April 18, 2017

Kevin K. McAleenan
Commissioner (Acting)
U.S. Customs and Border Protection
Office of Trade, Regulations and Rulings
799 9th Street, N.W., Mint Annex
Washington, D.C. 20001

Re: "Proposed Modification and Revocation of Ruling Letters Relating to Customs Application of the Jones Act to the Transportation of Certain Merchandise and Equipment Between Coastwise Points," 51 *Customs Bulletin* 3 at 1 (Jan. 18, 2017)

Submitted by Courier and by E-Mail to CBPPublicationResponse@cbp.dhs.gov

Ladies and Gentlemen:

The American Petroleum Institute (API), the Association of Diving Contractors International (ADCI), the International Association of Drilling Contractors (IADC), the Independent Petroleum Association of America (IPAA), the International Association of Geophysical Contractors (IAGC), the International Marine Contractors Association (IMCA), the Louisiana Mid-Continent Oil and Gas Association (LMOGA), the Offshore Operators Committee (OOC), the Petroleum Equipment & Services Association (PESA) and the U.S. Oil and Gas Association

respectfully submit the following comments on the proposed modification and revocation of established ruling letters relating to Customs application of the Jones Act to the transportation of certain items on the Outer Continental Shelf (OCS).

These above-referenced Trade Associations (Trades) represent companies involved in all aspects of the oil and natural gas industry including all aspects of the exploration, development and production of offshore oil and natural gas resources as well as emergency response. Our member companies are active as owners and operators of offshore leases, as companies involved in the development and maintenance of offshore infrastructure and as service and supply companies that perform a wide variety of work in offshore areas. On behalf of its members, these Trades have a direct and substantial interest in any and every U.S. Customs and Border Protection ruling that affects oil and natural gas operations in U.S. offshore areas.

The Trades appreciate the opportunity to provide comments to the "Proposed Modification and Revocation of Ruling Letters Relating to Customs Application of the Jones Act to the Transportation of Certain Merchandise and Equipment Between Coastwise Points," 51 *Customs Bulletin* 3 at 1 (Jan. 18, 2017) (the "2017 Notice"). Our comments are submitted without prejudice to any of our member companies' right to have or express different, opposing, or supplemental views. We have encouraged all of our members to submit comments on the proposal.

I. <u>Summary</u>

U.S. Customs and Border Protection (CBP) has been down this path before in 2009[1] when it proposed substantially similar drastic and disruptive changes to Jones Act interpretations. The present Notice will result in no less harm and dislocation, is just as procedurally defective and suffers from old (such as misinterpreting the Jones Act) and new (presenting a facially inapposite reason for making a change) substantive legal deficiencies making it an arbitrary and capricious agency action. As in 2009, CBP should withdraw the 2017 Notice and reconsider its merits, effects and compliance with law.

The Jones Act has a statutory purpose – to promote a vibrant U.S. merchant marine – which CBP is obligated by law to follow. *See* 46 U.S.C. § 50101. The 2017 Notice does the opposite. The 2017 Notice is projected to increase costs to operations in the U.S. Gulf of Mexico substantially and make many deep water operations impractical because, among other things, it would restrict the use of qualified foreign-flag vessels in numerous situations where no U.S.-flag coastwise-qualified vessel would be able as a matter of physical characteristics to do the work. The end result will be a strong disincentive to invest in offshore projects which is likely to result in fewer opportunities for Jones Act vessels and harm the U.S. merchant marine.

[1] "Proposed Modification and Revocation of Ruling Letters Relating to the Customs Position on the Application of the Jones Act to the Transportation of Certain Merchandise and Equipment Between Coastwise Points," 43 *Customs Bulletin* 28 at 54 (July 17, 2009) (the "2009 Notice").

As indicated in the attached report analyzing fleet capacity in the Gulf of Mexico,[2] the coastwise-qualified fleet is unable, on its own, to support the deepwater Gulf of Mexico construction market, concluding:

- There are only 33 coastwise-qualified vessels worldwide in five key categories (*i.e.*, light construction vessels, pipelayers, heavy lift vessels, well intervention vessels, and seismic survey/geophysical) that are suitable for working in water depths of 3,280 ft/1,000 meters or greater.
- Of those 33 vessels, there are no coastwise-qualified pipelay vessels, no coastwise-qualified heavy lift vessels, and only one coastwise-qualified well servicing vessel. There are only 9 coastwise-qualified light construction vessels.

Attempting, as the 2017 Notice does, to force all deepwater projects to rely solely on this capacity will have a material negative impact on deepwater projects. Current U.S. coastwise-qualified vessels would have been physically incapable of completing projects (since 2006) as follows –

- almost 90% of flowline and riser projects;
- more than 50% of umbilical installation projects;
- more than 50% of subsea lifts;
- 100% of large size export pipelines (of which more than 1,000 miles with pipe diameter between 16-inch and-24 inch were installed in water depths greater than 2,500 feet in the U.S. Gulf of Mexico); and
- 100% of heavy lifts (in excess of a 4,000 ton crane capacity).

This could in turn have a dramatic negative impact on U.S. oil and natural gas production and offshore employment in the Jones Act community and predominantly in U.S. Gulf States. The predicted negative overall economic effects that may result from the 2017 Notice are contained in the attached third party economic analysis[3] and they include:

- losses in the range of 30,000 industry-supported jobs in 2017 with as many as 125,000 jobs lost by 2030. The Gulf of Mexico states are projected to be the most impacted by these job losses;
- decrease in U.S. oil and natural gas production in the range of 23% from 2017-2030;
- decrease in government revenue more than $1.9 billion per year from 2017-2030;
- decrease of offshore oil and natural gas spending in the range of $5.4 billion per year; and
- cumulative lost GDP of $91.5 billion from 2017-2030.

There is no consideration of how these impacts undermine the purpose of the Jones Act in the 2017 Notice in part because CBP adopted the wrong procedure to seek the changes, namely

[2] Attachment A: "Marine Construction Vessel Impacts of Proposed Modifications and Revocations of Jones Act Letters Related to Offshore Oil and Natural Gas Activities" (Apr. 4, 2017).
[3] Attachment B: "Economic Impacts of Proposed Modification and Revocation of Jones Act Ruling Letters Related to Offshore Oil and Natural Gas Activities."

Section 625 of the Tariff Act of 1930 (19 U.S.C. § 1625). That process is designed to deal, and has been used to deal, with discrete, individual rulings – not a massive regulatory and policy change like that proposed by the 2017 Notice. The tight time table contained in Section 625 would give the affected industry almost no time to adjust processes and contracts many years in the making and with substantial and widespread long-term economic impacts.

In 2009, CBP correctly determined that Section 625 was an inappropriate and inadequate process for reversing over 30 years of prudent and well-established administrative precedent heavily relied upon by the offshore oil and natural gas industry, which based major investment on these consistent precedents. Nothing has occurred since 2009 that can justify a different result. At that time, CBP received negative comments from virtually every sector of the industry, and the affected industry argued strenuously that CBP was violating law and committing due process transgressions by changing dozens of rulings and over 30 years of precedent inappropriately in the truncated Section 625 process.

In fact, the sound conclusion that further pragmatic and judicious industry consultation is needed before CBP proceeds with any similar substantial change has been further strengthened since 2009. Through the passage of time since 2009, CBP has induced new and reasonably justified reliance on the rulings it proposed for revocation and modification in 2009, particularly since CBP commenced and then apparently abandoned a regulatory rulemaking project seeking to make the same interpretation changes.

Given the significant potential impact and conflict between CBP's prior commitment to a rulemaking and the present Notice, CBP should, at a minimum, reset the process by withdrawing the Notice and give new agency leadership an opportunity to weigh in on such a significant action. The publication of the Notice preceded the inauguration of President Donald Trump by less than two days. The new leadership of the agency has had no opportunity to evaluate it and decide whether, or how, to proceed with such substantial changes.

In this regard, the Trades believe that the "Regulatory Freeze Pending Review" Memorandum issued January 20, 2017, the January 30, 2017 Executive Order 13771 on Reducing Regulation and Controlling Regulatory Costs, and the March 28, 2017 Executive Order 13783 on Promoting Energy Independence and Economic Growth require reconsideration of the 2017 Notice as an "agency statement of general applicability and future effect," which would mandate further consultation with the Office of Management and Budget (OMB), at a minimum, and potentially require CBP to eliminate two comparable regulations to proceed with the Notice and offset new costs with cost reductions.

What has not changed since 2009 is that the rulings proposed for revocation and modification in the 2017 Notice are consistent with applicable law.[4] The rulings are consistent with the Jones Act statute because the word "merchandise" in the statute is a commercial concept and items

[4] To the extent this letter states that the rulings proposed for revocation and modification are consistent with applicable law, those statements only concern the grounds for which such revocations and modifications are proposed in the 2017 Notice. The Trades and their members reserve the right to argue that these rulings are inconsistent with law for other reasons, including for reasons discussed in this letter.

should be judged as to whether they are "merchandise" or not based on how they are used. The "vessel equipment" permitted for carriage by the affected rulings provided the vessel installs the items are in fact not commercial in nature because they are not held for sale and the way they are used is for installation.

To the extent that the 1939 definition of "vessel equipment," which CBP has applied, is in fact applicable, it also confirms that the affected rulings are consistent with the Jones Act. That definition exempts items necessary for the "operation" of a vessel – and items installed by installation and maintenance vessels, such as risers or pipe connectors, are necessary for the operation of such vessels. To limit "vessel equipment" to items only necessary for the safety and navigation of a vessel would be to make the provision a nullity since such items are permanent vessel fixtures.

