024.

Richard A. Kirkland
Chief Executive Officer
Cantium LLC

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF CHRISTOPHER J. DYER**

DECLARATION OF CHRISTOPHER J. DYER

1. My name is Christopher J. Dyer. I make this declaration based on personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Senior Vice President of the Offshore Projects Group ("OPG") of Oceaneering International, Inc. ("Oceaneering"), and have been employed at Oceaneering since October 6, 2004. I became Senior Vice President of OPG in October 2022 and am responsible for defining strategy and setting objectives for short and long term financial, planning, and project execution activities for OPG. Oceaneering is a member of the National Ocean Industries Association.

3. Oceaneering is a global technology company delivering engineered services and products and robotic solutions to the offshore energy, defense, aerospace, manufacturing and entertainment industries. The primary focus of our offshore energy business is leveraging our

asset base, personnel and capabilities for providing services, and products for subsea operations (including the United States Gulf of Mexico).

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the Gulf of Mexico permits and operations for a period of at least several months and perhaps significantly longer. I understand that the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA.

6. This "gap" in ESA coverage would place Oceaneering in an extremely difficult situation. Operators who choose to shut down their operations would likely cancel their contracts with Oceaneering, with substantial adverse consequences to Oceaneering, as described below. As for contracts that are not cancelled by an operator, Oceaneering would have to decide whether it

should cancel those contracts to avoid any risk of Oceaneering violating the ESA. Either situation would irreparably harm Oceaneering.

7. The halt of our operations, resulting from cancelled contracts or any other decisions necessitated by a "gap" in ESA coverage, would have significant adverse ramifications for Oceaneering, including but not limited to, incurring significant economic losses, breaching contracts and damaging relationships with long-time operators and suppliers, the elimination of jobs, creating financial and logistical challenges of stopping and resuming operations, and dealing with similar related effects to all onshore operations. The full financial impact of these consequences is difficult to predict with precision. What is certain is that the financial impact will be very substantial and will negatively affect Oceaneering and its employees. Those financial impacts will not be recoupable.

8. Additionally, if Oceaneering is forced to cancel any contracts with operators, it is likely that Oceaneering's business reputation will be harmed. Our business is heavily dependent on our relationships with operators in the Gulf of Mexico and on our reliability in the timely delivery of staffing, supplies, and services to operators. The scope and magnitude of the reputational harm resulting from Oceaneering being forced to change the way we operate is difficult or impossible to estimate with specificity, but it would be a significant reputational injury that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 10th, 2024.

Christopher J. Dyer
Senior Vice President, OPG
Oceaneering International, Inc.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF CHESTER F. MORRISON, JR.**

DECLARATION OF CHESTER F. MORRISON, JR.

1. My name is Chester F. Morrison, Jr. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the owner and Chief Executive Officer ("CEO") of Morrison Energy Group LLC ("Morrison"). I have held this position since Morrison's inception in 2008. Morrison is a member of the National Ocean Industries Association.

3. Morrison is a leading service provider to the oil and gas industry in the Gulf of Mexico, specializing in pipeline construction, infrastructure installation and maintenance, and facility decommissioning.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also

familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. I understand that the BiOp addresses all Gulf of Mexico oil and gas activities permitted by the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE"), and that BOEM and BSEE require permittees to comply with the terms of the BiOp and ITS.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for the Gulf of Mexico permits and operations for a period of at least several months and perhaps significantly longer. I understand that the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various Gulf of Mexico activities and operations, including their contracted activities, would be removed, creating potential exposure to civil and criminal liability under the ESA.

6. This "gap" in ESA coverage would place Morrison in an extremely difficult situation. Operators who choose to shut down their operations would likely cancel their contracts with Morrison, with substantial adverse consequences to Morrison, as described below. And for contracts that are not cancelled by an operator, Morrison would have to decide whether it should cancel those contracts to avoid any risk of Morrison violating the ESA. Either situation would irreparably harm Morrison.

7. The halt of our operations, resulting from cancelled contracts or any other decisions necessitated by a "gap" in ESA coverage, would have significant adverse ramifications for Morrison, including but not limited to, incurring significant economic losses, breaching

contracts and damaging relationships with long-time operators, and the elimination of hundreds of jobs. The full financial impact of these consequences is difficult to predict with precision. What is certain is that the financial impact will be very substantial and will negatively affect Morrison and its employees. Those financial impacts will not be recoupable.

8. Additionally, if Morrison is forced to cancel any contracts with our clients, it is likely that its business reputation would be harmed. Our business is heavily dependent on our relationships with operators in the Gulf of Mexico and on our reliability in the timely delivery of staffing, supplies, and services to operators. The scope and magnitude of the reputational harm resulting from Morrison being forced to change the way that we operate is difficult or impossible to estimate with specificity, but it would be a significant reputational injury that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 9, 2024.