CBP's counterargument in 2017 – not even mentioned in 2009 – is weak and ineffective. CBP now focuses on a law change that occurred in 1988 which was the *inclusion* of "valueless material" as "merchandise" under the Jones Act. Nothing in the legislative history of the 1988 change supports the idea that Congress was defining "merchandise" in 1988 or even giving guidance on the meaning of "merchandise." Aside from the fact that it is arbitrary to point to a 1988 law for a 2017 change, the inclusion of "valueless material" leaves open the very questions answered by CBP's 40 years of ruling precedents and is irrelevant to the correctness of those rulings.

Of all the harms that the 2017 Notice creates, perhaps the worst is the uncertainty it will create. The 25 affected rulings, as well any other rulings "raising the subject issues," provided the industry an intricate framework of guidance on subsea and other operations. The 2017 Notice grabs at a thread and unravels that framework without full consideration of the many ramifications. For example, the 2017 Notice repeals rulings which indicate that the installation of flexible flowlines and umbilical flowlines is not Jones Act activity because the lines are paid out, not unladed. The 2017 Notice leaves unclear how not only these critical offshore rulings but also a completely unspecified universe of other rulings will be affected.

For these and other reasons set forth below, CBP should withdraw the 2017 Notice. Then if CBP wishes to resume its proposal, it should do so through notice-and-comment rulemaking pursuant to the Administrative Procedure Act, the directives of Executive Order 12866, the most recent regulatory reform orders, and all other applicable legal requirements. In the absence of resetting the process as a regulatory process, the Trades submit that CBP must provide additional comment and opportunity for dialogue to the affected industry and delay the effectiveness of any proposed change for such a reasonable period as would permit the industry to adjust given that many processes, operations, and contracts are long-standing and on-going, reasonably relying on longstanding agency guidance and enforcement.

II. Background

A. U.S. Offshore Oil and Natural Gas Industry

The U.S. offshore oil and natural gas industry is a critical component of America's economy and national security, sustaining millions of jobs, raising billions of dollars annually in revenues for federal, state and local governments, contributing positively to the gross domestic product and reducing U.S. reliance on foreign energy imports.

In 2016, offshore production of crude oil in federal waters totaled more than 594 million barrels, which represented over 18% of total U.S. crude oil production, according to the Energy Information Administration (EIA). In 2016, EIA data shows that there was 1.2 trillion cubic feet of offshore natural gas production or a little less than 4.5% of total marketed domestic gas production.

The greatest offshore oil and natural gas activity in the United States occurs in the U.S. Gulf of Mexico. According to the Bureau of Safety and Environmental Enforcement (BSEE), the Gulf of Mexico is home to more than 2,400 production platforms and a weekly average of 37 drilling rigs. In the first six months of 2016, the Region's drilling, workover, and production engineers who work out of the five District offices reviewed and approved approximately 400 permits.

The offshore industry generates tremendous revenues to the federal, state and local governments. According to the Office of Natural Resource Revenues (ONRR) revenues from bonus bids, rents and royalties flowing from federal offshore production amounted to over $2.6 billion in fiscal year 2016. In the same year, states received over $11 million in revenues from federal offshore leases. Over the latest 10-year period (FY 2007 to FY 2016), for federal oil and natural gas offshore leases, bonus bid and rent revenues from federal offshore oil and natural gas leases totaled $19.4 billion, while revenues from royalties have totaled over $54 billion. Over that same time period, direct state disbursements total nearly $500 million.

States also receive significant revenues from oil and natural gas production in offshore waters that are exclusively under state jurisdiction for leasing purposes. Federal, state and local economies are helped by reaping the benefits of tax revenue from both the direct and indirect impacts of offshore oil and natural gas leasing.

Companies that are active in the offshore spend billions of dollars each year to obtain leases and to develop, produce and transport oil and natural gas from offshore areas. More and more, companies are using state-of-the-art technologies to move operations to deeper waters, which present new risks and challenges. It can take a company approximately 10 years from the time it purchases a deep-water lease to first production. If a company finds commercial quantities of oil or natural gas, subsequent deep-water investment may exceed $5 billion. Hundreds of millions more are spent on building and developing the infrastructure necessary to transport the resources to market. Importantly, as these technological challenges and associated risk levels rise, the industry has also prudently spent billions on developing and sustaining sizeable emergency

response organizations with leading-edge technological subsea equipment, surface vessels and capabilities designed to keep industry workers, the public and the environment safe.

The use of vessels is critical to every one of the stages of exploration, development and production. Companies enter into long-term contracts for vessels based upon careful assessment of long-term needs and capabilities. The offshore vessel industry is a global one. Attached is an IMCA analysis (Attachment A) of vessels supporting the offshore oil and natural gas exploration and production industry in the United States that shows that of the approximately 8500 offshore support vessels of the world, 1004, or 12 percent of the world total, are U.S.-flag vessels. The same report estimates that 980 vessels support offshore U.S. OCS operations with an estimated 40 to 50 of those being foreign-flag vessels.

Thus, the vast majority of vessels working in the U.S. Gulf of Mexico are coastwise-qualified vessels. When the capabilities of a coastwise-qualified vessel meet the requirements of a specified operation, companies will generally use a coastwise-qualified vessel. Still, because offshore oil and natural gas operations must be conducted using the best available and safest technology, companies need the flexibility to retain foreign-flag vessels on occasion to react immediately to support critical emergency response work or complete specialized work where the coastwise-qualified fleet lacks specified capabilities. The use of these foreign vessels has been critical to the development of the offshore industry – the success of which in turn helps provide more, not fewer, opportunities for coastwise-qualified vessels.

B. Application of the Jones Act to U.S. Offshore Operations in General

Section 27 of the Merchant Marine Act, 1920, commonly referred to as the "Jones Act," restricts the waterborne transportation of "merchandise" between two "points in the United States to which the coastwise laws apply" to qualified U.S.-flag vessels. 46 U.S.C. § 55102(b). CBP regulations provide that "[a] coastwise transportation of merchandise takes place, within the meaning of the coastwise laws, when merchandise laden at a point embraced within the coastwise laws ('coastwise point') is unladen at another coastwise point . . . ." 19 C.F.R. § 4.80b(a).

The purpose of the Jones Act, contained in Section 1 of the Merchant Marine Act, 1920, is codified today in 46 U.S.C. § 50101. That section provides that "[i]t is the policy of the United States to encourage and aid the development and maintenance of a merchant marine" that meets certain objectives including that it be "sufficient to carry the waterborne domestic commerce" of the United States. This guiding and binding policy has been acknowledged by CBP on numerous occasions, although not in the 2017 Notice.[5]

The 2017 Notice implicates several aspects of the application of the Jones Act to U.S. offshore oil and natural gas operations, in particular: (1) what is a "point in the United States to which the

[5] *E.g.*, "What Every Member of the Trade Community Should Know About: Coastwise Trade: Merchandise" (Jan. 2009); 72 Fed. Reg. 65,487 (Nov. 21, 2007) ("Hawaiian Coastwise Cruises"); Customs Ruling HQ H006047 (Feb. 2, 2007); Customs Ruling HQ 116630 (Mar. 27, 2006).

coastwise laws apply;" (2) what is "merchandise"; and (3) when is "merchandise" "unladen" at a point in the United States.

1. **What is a "Point in the United States"**

With regard to "points in the United States," CBP has differentiated between nearby coastal waters which are considered part of the physical territory of the United States and the waters beyond the near waters to the limits of U.S. claimed jurisdiction, *i.e.*, the U.S. OCS. CBP has determined that the Jones Act applies to every place that is a "point" within the U.S. territorial sea, "defined as the belt, three nautical miles wide, seaward of the territorial sea baseline, and to points located in internal waters, landward of the territorial sea baseline," Customs Ruling HQ 032257 (Aug. 1, 2008), because that area is inside the physical territory of the United States.

In contrast, the Jones Act, by its own language, does not apply to places outside the U.S. territorial sea. Rather, CBP has interpreted the Jones Act to apply to areas and places on the OCS solely by virtue of the Outer Continental Shelf Lands Act of 1953 (OCSLA), as amended, which extended federal law to defined places and for defined purposes. Specifically, Section 4(a) of OCSLA, as amended, provides that the laws of the United States are extended to: ". . . the subsoil and seabed of the outer Continental Shelf and to all artificial islands, and all installations and other devices permanently or temporarily attached to the seabed, which may be erected thereon for the purpose of exploring for, developing, or producing resources therefrom, or any such installation or other device (other than a ship or vessel) for the purpose of transporting such resources, to the same extent as if the outer Continental Shelf were an area of exclusive Federal jurisdiction within a State." 43 U.S.C. § 1333(a)(1).

OCSLA does not directly provide that the Jones Act shall apply to the transportation between the United States and such places where federal law applies. Nor does OCSLA provide that the extension of federal law means that places subject to OCSLA are "points in the United States" as provided in the Jones Act or that the Jones Act is an intended "federal law."

OCSLA was amended in 1978 to add, among other things, the temporary attachment language to Section 4(a). The legislative history provides in part that: "The intent of the managers in amending Section 4(a) of the 1953 OCS Act is technical and perfecting and is meant to restate and clarify and not change existing law. Under the conference report language, Federal law is to be applicable to all activities on all devices in contact with the seabed for exploration, development, and production." H. Conf. Rep. 95-1474 at 80 (1978), 1978 U.S.C.C.A.N. 1674, 1679.

CBP assumes that places outside U.S. territorial waters where OCSLA has applied federal law are Jones Act "points" and therefore has focused its rulings on the meaning of "attachment." CBP has thus determined in numerous rulings that nothing is a "point on the United States" on the OCS unless there is an "attachment." For example, CBP has indicated that "[t]he plain language of the OCSLA's legislative history states that the statute is applicable to drilling rigs and the sort when they 'are connected to the seabed by drillstring, pipes, or other appurtenances.'

The foregoing examples contemplate tangible, physical attachment to the seafloor." Customs Ruling HQ H036936 (Jan. 26, 2009).

But CBP's assumption is not supported by the law as discussed below. Application of the general "laws of the United States" to the OCS does not in any manner amend or expand those applicable laws, including the Jones Act. The entire body of "laws of the United States" may or may not affect, based on their own terms, activities on the OCS. And OCSLA does not provide directly that all places where federal law applies on the U.S. OCS are "points in the United States" as provided in the Jones Act. While "point in the United States" encompasses the physical territory of the United States, it does not necessarily have any application outside physical U.S. territory. In other words, although the entire body of U.S. law applies to the OCS, any specific U.S. law is only applicable if its own terms lend itself to application.

2. <u>What is "Merchandise"</u>

The term "merchandise" is not defined in the Jones Act except to limit CBP's discretion with respect to two discrete categories of items. The statute provides that the term "merchandise" *includes* "merchandise owned by the United States Government, a State, or a subdivision of a State" and it *includes* "valueless material." 46 U.S.C. § 55102(a). Since CBP places weight in the Notice on the "valueless material" portion of the statute, it is worth examining how that provision was added to the law and what it was intended to address.

In 1987, Jones Act interests sued the City of New York complaining, among other things, that the City should have restricted a procurement for the transportation of municipal sludge to be dumped in the ocean to Jones Act-qualified vessels. *106 Mile Transport Associates v. Koch*, 656 F. Supp. 1474 (S.D.N.Y. 1987). The court determined that the Jones Act did not apply in part because "sludge is valueless material generated by the City's sewage treatment plants" and "[n]ot even a tortured reading of the word 'merchandise' indicates that Congress meant by the term to include sludge." *Id.* at 1481. The U.S. Customs Service had first issued a ruling in May 1986 to the same effect as the court's ruling.

The U.S. Congress responded with legislation. A bill was introduced entitled "Transportation of Sewage Sludge" and was enacted into law in 1988 adding the inclusive language to the statute that was relied upon by CBP in the 2017 Notice. Pub. L. No. 100-329 (1988). The express purpose of the sewage sludge law was to reverse the holding in the *106 Mile Transport* case – hence the use in the law of the term "valueless material," the exact term used by the court. Sen. Rep. 100-327 at 2 (1988), 1988 U.S.C.C.A.N. 664, 645.

Both before and after the Jones Act was amended to include "valueless material," CBP has applied the Tariff Act of 1930 definition of "merchandise" in Jones Act related rulings even though the Jones Act is not part of the Tariff Act. The Tariff Act provides that: "The word 'merchandise' means goods, wares, and chattels of every description, and includes merchandise the importation of which is prohibited, and monetary instruments as defined in section 5312 of Title 31." 19 U.S.C. § 1401(c).

There is no basis in either the Jones Act or the Tariff Act for definitions in the Tariff Act to be used to provide meaning to Jones Act terms. Indeed, the CBP's Jones Act implementing regulations at 19 C.F.R. Part 4 neither define the term "merchandise" nor import the Tariff Act definitions, although that Part references the Tariff Act in other contexts.

Also, before and after "valueless material" was added, CBP has maintained an exception (based on its expansive definition of "merchandise") for "vessel equipment." Specifically, CBP has determined that "[v]essel equipment placed aboard a vessel at one United States port may be removed from the vessel at another United States port at a later date without violation of the coastwise laws." Customs Ruling HQ 114435 (Aug. 6, 1998) (quoting Customs Ruling 102945 (Nov. 8, 1978)). None of CBP's rulings of which we are aware discuss the "valueless material" exception in connection with "vessel equipment."

In applying the CBP-created "vessel equipment" concept, CBP has long applied a definition of equipment that was adopted in a February 16, 1939 U.S. Customs letter to the collector of customs in New Orleans which provided that –

> The term 'equipment,' as used in section 309, as amended, includes portable articles necessary and appropriate for the navigation, operation or maintenance of the vessel and for the comfort and safety of the persons on board. It does not comprehend consumable supplies either for the vessel and its appurtenances or for the passengers and the crew. The following articles, for example, have been held to constitute equipment: rope, sail, table linens, bedding, china, table silverware, cutlery, bolts and nuts.

T.D. 49815(4) (Mar. 13, 1939).[6] Section 309 refers to a section of the Tariff Act of 1930 now codified at 19 U.S.C. § 1309.

3. <u>What is "Unladen"</u>

The CBP Jones Act regulation also relies on the concept of "unladen." Only "merchandise" "unladen" at a "U.S. point" can conceivably be encompassed by the Jones Act. 19 C.F.R. § 4.80b(a). The "unladen" concept is especially important to the U.S. offshore industry in that CBP has consistently determined that pipe or cable laying does not constitute "unlading at a U.S. point" and therefore can be undertaken by a foreign-flag vessel even if the pipe or cable is layed between two U.S. points. The October 7, 1976 ruling letter relied upon by CBP in the 2009 Notice and modified for other reasons in the 2017 Notice (the "1976 Ruling") expressly provides that:

> [t]he Customs Service has held that the sole use of a vessel in laying pipe is not a use in the coastwise trade of the United States, even when the pipe is laid between two points in the United States . . . It is the fact that the pipe is not landed but

[6] The 2017 Notice indicates that CBP has been relying on the 1939 definition of "vessel equipment" since 1982, which is incorrect. 2017 Notice at 4. Our research indicates that CBP has been relying on that definition since at least 1978. *See* Customs Ruling Letter 102945 (Nov. 8, 1978).

> only paid out in the course of the pipelaying operation which makes such operation permissible.

HQ 101925 published at T.D. 78-387.

The 1976 Ruling is also representative of CBP determinations to the effect that a foreign-flag vessel can load materials in a U.S. port and engage in offshore inspection and repair activities on offshore or subsea structures and leave behind repair materials of *de minimis* value to accomplish unforeseen repairs. Specifically, the 1976 Ruling provides that "a vessel engaging in the inspection and repair of offshore or subsea structures may carry with it repair materials of *de minimis* value or materials *necessary to accomplish unforeseen repairs,* provided that such materials are usually carried aboard the vessel as supplies." *Reprinted at* 51 Customs Bulletin 3 at 9 (Jan. 18, 2017) (emphasis added).

C. Procedural History of the 2017 Notice

Ever since U.S. offshore oil and natural gas activities started moving further offshore in the 1970s, CBP has been issuing significant rulings providing guidance on the application of the Jones Act. Twenty-five of those rulings, going back to 1976 and which express extensively relied upon foundation principles, would be substantially modified or revoked by the 2017 Notice.

As the 2017 Notice indicates, many rulings followed a consistent path in interpreting the contours of "merchandise" and "vessel equipment" over time. *See* 2017 Notice at 5. Those rulings used some variation of the concept that items were "vessel equipment" and therefore not "merchandise" if they were "essential to the mission of the vessel" or in "furtherance of the mission of the vessel." Notably, these rulings were consistent with each other over an extended period of time and therefore induced substantial and widespread reliance by the U.S. offshore industry.

1. 2009 Sub-Sea Assembly or "Christmas Tree" Ruling

The industry reasonably relied on these rulings as reinforced by a ruling that was issued on February 20, 2009 (Customs Ruling HQ H046137) relating to a sub-sea assembly. In that ruling, CBP determined that a sub-sea assembly was "vessel equipment" of a construction vessel because "the construction vessel's function during the subject voyage, is to transport and install equipment to assist in the construction phase of a wellhead on the seafloor." The 2009 ruling relied on several of the rulings now at issue in the 2017 Notice.

When the above-referenced sub-sea assembly ruling was published, the Offshore Marine Service Association (OMSA) immediately wrote CBP a letter dated March 23, 2009 demanding that the ruling be revoked, and it was in fact revoked by CBP on March 26, 2009. OMSA argued that "vessel equipment" should be limited to the "vessel's complement" (without defining what that means) and the installation of a sub-sea assembly was unlike other "vessel equipment" where "the materials at issue were at least utilized by the transporting vessels to perform a function –

connecting the various components of the OCS facility – for which the transported items were necessary."

The OMSA letter also relied on the 1976 Ruling which is now proposed for substantial modification in the 2017 Notice. Specifically, the OMSA letter indicated that "CBP's analysis in its 1976 ruling was correct" because "[t]here had to be an underlying function permitted to foreign vessels – in that case the laying and repairing of pipe previously laid – to which the transportation was necessarily adjunct. The foreign vessel was thus allowed to transport and install 'pipeline connectors' because this was incidental to pipelaying and repair."

2. **The 2009 Notice**

Then on July 17, 2009, CBP published the 2009 Notice proposing "to strictly interpret T.D. 78-387 (Oct. 7, 1976)" and "to limit the definition of equipment . . . to articles necessary and appropriate for the navigation, operation, or maintenance of the vessel *itself* and the safety and comfort of the persons on board, as opposed to being necessary and appropriate for a vessel to engage in a particular activity." 54 Customs Bulletin 28 at 55. CBP noted with approval that "[t]he paying out of pipe, cable, flowlines, and umbilicals is permissible because there is no landing of merchandise and therefore, no engagement in coastwise trade," citing to T.D. 78-387. *Id.* at 61. CBP noted with disapproval that T.D. 78-387 permitted the transportation and installation of pipeline connectors by a foreign pipe laying vessel asserting that it was insufficient for such work to be accomplished "on or from that vessel" and that such transportation "would be contrary to the legislative intent of" the Jones Act. *Id.* at 58-59. Nowhere in the 2009 Notice did CBP utilize the "valueless material" provision as its justification for reversing 30 years of consistent precedent and instead rested its argument entirely on undefined Jones Act "legislative intent."