Chester F. Morrison, Jr.
Chief Executive Officer
Morrison Energy Group LLC

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

SIERRA CLUB, et al., *Plaintiffs*, vs. NATIONAL MARINE FISHERIES SERVICE, et al., *Defendants*, and AMERICAN PETROLEUM INSTITUTE, et al., *Intervenor-Defendants*.	No. 8:20-cv-03060-DLB **DECLARATION OF TOM YOUNG**

DECLARATION OF TOM YOUNG

1. My name is Tom Young. I make this declaration on the basis of personal knowledge and am competent to testify to the matters stated in this declaration, which are true and correct to the best of my knowledge, information, and belief.

2. I am the Vice President and Assistant Secretary of Kosmos Energy Gulf of Mexico Operations, LLC ("Kosmos"), and have been employed at Kosmos since 2018. I head Kosmos' Gulf of Mexico Commercial and Government Affairs Team.

3. Kosmos is a deepwater exploration and production company with operations focused in the deepwater of the United States Gulf of Mexico ("GOM") and western Africa. Kosmos is the designated operator of four projects currently producing oil and gas in the deepwater GOM and a non-operator participant in several others. Kosmos is a member of the National Ocean Industries Association and EnerGeo Alliance.

4. I am familiar with the Endangered Species Act ("ESA") Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the GOM, issued by the National Marine Fisheries Service ("NMFS") on March 13, 2020 (the "BiOp"). I am also familiar with the Incidental Take Statement ("ITS"), as amended, issued with the BiOp. Since the BiOp and ITS were issued, the Bureau of Ocean Energy Management ("BOEM") and the Bureau of Safety and Environmental Enforcement ("BSEE") have required Kosmos to comply with the terms of the BiOp and ITS as conditions of permits issued by BOEM and BSEE.

5. I understand that the Court has ordered the BiOp and ITS to be vacated as of December 20, 2024, and that the government has represented that a new BiOp and ITS will likely not be completed until August of 2025. If that were to occur, there would be a "gap" in ESA coverage for many months. I understand the government has represented that, in the event of vacatur of the BiOp and ITS before a new BiOp and ITS are prepared, operators' "ESA take coverage" for various GOM activities and operations would be removed, and that, as a result, continuing operations under existing permits could expose Kosmos to civil and criminal liability under the ESA. Accordingly, under such circumstances, Kosmos would be forced to decide whether, on December 20, 2024, to (a) continue the operations and risk violating the ESA and the conditions of Kosmos' BOEM and BSEE permits or (b) to halt the operations until a new BiOp and ITS are issued. Either option would irreparably harm Kosmos.

6. The option to continue its operations in the GOM at risk of violating the ESA could expose Kosmos to potential enforcement actions, civil lawsuits seeking injunctive relief, or other liabilities that negatively impact Kosmos. Proceeding under this option could incur significant legal costs and other costs required to minimize the risk of proceeding in this manner.

Those costs would not be incurred by Kosmos but for the vacatur of the BiOp and ITS, and would likely not be recouped.

7. The option to halt its operations in the GOM would also have significant adverse ramifications for Kosmos, including risks to worker and public health and safety; the loss of oil/ and gas production; negative consequences associated with any cancellation or breach of third-party contracts; negative consequences associated with inability to properly maintain and supply platforms and crews; logistical challenges of stopping operations; and additional permitting required to stop operations.

8. Because Kosmos has never been forced to halt its operations for a period of months (or more), the full financial impact of doing so is difficult to predict with precision. What is certain is that the financial impact will be very substantial and will negatively affect Kosmos, its employees, its contractors, and its contractors' employees. Those financial impacts will likely not be recoupable.

9. If, as the Court has ordered, the BiOp and ITS are vacated as of December 20, 2024, and a new BiOp and ITS are not completed until August 2025, then my understanding is that Kosmos' permit applications would almost certainly not be granted until sometime after the new BiOp and ITS were issued. That would irreparably harm Kosmos because of delayed drilling and completion activities in the GOM; economic losses to the company; risks to workers and public health and safety; loss of oil and gas production; negative consequences associated with any cancellation or breach of contracts with other parties; negative consequences associated with the inability to properly maintain and supply platforms and crews; negative consequences on existing permits and terms that would be affected by not receiving new permits; any effects on existing operations of not obtaining new permits; and any effects on other company

operations. The associated financial impacts are also difficult to predict with precision, but they will be substantial, not recoupable, and irreparable.

10. Additionally, Kosmos will likely suffer reputational damage to its business if it is unable to proceed with planned activities that could reasonably be expected from cancelling contracts, needing to lay off employees, and not being able to maintain existing infrastructure. The scope and magnitude of these types of reputational harm are difficult or impossible to estimate with specificity, but they are significant reputational injuries that would be long lasting and likely irreparable.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on September 10th, 2024.

Tom Young
Vice President and Assistant Secretary
Kosmos Energy Gulf of Mexico Operations, LLC