On September 15, 2009, CBP withdrew the 2009 Notice. Having received 141 comments, many of them negative, CBP indicated that "the proposed action should be reconsidered" and that a "new notice which will set forth CBP's proposed action relating to its interpretation of T.D. 78-387 and T.D. 49815(4) will be published in the *Customs Bulletin* in the near future."

3. **The ANPRM**

In an email dated March 4, 2010, the Department of Homeland Security (DHS) explained that it had concluded that rulemaking was necessary with respect to the 2009 Notice:

> Because of the level of confusion and potential scope of impact that a change in law could have on important maritime industries, the Department of Homeland Security (DHS) has decided to initiate a rulemaking action, subject to public notice and comment, to allow for a full consideration of the potential economic impact of any change in CBP's interpretation or application of the Jones Act and related laws as it pertains to the transportation by non-coastwise qualified vessels

> in U.S. waters of certain equipment and materials for use in the maintenance, repair, or operation of offshore, subsea energy extraction operations.[7]

In the email, the Deputy Director of the DHS Private Sector Office explained that DHS "will submit the rulemaking action to OMB for interagency review under Executive Order 12,866."

On April 26, 2010, consistent with DHS's statement, CBP started a regulatory process placing a proposed Advance Notice of Proposed Rulemaking (ANPRM) on the DHS agenda. 75 Fed. Reg. 21,811 (Apr. 26, 2010). In that notice, CBP indicated that a regulatory process was appropriate "[b]ecause any determination on this matter made by CBP would impact a broad range of regulated parties, and the scope of potential economic impact of any change in existing practice is unknown." CBP further indicated the target publication date as June 2010 and that a Regulatory Flexibility Analysis of the ANPRM was required. On November 15, 2010, that regulatory process was terminated without any reason given. 75 Fed. Reg. 79,793 (Dec. 20, 2010). The 2010 Regulatory process has never been re-initiated.

The 2017 Notice was apparently preceded by certain selective industry meetings. In a hearing before the Subcommittee on Homeland Security of the Senate Committee of Appropriations held on March 8, 2016, the CBP Deputy Commissioner testified that the CBP Commissioner had recently met with OMSA and reported "that we're engaging our interagency partners at MIRAD [sic] as well as the U.S. Trade representative to see if there are some options for kind of reviewing prior rulings and updating some of our findings going back to 2009." API was not engaged in this effort and is unaware of any of its members participating in these discussions.

III. Specific Trades Comments

A. CBP lacks a legally sufficient basis for rejecting long-standing, heavily relied upon precedents.

The 2017 Notice revokes or substantially revises 40 years of Jones Act rulings heavily relied upon by the oil and natural gas community and affecting many facets of offshore oil and natural gas production. That reliance has been both substantial and reasonable given that the rulings were long-standing and consistent, and CBP withdrew the 2009 Notice thereby validating those rulings. By law, CBP cannot reverse long-standing, heavily relied upon precedents without a legally sufficient basis. The 2017 Notice lacks that basis as the 25 affected rulings are actually consistent with law[8] and the basis advanced by CBP in the 2017 Notice is not rational.

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[7] Email to API from Tracy Hannah, Deputy Director, Private Sector Office, DHS (received Mar. 4, 2010).
[8] This and similar statements below in this Section III are subject to the limitation expressed *supra*, note 4.

1. **Settled administrative law requires agencies to provide a reasoned justification for reversing prior decisions and there is increased scrutiny when the interpretations are long-standing.**

CBP's conduct in issuing the 2017 Notice without a reasoned justification is a violation of well-settled law. "An agency is free to change or deviate from its settled practice, but it must provide a reasoned explanation for doing so." *Timken Co. v. U.S.*, 79 F. Supp. 3d 1350, 1356 (Ct. Int'l Trade 2015), *citing Atchison, Topeka & Santa Fe Ry. Co. v. Wichita Bd. of Trade*, 412 U.S. 800, 808 (1973). Similarly, the D.C. Circuit has explained that "an agency's failure to come to grips with conflicting precedent constitutes an inexcusable departure from the essential requirement of reasoned decision making." *Jicarilla Apache Nation v. Dep't of the Interior*, 613 F.3d 1112, 1120 (D.C. Cir. 2010), *quoted in Water Quality Insurance Syndicate v. U.S.*, 2016 WL 7410549 (D.D.C. 2016). And, although the burden for reasoned decision making for altering policy or practice is usually no greater than that for initially adopting such policy or practice, an agency must provide "a more substantial explanation or reason for a policy change than for any other action" when "'its new policy rests on factual findings that contradict those which underlay its prior policy.'" *U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 626 (D.C. Cir. 2016) (quoting *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009)).

2. **The oil and natural gas community has placed substantial reliance on over 40 years of Jones Act rulings affected by the 2017 Notice.**

The application of the Jones Act to offshore oil and natural gas operations is a complex matter. The essential elements of the Jones Act – including what is a "point in the United States," what is "merchandise" and what is "unlading" – have presented numerous commercial and safety-based issues for resolution in U.S. oil and natural gas operations.

Although the oil and natural gas community appreciates CBP's informed compliance documents – such as "What Every Member of the Trade Community Should Know About: Coastwise Trade: Merchandise" – they hardly scratch the surface with regard to providing usable guidance for historical offshore operations, much less emerging technologies. That publication, for example, merely repeats the definition of "vessel equipment" adopted by CBP from Treasury Decision 49815(4) (1939). In other words, these compliance documents do not, in and of themselves, satisfy the needs of the "trade community . . . to be clearly and completely informed of its legal obligations." 2017 Notice at 2.

a. **The 2017 Notice Affects a Wide Array of Offshore Operations**

The 2017 Notice directly identifies 25 rulings going back to 1976 that would be revoked or substantially modified if the Notice becomes effective. Based on our interpretation of the CBP Notice, the revocations and modifications potentially affect virtually every aspect of the U.S. offshore industry including offshore emergency response operations, offshore construction, drilling, well intervention, production, pipe and cable laying and pipelines. Section III.C.2 below provides an analysis of recently completed deepwater and future deepwater projects and compares actual vessel requirements to the actual capabilities of the coastwise-qualified fleet.

In general, installation of subsea and surface infrastructure requires purpose-built or highly specialized vessels capable of performing a wide range of potentially high-risk operations in six areas:

- **Flowlines and risers**;
- **Umbilicals;**
- **Well construction;**
- **Subsea equipment;**
- **Export pipelines; and**
- **Surface construction.**

(i) Flowlines and Risers

Flowlines typically consist of two main components; static flowlines and dynamic risers. The static flowline is laid on the sea floor from the remote well site to a location near the host facility. Static flowlines are typically terminated at each end with a pipeline end termination (PLET). The dynamic riser portion of the flowline is laid from the sea floor, near the static flowline PLET, to the hang off point on the host facility.

For flowline and riser installation, the following vessel requirements are recognized:

- **Minimum top tension** – the preferred method of installation is via a lay system with high tension capability at the tensioners. The tensioner(s) are the key piece of equipment that support the flowline or riser as it departs the installation vessel. Inadequate tensioner capacity could lead to catastrophic loss of the flowline or riser and significantly endanger the installation vessel and its crew.
- **Abandonment and recovery winch capacity** – the vessel must be fitted with a winch that is capable of lowering and lifting the flooded flowline to and from the seafloor.
- **Pipe carrying capacity** – the vessel must have capacity to carry large quantities of rigid or flexible pipe on a reel or carousel. A carousel or large capacity reel(s) is preferred to avoid multiple transits to and from the spool base to load additional pipe thereby reducing the safety risks associated with unnecessary transits and loading operations. Reels are not typically transferred between vessels offshore due to crane capacity limitations and to avoid unnecessary risk.
- **Crane capacity** – the onboard crane must be capable of lifting and lowering pipeline attachments such as PLETs and in-line sleds which provide intermediate attachment points for future field expansions.
- **Dynamic positioning (DP) capability** – vessels are typically required to be DP class 2 or 3 depending on operator requirements.

(ii) Umbilicals

Umbilicals typically contain a combination of power cables, communication cables, hydraulic fluid transmission tubes, chemical transmission tubes and in some cases gas transmission tubes.

Some projects require dedicated umbilicals for the transmission of water or gas to the remote well site. Umbilicals are typically loaded onto a reel or carousel at a shore based facility and transported offshore to the installation vessel.

For umbilical installation, the following vessel requirements are recognized:

- **Minimum top tension** – the best suited method of installation is via a vertical lay system with high tension capability at the tensioners.
- **Tensioner length** – because of their internal structure, umbilicals are sensitive to the maximum external pressure applied by tensioners. If the tensioner is too short, the maximum tension capacity may be reduced to avoid damaging the umbilical.
- **Umbilical carrying capacity** – the vessel must have capacity to carry large quantities of umbilical on a reel or carousel. Generally, umbilicals are laid in a single continuous length to avoid unnecessary subsea terminations. Subsea terminations are avoided whenever possible because of the potential for failure due to water ingress or a leak.
- **Crane capacity** – the onboard crane must be capable of lifting and lowering umbilical termination assemblies.
- **Dynamic positioning capability** – vessels are typically required to be DP class 2 or 3 depending on operator requirements.

(iii) Well Construction

Well construction for deepwater operations consists of the drilling and completion phases required to safely install protective casing and completion equipment to allow production of hydrocarbons from subsea reservoirs. Deepwater well construction requires a range of hardware including casing, wellheads, well control equipment, and drilling/completion assemblies.
For drilling and completion operations, vessel requirements are specific to the well design and objectives, but general requirements are specified below:

- **Rig Specifications** – the drilling vessel must be rated for the water depth and equipped with the required systems to achieve the vessel mission of constructing production wells for tie in to subsea infrastructure. These systems consist of, but are not limited to, well control, pipe handling, heave compensation, solids control, and drilling/hoisting equipment.
- **Equipment storage capacity** – vessels must be capable of safely storing the required drilling equipment, bulk materials, and drilling fluid while maintaining adequate stability. In addition, the vessel must have adequate deck space for the specified equipment.
- **Dynamic positioning capability** – vessels are typically required to be DP class 2 or 3 depending on operator requirements.
- **Safe-lift zones for subsea equipment installation** – Subsea equipment is often installed in the vicinity of existing subsea infrastructure and active wells. To reduce the risk of environmental exposure, the common industry practice is to deploy subsea equipment (conductor, surface casing, blowout preventer (BOP), production tree, etc.) at a safe-lift zone through the water column until the equipment is near seabed. Typically, the safe-lift zone is set up at a distance that is at least 10% of the water depth away from any existing

subsea asset and production. During the deployment of the subsea equipment, the drilling vessel requires the ability to conduct some incidental movement in order to safely install the equipment at the designated location on the seabed. Such incidental movement is part of nearly all subsea equipment installation operations prior to running the riser and latching the BOP.

(iv) Subsea Equipment

Subsea equipment includes a range of hardware including trees, manifolds, jumpers, pumps, and separators. Equipment that is installed at the sea floor requires vessels that have adequate crane capacity for the installation depth.

For subsea installation, the following vessel requirements are recognized:

- **Crane capacity** – the onboard crane must be capable of lifting and lowering the specified equipment at the specified water depth at the specified crane radius. Crane capacity for vessels is typically rated at the main deck of the vessel. The capacity at the installation water depth must be verified for each piece of equipment installed.
- **Crane hook height** – the onboard crane must have adequate hook height to accommodate the overall height of the subsea equipment and any related rigging.
- **Cargo carrying capacity** – vessels must be capable of safely carrying the specified cargo on an ocean going route while maintaining adequate intact stability. In addition, the vessel must have adequate deck space for the specified equipment.
- **Dynamic positioning capability** – vessels are typically required to be DP class 2 or 3 depending on operator requirements.
- **Safe-lift zones for subsea equipment installation** – Subsea equipment is often installed in the vicinity of existing subsea infrastructure and active wells. To reduce the risk of environmental exposure, the common industry practice is to deploy subsea equipment at a safe-lift zone through the water column until the equipment is near seabed. Typically, the safe-lift zone is set up at a distance that is at least 10% of the water depth away from any existing subsea asset and production. During the deployment of the subsea equipment, the installation vessel requires the ability to conduct some incidental movement in order to safely install the equipment at the designated location on the seabed. Such incidental movement is part of nearly all subsea equipment installation operations.

(v) Export Pipelines

Export pipelines transport oil and natural gas from offshore platforms to onshore facilities for further processing or storage unlike infield flowlines which connect subsea well sites to platforms. Because deep water infield flowlines typically have small diameters (≤ 12 inches), they may be installed by any of the three pipelay methods (S-lay, J-lay and Reel-lay). However, deep water export pipelines can be much larger in size (≥ 16 inches). Due to the combination of pipe size and water depth, their installation requires very specialized S-lay vessels.

The installation of large size deep water export pipelines requires vessels with:

- high tension capability (500 tons +) at the tensioners;
- high capacity abandonment and recovery winches;
- cranes to lift required pipeline attachments, such as PLETs (pipeline end termination) and inline slats; and
- class 2 or 3 dynamic positioning capability.

(vi) <u>Surface Construction</u>

Topside installation or surface construction may occur with the use of one of two methods, as described below:

1. The topsides and hull are integrated onshore and then wet-towed offshore and moored to the sea floor. This is often the case for semisubmersibles, tension leg platforms (TLP) and similar floating systems.
2. The topside modules are transported offshore, lifted, and installed to the hull or supporting structure onsite. This is often the case for spars and fixed platforms.

Topside installation activities are as follows:

<u>Topside module installation and removal</u>
After initial platform commissioning, production improvement activities may necessitate the removal and/or installation of facility modules (*e.g.*, water injection, gas lifting, drill rig) on the operating platform. Although the lifting loads for these modules are typically lower than for the initial topsides lift(s), the required crane hook heights is ≥ 200 feet.

<u>Steel catenary riser pickup and hang-off</u>
To reduce simultaneous operations, it is a common safety practice to preinstall pipelines and flowlines with steel catenary risers (SCR) and wet park them on the seabed prior to host platform arrival. After the installation of the host platform, the pre-laid SCRs on the seabed are retrieved and hung off the platform by the installation vessel. For deep-water, heavy-wall risers, this operation typically requires an installation vessel with a lifting capability greater than 400 tons. In some situations, the required lifting capability can be as high as 1,000 tons.

<u>Platform anchor pile installation</u>
All deep water platforms are moored to the sea floor by mooring lines or tendons anchored to either hydraulically driven piles or suction piles. Suction pile installation requires vessels with lifting capability up to 400 tons to pick up piles at the surface and lower them through the water column to the seabed. The installation of hydraulically driven piles requires offshore construction vessels that can support the operation of the special hydraulic hammer system on the sea floor.

<u>Mooring line and tendon installation</u>
Mooring lines are used to anchor spars, semisubmersibles, and other similar floating systems. Mooring lines with chain segments, as used for some larger semisubmersibles

in deeper water, require large mooring deployment winches and cranes to handle long links of chain.

TLP tendons lengths typically range from 200 to 300 feet. Tendon installation requires crane heights over 300 feet to lift tendons from supply barges and upend them for assembly.

Station keeping
Deepwater heavy lifts require installations vessels to be DP class 2 or 3 for station keeping. Lifting vessels dependent on mooring systems for station keeping are not suitable for deep water projects.

b. Although CBP made a similar proposal to alter rulings in the 2009 Notice, it's almost eight-year failure to follow-up on that proposal induced renewed reasonable reliance interest.

The 2009 Notice would have revoked or substantially modified most of the same rulings that would be affected by the 2017 Notice. Numerous negative substantive comments were received in response to the 2009 Notice setting forth a number of serious procedural and substantive defects in that Notice. The 2009 Notice was withdrawn "[b]ased on several substantive comments CBP received, both supporting and opposing the proposed action, and CBP's further research on the issue . . . ." Subsequently, a rulemaking project was commenced and abandoned. The only action actually taken in 2009 was the revocation of the single ruling regarding the installation of a subsea assembly.

CBP effectively affirmed the validity of all other "vessel equipment" related rulings that would have been revoked or modified by expressly restricting its revocation to a single ruling, by first proposing a radical departure from numerous precedents in the 2009 Notice and then abandoning that effort, and then by proposing a rulemaking project on the same subject and then abandoning that as well. It was and is reasonable to conclude that the 2009 proposed revocations, whether advanced by rulemaking or other process, were simply too burdensome and complex to undertake. It was likewise reasonable for oil and natural gas operators to rely on that clear conclusion remaining the case. CBP has not even acknowledged the 2009 Notice, much less given explanation as to why the 2009 Notice required rulemaking but the 2017 Notice does not.

The case for reasonable reliance is especially acute with respect to the 1976 Ruling which the 2017 Notice proposed for substantial modification. In the 2009 Notice, the 1976 Ruling was proposed as the basis for all future action and was left undisturbed. Nothing in the public record until January 18, 2017, gave anyone any notice that the 1976 Ruling would be substantially modified, and therefore there is no reasonable basis for denying the affected industry the right to have relied on CBP's interpretation and application of that ruling in making long-term operational and commercial decisions. Likewise and obviously, there is no supporting policy analysis, cost benefit assessment, economic impact study, or consideration of alternatives behind the current effort. It is not only overreaching, it is essentially without warning.

c. <u>The offshore oil and natural gas community is entitled to rely on individual rulings.</u>

The necessary reliance by everyone in the U.S. offshore oil and natural gas community on individually issued rulings is undeniable. While CBP's regulations are careful to caution persons other than the requestor not to overly rely on individual rulings, the rulings remain critical precedents. *See* 19 C.F.R. § 177.9(c).[9] Indeed, there would be no reason for CBP to revoke and modify a 40-year-old ruling letter and make the revocation generally applicable to every other inconsistent ruling if it did not intend its own personnel and others in industry to rely upon its ruling letters.

As indicated by the D.C. Circuit in 1989 after noting the regulatory caution to non-requestors, "[s]uch letters, however, can have precedential value for other parties or other activities." *Shipbuilders Council of America v. U.S.*, 868 F.2d 452, 454 (D.C. Cir. 1989). The court also cited in support that CBP's own regulation provides that "the principle of the ruling" "may be cited as authority in the disposition of transactions involving the same circumstances." 19 C.F.R. § 177.9(a).

In actual practice, individual rulings are the only available body of guidance for the offshore industry. These rulings cite other rulings and establish precedents. These rulings, after a certain point in time, are also easily accessible to the public under the CROSS system, which also updates for withdrawn or modified rulings. Moreover, each ruling "represents the official position of the Customs Service" and "is binding on all Customs Service personnel . . . until modified or revoked." *Id.*[10] This further supports the concept that third-party reliance is reasonable.

The affected industry – including ocean carriers – is guided by these rulings and acts accordingly. CBP is well aware that this is the case. Its Rulings Program's informed compliance publication acknowledges that other parties may rely on ruling letters and simply cautions that no reliance should be placed before checking whether the ruling has been modified or revoked. "U.S. Customs & Border Protection Rulings Program" at 22 (Dec. 2009). Basic notions of fairness and equal protection dictate that the law not be applied inconsistently to two parties carrying out identical operations.

Reasonable third party reliance is also consistent with Section 625 of the Tariff Act of 1930, as amended, which CBP relies on as the authority for the 2017 Notice.[11] That section indicates that

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[9] The "Reliance on ruling letters by others" section of the regulation is written in terms of ensuring that persons other than the requestor should be cautious about reliance, not that there can be no such reliance ("no other person should rely").

[10] "These rulings, though addressed to individuals and not developed through adversarial or any form of rulemaking proceedings, are binding on the agency . . . ." *American Maritime Ass'n v. Blumenthal*, 590 F.2d 1156, 1163, n.38 (D.C. Cir. 1978).

[11] The case of *Heartland By-Products v. U.S.*, 264 F.3d 1126 (Fed. Cir. 2001), is not to the contrary. There a single dutiability ruling relied upon by the actual recipient of the ruling was modified via the Section 625 process, which is wholly unlike the present situation where numerous identified and unidentified rulings are slated for modification affecting an entire industry which has relied upon them.

rulings or decisions are important industry guideposts. *See* 19 U.S.C. § 1625. For example, Section 625 requires publication in the *Customs Bulletin* whenever any single ruling is modified or revoked that has been in effect for at least 60 days. *Id.* at § 1625(c). That alone signals the expectation that the affected industry will have relied on the prior ruling and should be fairly appraised of any change. The required comment period permitting "interested parties" to submit comments clinches the observation that individual rulings are meant to be relied upon by a broader audience. *Id.*

Finally, it is unreasonable to expect that each and every offshore operation involving a foreign-flag vessel should be preceded by an individual ruling request, as this would significantly impact commercial planning.

3. **The rulings proposed for modification are consistent with the law.**

The rulings CBP has proposed to revoke or substantially modify in the 2017 Notice are consistent with existing law – both with the Jones Act statute and with CBP's 1939 definition of "vessel equipment" as not being "merchandise" under the law. Therefore, there is no reasoned basis for altering those rulings.

a. **The rulings proposed for modification are consistent with the statute.**

The Jones Act proscribes the "transportation of merchandise by water." Items carried by a vessel that are "transported" as "merchandise" are encompassed. Items carried by a vessel that are not "transported" as "merchandise" are not subject to the Jones Act. Neither of the words are defined in the Jones Act (or in the CBP's implementing regulations at 19 C.F.R. § 4.80b) except for the inclusion of government-owned "merchandise" and "valueless material" as "merchandise" (discussed further below). Case law indicates two things about the words "merchandise."

The first is that "merchandise" is a term associated with commerce – *i.e.*, goods bought and sold by a merchant. For example, the U.S. Court of Appeals for the Ninth Circuit determined in 1927 that the meaning of "merchandise" "is often restricted to what may be regarded as merchandise in a commercial sense." *U.S. v. Mattio*, 17 F.2d 879, 880 (9th Cir. 1927). In that case, the court distinguished "merchandise" from personal property. *See also Imperial Packaging Corp. v. U.S.*, 535 F. Supp. 688, 689-90 (Ct. Int'l Trade 1981) (holding, at the request of CBP, that "at the point of sale the purchased product . . . is not 'merchandise' within the meaning of the statute, but is a personal effect").

The second, and related point, is that "merchandise" is defined by reference to how it is used. For example, in the largest Jones Act penalty case ever – *Furie Operating Alaska, LLC v. U.S. Dep't of Homeland Security* settled on March 24, 2017 – the U.S. District Court for Alaska determined a "vessel" was not "merchandise," even though separately defined in the Tariff Act of 1930, on the basis of how it was used. Case No. 3:12-cv-00158-JWS (D. Alaska). In the

words of the U.S. Government in one of its briefs, whether something is "merchandise" or not depends "on how the item is being used." Def. Opp. To Pl. M. to Dismiss at 18 (Dec. 6, 2013).

Focusing on the commercial aspects of the goods being transported and how they would be used is exactly what CBP was doing when it issued 25 consistent rulings from 1975 to 2009. Those rulings focused on whether the items transported would be in furtherance of the vessel's mission, *i.e.*, how the items would be used. Those items would not be employed as articles of commerce. Rather, the items would be employed as items to be installed by vessels in accordance with each vessel's function.

Because the CBP rulings to be revoked and modified by the 2017 Notice are consistent with the Jones Act, they should be retained and the 2017 Notice withdrawn.

b. <u>The rulings proposed for modification are consistent with the 1939 definition of "vessel equipment."</u>

CBP indicates in the 2017 Notice its current belief that it has strayed from the original 1939 definition of "vessel equipment." 2017 Notice at 5. CBP does not address whether the 1939 definition should even have any application to the Jones Act. Specifically, CBP posits that phrases found in the affected rulings referring to the "mission of the vessel" and similar formulations expanded the "original meaning" of "vessel equipment" and used it out of context. *Id.* Even in the context of the 1939 definition being assumed to be guiding, CBP's failure to provide a legally sufficient justification stems from its misreading of its own 1939 definition.

That definition provided that –

> The term 'equipment', as used in section 309, as amended, includes portable articles necessary and appropriate for the navigation, operation or maintenance of the vessel and for the comfort and safety of the persons on board. It does not comprehend consumable supplies either for the vessel and its appurtenances or for the passengers and the crew. The following articles, for example, have been held to constitute equipment: rope, sail, table linens, bedding, china, table silverware, cutlery, bolts and nuts.

T.D. 49815(4) (Mar. 13, 1939). Section 309 refers to a section of the Tariff Act of 1930 now codified at 19 U.S.C. § 1309. At no point in time has the definition of "merchandise" been enacted into the Jones Act by the U.S. Congress.

The critical portion of the definition is the phrase "navigation, operation or maintenance." Articles are vessel equipment if they are "necessary and appropriate" for either "navigation," "operation" *or* "maintenance." The phrase does not provide that the articles must be necessary for navigation, operation *and* maintenance, and so each word must be accorded separate meaning. That is rightfully so as navigation charts are surely necessary and appropriate for navigation, but not for maintenance, just as paint is appropriate for maintenance, but not

navigation, and just as an air hose is necessary and appropriate for the operation of a dive support vessel, but not necessary for the operation of a crew boat.

In the rulings at issue, CBP has consistently espoused the view that articles necessary for the "operation" of a vessel were "vessel equipment" without regard to whether they were necessary to the "navigation" or "maintenance" of the vessel. *E.g.*, Customs Ruling HQ 115938 (Apr. 1, 2003). Hence, an ROV should be considered essential to the mission (and operation) of a subsea construction vessel and therefore "vessel equipment," even though it is not necessary to either the "navigation" or "maintenance" of the vessel.

CBP's proposed re-interpretation would take the drastic step of reading "operation" out of the 1939 definition. Although not clearly stated, CBP apparently is proposing that articles must be necessary to the safety of the vessel without regard to its mission. If that were the case, then cargo handling gear (other than stevedoring gear subject to a separate exception) would not be vessel equipment as such articles would be necessary to the function or operation of the vessel but not its ability to safely traverse navigable waters. Yet, there would be no reasonable disagreement that cargo handling gear is "vessel equipment."

"Operation" is plainly a separate basis for concluding that an article is "vessel equipment," and it plainly means "performance of a practical work or of something involving the practical application of principles or processes." Merriam Webster On-Line Dictionary (www.merriam-webster.com). Therefore, CBP cannot claim to revert to the original definition without utilizing the whole of the original definition which includes articles needed for a vessel's operation and those articles include items necessary for a vessel's function.

CBP's proposed re-interpretation also goes too far in another way. The strong implication is that items might be "vessel equipment" only if they stay on board the vessel. If that were the case, of course, then there could be no possibility of Jones Act application since there would be no lading and unlading at U.S. points. The 1939 definition should not be interpreted to make the "vessel equipment" concept a nullity.

This also points to the self-defeating character of not according "operation" in the definition its due. Once articles are limited to those only necessary for the vessel to traverse water or for the maintenance of the vessel, then the reason for the "vessel equipment" concept disappears since these articles will rarely, if ever, be removed from the vessel.

There remains, however, as there was in 1939, 1976 and 2017, a category of articles carried by vessels to be used in their operations that have been categorized by CBP as "vessel equipment" and should continue to be so categorized. CBP did not get it wrong in 1939 or 1976 or at any of the other 24 decision points when it issued those rulings. As to the February 20, 2009 sub-sea assembly ruling, CBP promptly revoked it and as such it forms no part of CBP's long-standing interpretive guidance and that long-standing guidance needs no further correction now. Rather, CBP is now incorrectly taking an overly narrow interpretation which is not, in fact, mandated or even intended by the statute.

4. <u>CBP cannot rationally justify its reversal of over 40 years of precedent based on changes that occurred in 1978 and 1988 or via an un-amended Jones Act.</u>

In the 2017 Notice, CBP fails to provide a complete, articulated justification for reversing 25 substantive and inter-related rulings issued over 40 years and heavily relied upon by the affected industry. What CBP offers is vague, disconnected and incomplete.

With respect to its proposed substantial modification of HQ 101925, CBP indicates that it is changing the ruling "to make it more consistent with federal statutes that were amended after HQ 101925" – which means after 1976. 2017 Notice at 2. CBP also states that "[m]any of the holdings in HQ 101925 are no longer applicable due to amendments made to 46 U.S.C. § 55102 . . . , the Outer Continental Shelf Lands Act, and 19 C.F.R. § 4.80b(a), resulting in less consistency with 46 U.S.C. § 55102." *Id.* at 3.[12]

CBP does not make a serious attempt to answer the obvious question its statements pose: What has changed in OCSLA, CBP's regulations, or the Jones Act since 1976 which requires reversing 25 rulings issued over 40 years?

Nothing in the 1978 amendments to OCSLA could possibly justify restricting the operations of foreign-flag vessels in the manner proposed in the 2017 Notice. The 1978 amendments, in pertinent part, struck the words "fixed structures" from Section 4(a) of OCSLA (the jurisdictional section) and replaced those words with the "permanently or temporarily attached to the seabed" language. There is nothing in that amendment which derogates from CBP's views in HQ 101925 regarding incidental transportation, *de minimis* materials or unforeseen repairs. There is simply no connection between the two. Indeed, Congress indicated that the Section 4(a) change was not meant to change law: "The intent of the managers in amending Section 4(a) of the 1953 OCS Act is technical and perfecting and is meant to restate and clarify and not change existing law." H. Conf. Rep. 95-1474 at 80, 1978 U.S.C.C.A.N. 1674, 1679.

Using a subsequent change to the Jones Act as a justification for the 2017 Notice is even weaker. The Jones Act change CBP relies upon in part is the 1988 statutory addition of "valueless material." The other Jones Act justification is that the Jones Act does not contain the words "'necessary for the accomplishment of the mission of the vessel,' 'incidental to the vessel's operations,' or 'expended' during the course of repair." 2017 Notice at 14-17.

CBP appears to suggest that if "valueless material" can be "merchandise," then *everything must be* "merchandise." 2017 Notice at 17-18. This is belied by the words of the statute – which provide that "the term 'merchandise' *includes* . . . valueless material." 46 U.S.C. § 55102(a) (emphasis added). The statute does not define "merchandise" as "valueless material" or even provide a definition at all – rather, it draws in to what might otherwise be "merchandise" "valueless material" to ensure that "valueless material" is not excluded on the basis that it is

[12] Notably, the CBP Jones Act regulations were last amended in 2012 with no mention of the need to alter interpretations based on legislation enacted after 1976 and without any attempt to amend the regulations to define "merchandise," "transportation" or "points in the United States."

valueless. The statute *includes* "valueless material" as material that *may* be merchandise, but the statute does not take the further step to *define* "merchandise" as "valueless material." In other words, it does not follow that all material with value is "merchandise" if "valueless material" can be "merchandise."

We know this to be true because the 1988 statutory addition of "valueless material" was expressly added to solve a very narrow problem, *i.e.*, the problem Congress perceived in the *106 Miles Transport* case. In that case, the court determined that the basis for sewage sludge not being "merchandise" was that it was "valueless material." Expressly moving to change that result, Congress included the court's term – "valueless material" – in the statute.

Also, had Congress sought to equate "merchandise" with "valueless material" in an all-encompassing way, then it would have amended the Jones Act differently in 1988 when it added "valueless material." In the same 1988 legislation, Congress also amended the Jones Act to provide that "dredged material," separately from "valueless material," was also to be included as "merchandise." Pub. L. No. 100-329 (1988). "Valueless material" cannot be all inclusive and meant to include anything and everything even if valueless if it is used alongside the separately defined term "dredged material."

In any event, tools, risers, pipeline connectors, pipe, etc., are obviously not "valueless material." So, the inclusion of "valueless material" as "merchandise" is not dispositive or particularly relevant as to whether those and similar items are "merchandise" or "vessel equipment."

As to the words of the Jones Act otherwise, they have not changed in any relevant respect since 1976. The Jones Act then did not directly provide for "vessel equipment," "sea stores" or any number of other things CBP has adopted in its authority to interpret the statute. Just as the absence of those words in the Jones Act did not prevent CBP from adopting the "vessel equipment" interpretation in the first place, the same absence of those words in the statute cannot provide the justification for reversing 40 years of precedent. CBP's attempt to simply do an about-face on 25 precedents stretching over 40 years "constitutes 'an inexcusable departure from the essential requirement of reasoned decision making.'" *Jicarilla Apache Nation*, 613 F.3d at 1120 (quoting *Ramaprakash v. FAA*, 346 F.3d 1121, 1125 (D.C. Cir. 2003)).

The weakness of CBP's rationale is also evident in the timing of the rulings and the statutes. CBP has had 39 years and 29 years, respectively, to react to the 1978 amendments to OCSLA and the 1988 "valueless material" amendment. CBP would have to offer an explanation why it ignored these statutes in terms of its "vessel equipment" rulings for decades (and the Trades believe, correctly so) and then recently determined that all those rulings are not consistent with those statutes. CBP statement that the "changes in the law . . . occurred after the issuance of [the 1976 Ruling]," as if those changes occurred only recently and can explain its proposed radical departure, rings completely hollow. *See* 2017 Notice at 15. CBP must provide "a more substantial explanation or reason for a policy change than for any other action" when "'its new policy rests on factual findings that contradict those which underlay its prior policy.'" *U.S. Sugar Corp.*, 830 F.3d at 626 (quoting *Fox Television*, 556 U.S. at 515).

5. **The Jones Act does not apply outside U.S. territorial waters.**

CBP's proposed radical departure from 40 years of consistent rulings in the 2017 Notice makes appropriate consideration of whether the Jones Act was ever properly applied to man-made devices outside U.S. territorial waters.

The Jones Act itself applies to transportation "between points in the United States." The issue presented for places outside U.S. territorial waters is whether any of those places is a "point in the United States." Based on the words of the Jones Act as codified and the statutory definition of the "United States" alone, the Jones Act would not apply outside U.S. territorial waters.

The Jones Act itself, as codified, provides that "the coastwise laws apply to the United States, including the island territories and possessions of the United States," with certain enumerated exceptions not applicable to the U.S. Gulf of Mexico. 46 U.S.C. § 55101(a). And, the general definitions for Title 46 of the U.S. Code – where the Jones Act resides – similarly focuses on physical territory: "In this title, the term 'United States', when used in a geographic sense, means the States of the United States, the District of Columbia, Guam, Puerto Rico, the Virgin Islands, American Samoa, the Northern Mariana Islands, and any other territory or possession of the United States." 46 U.S.C. § 114.

There is nothing written into the Jones Act demonstrating an affirmative intention to extend its application beyond the United States.[13] The question of Jones Act application on the OCS then turns to the Outer Continental Shelf Lands Act as amended. Specifically, Section 4(a) of OCSLA, as amended, provides that:

> The Constitution and laws and civil and political jurisdiction of the United States are extended to the subsoil and seabed of the outer Continental Shelf and to all artificial islands, and all installations and other devices permanently or temporarily attached to the seabed, which may be erected thereon for the purpose of exploring for, developing, or producing resources therefrom, or any such installation or other device (other than a ship or vessel) for the purpose of transporting such resources, to the same extent as if the outer Continental Shelf were an area of exclusive Federal jurisdiction located within a State . . .

43 U.S.C. § 1333(a)(1).

Notably, OCSLA does not connect the dots. The Jones Act and Title 46 of the U.S. Code require that a point in the United States be located within U.S. physical territory. OCSLA extends federal law to the U.S. OCS, but does not make any place on the U.S. OCS part of U.S. physical

[13] It is a "longstanding principle of American law 'that legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States.'" *Morrison v. National Australia Bank Ltd.*, 561 U.S. 247, 255 (2010) (quoting *EEOC v. Arabian American Oil Co*., 499 U.S. 244, 248 (1991)). That presumption prohibits extraterritorial application of U.S. statutory law "unless there is the affirmative intention of the Congress clearly expressed to give a statute extraterritorial effect." *Id.* (quotation marks omitted). In short, "[w]hen a statute gives no clear indication of an extraterritorial application, it has none." *Id.*

territory. Therefore, OCSLA does not alter the plain language in the Jones Act and the physical limitation definition in Title 46 of the U.S. Code.

That questions surround this issue is confirmed by the 1978 OCSLA legislative history. In that history, the House of Representatives committee report noted that CBP had determined that "artificial islands and structures . . . are points in the United States and within the coastwise laws of the United States, even though located outside territorial waters" but that such "determination is under review and the committee, by this subsection, does not in any way negate or supersede existing law." H.R. Rep. No. 95-590 at 129. This legislative history underscores that there was no clear Congressional intent to extend the reach of the Jones Act outside the United States. Accordingly, CBP's conduct in applying the Jones Act beyond the territorial waters of the United States violates the presumption against extraterritorial application.[14]

For the foregoing reasons, CBP should re-consider, should it proceed with the 2017 Notice, whether the Jones Act applies at all to the transportation of merchandise between U.S. territory and any place on the U.S. OCS.

B. The 2017 Notice will have a detrimental impact on safety, disrupt and disadvantage U.S. offshore oil and natural gas production and inhibit investment and activity by creating uncertainty.

1. The new proposed interpretation will exacerbate existing safety issues.

Given CBP's reliance solely upon OCSLA to expand the Jones Act to OCS facilities, CBP cannot ignore the safety mandates of OCSLA. As described above under Section III.A.2.a, "The 2017 Notice Affects a Wide Array of Offshore Operations," the 2017 Notice has the potential to increase dramatically the number and magnitude of ship-to-ship operations offshore, particularly lifting operations. Many of those ship-to-ship operations would have to occur over the subsea infrastructure increasing safety and environmental risks. Further, there is likely to be an increase in vessel traffic in areas where simultaneous operations (SIMOPs) are on-going. This raises substantial safety concerns, including lack of coordination with federal safety mandates, and will impede offshore operations.

The increased ship-to-ship operations would be required in many situations where the only installation vessel capable of performing a proposed operation is a foreign-flag vessel. Where CBP insists that incidental vessel movements are encompassed by the Jones Act, certain projects will be made impossible through confluence of the Jones Act requirement and the lack of Jones Act vessels that can physically perform the necessary functions. Even where the Jones Act as interpreted by CBP does not make the use of appropriate vessels impossible, the 2017 Notice will make projects impractical and much more costly since the foreign-flag vessel will have to be supplied via a coastwise-qualified vessel for anything and everything the foreign vessel might otherwise normally pick up in the U.S. and utilize to perform its mission (unless the Jones Act did not otherwise apply). For example, a vessel ideally suited and designed for repairing pipe

[14] *See Morrison v. National Australia Bank Ltd.*, 561 U.S. at 255.

might have to be supplied with pipe, pipe connectors and other items via the coastwise vessel. This will layer needless operational burdens of additional ship-to-ship lifting processes offshore. Such open sea transfers create a heightened risk of incidents involving the vessels and their crews.

Similar operational safety issues have already been acknowledged by other U.S. Government agencies. In its 2009 comments, API attached April 22, 2009 letters from the U.S. Department of the Interior to industry associations indicating that the Minerals and Management Service and the U.S. Coast Guard continue "to have significant concerns about the safety of Outer Continental Shelf (OCS) lifting operations." More recently, the Director of the Bureau of Safety and Environmental Enforcement told an industry group on July 15, 2015, that "review of our incident data within BSEE underscores that the problem of lifting incidents has not yet been solved. Hard numbers show that lifting is not as safe as it should be."

The Trades urge CBP to take into serious consideration the potentially significant safety effects of the 2017 Notice. The present situation is similar to the safety issues from current uncertainty around the use of heavy lift cranes where multiple lifts are necessitated by the lack of appropriate Jones Act vessels combined with CBP's unfortunate determination that incidental vessel movements in connection with lifting operations constitute a portion of Jones Act "transportation" of "merchandise." For the record, the Trades do not agree that installation movements constitute "transportation" within the context of the Jones Act. As CBP is aware, BSEE and the U.S. Coast Guard (USCG) wrote to CBP on September 1, 2015, to request that safety considerations be taken into account. Under OCSLA, CBP should be coordinating with BSEE and USCG to ensure safe and efficient operations on the OCS.[15]

We also note that requiring the use of vessels with lesser capabilities than would otherwise be available in the open market is not consistent with the safety culture mandated by OCSLA. That law mandates the use of the "safest technologies" that are "economically feasible, wherever failure of equipment would have a significant effect on safety . . . ." 43 U.S.C. §§ 1332(6) & 1347(b). Vessels with lesser capabilities than those otherwise available because of an overly broad definition of "merchandise" could be viewed as not employing the "safest technologies." Serious consequences to the entire offshore program could easily ensue if the new interpretations force operators to perform in a manner which prompts USCG, BSEE, the Bureau of Ocean Energy Management, or another regulator to find a violation of this requirement, potentially leading to operational shutdowns.

2. <u>The 2017 Notice will negatively affect emergency response capabilities.</u>

Importantly, as the technological challenges have steadily risen in the Gulf of Mexico for oil and natural gas operators, the industry has prudently spent billions developing and sustaining

[15] *See* 43 U.S.C. § 1347(b) and (f); *see also* H.R. Rep. 95-590 at 127 (". . . in administering not only the [OCSLA] but also ***any other act applicable, directly or indirectly, to activities on the [OCS]***, responsible Federal officials must insure that activities on the shelf are undertaken in an orderly fashion, so as to safeguard the environment, maintain competition, and take into account the impacts on affected States and local areas." (emphasis added)).

sizeable emergency not-for-profit response organizations with leading-edge technological subsea equipment, surface vessels and capabilities wholly designed to keep industry workers, the public and the environment safe. These entities include, but are not limited to Marine Well Containment Company LLC (MWCC) (a consortium of 10 Gulf of Mexico deep-water operators) and HWCG LLC (a consortium of 15 Gulf of Mexico deep-water operators) who have separately developed, and maintain at great cost, world-class response equipment, and trained personnel with highly regulated capabilities to quickly and comprehensively respond to a subsea release. Both MWCC and HWCG are regulated by, work closely with, and are highly regarded by state and federal regulatory authorities.

Protecting life, property and the environment is of critical importance in conducting a safe, effective and rapid response to a subsea well control scenario. CBP's proposed restrictive definition of "vessel equipment" will have an adverse impact on emergency response vessels' ability to mobilize and transport critical items and material to the site of a pollution event in a timely and efficient manner. If CBP no longer views vessel equipment as items and material essential to the function and/or mission of the vessel as set forth in the ruling letters at issue, supplies and equipment such as pressure control devices, drilling fluids, inhibitors and dispersant could no longer be transported on foreign-flag response vessels, which would adversely affect critical response time. The 2017 Notice would result in increased vessel traffic during a potentially dangerous and dynamic situation, which would put crews and vessels at risk. The 2017 Notice will adversely impact the ability of such emergency response organizations to swiftly, expertly and capably respond to emergencies in the U.S. Gulf of Mexico.

3. The 2017 Notice will disrupt and disadvantage U.S. offshore oil and natural gas exploration, development and production.

In this time of downturn in the offshore oil and natural gas sector, CBP should give careful consideration before rushing into actions that may disrupt an industry that has historically been a pillar of support to the domestic economy and a major source of federal, state and local revenues. This is particularly true at a time when that industry is still suffering through a historic and prolonged downturn, brought about by a lethal combination of both low commodity prices and a regulatory environment which has worsened by imposing unsustainable costs and needless uncertainty.

Nowhere are these realities felt more directly than the U.S. Gulf of Mexico, where increasing project complexity is only aggravated by these external circumstances. The U.S. Gulf of Mexico is already a high cost jurisdiction relative to other oil and natural gas producing areas. The oil and natural gas industry is a global one, and companies must invest in opportunities in the most stable and cost efficient environments. Drastic, surprise changes in the regulation of offshore support vessels create significant uncertainty for companies active in the U.S. OCS, thereby making the U.S. a less attractive choice for investments than other countries.

Given the extraordinary benefits flowing from America's offshore oil and natural gas operations, CBP should take care to apply the definition of "merchandise" in the Jones Act to limit unnecessary disruptions and surprises and take into account potential adverse safety and

economic effects. Turning exploration focus away from the U.S. OCS would not improve the operating environment and the purposes of the Jones Act would not be promoted when more activity is reserved to fewer vessels because there are fewer projects.

Any dramatic changes to the rulings relied upon for over 40 years by the affected industry should take into account the substantial negative economic consequences that could result if operations and production slow down or shut down and whether the purposes of the Jones Act are actually being served. As set forth in these comments, many offshore activities cannot be performed by existing coastwise-qualified vessels and that lack of such capabilities would hamper existing projects, make such exploration and development efforts significantly more costly and thereby inhibit future U.S. Gulf of Mexico investment. The latter effect would reduce, not increase, opportunities for coastwise-qualified vessels and the U.S. citizen mariners who serve aboard those vessels.

Because there is an insufficient number of coastwise-qualified, multi-purpose vessels available for work in the U.S. Gulf of Mexico, the 2017 Notice will have the effect of forcing the industry to choose between project delays, the use of lesser vessels or tandem vessel operations. In such arrangements, the foreign vessel would be restricted to installation and repair work and the transportation of equipment, materials and parts from a U.S. port to the work site would have to be undertaken by a duplicative, coastwise-qualified vessel. In addition to the potential safety risk increases associated with additional lift operations described above, such tandem vessel operations increase the risks of allision and collision and dramatically increase costs since at least two vessels are needed when one could formerly perform all the necessary subsea inspection, maintenance, repair or installation tasks.

The risks and costs are even more acute with regard to pipe laying and cable laying. Whereas the 2009 Notice quoted the provision with approval in the 1976 Ruling to the effect that pipe and cable laying in U.S. waters is not encompassed by the Jones Act,[16] the 2017 Notice does not. CBP must be aware that there are currently no coastwise-qualified pipe or cable laying vessels, and therefore, if CBP determines that the activities of such vessels are encompassed by the Jones Act, CBP could effectively bring U.S. offshore oil and natural gas operations to a halt.

All these negative impacts are analyzed in the third party report attached as Attachment B. That report concludes that the 2017 Notice will "seriously limit the ability of operators, installation contractors, and service providers to safely, effectively, and economically operate in U.S. offshore areas," which could result in a "decrease in activity and U.S. content." Those effects may then have the following negative impacts –

- losses in the range of 30,000 industry-supported jobs in 2017 with as many as 125,000 jobs lost by 2030. The Gulf of Mexico states are projected to be the most impacted by these job losses;
- decrease in U.S. oil and natural gas production in the range of 23% from 2017-2030;
- decrease in government revenue more than $1.9 billion per year from 2017-2030;

[16] 43 Customs Bulletin 28 at 57 (July 17, 2009).

- decrease of offshore oil and natural gas spending in the range of $5.4 billion per year; and
- cumulative lost GDP of $91.5 billion from 2017-2030.

C. **The 2017 Notice violates the purpose of the Jones Act which CBP must take into account.**

Although the Jones Act appears to require the use of coastwise-qualified vessels in certain circumstances without regard to economic, safety and other effects, that statute, like other statutes, must be interpreted *in pari materia* with other statutes. One of those statutes contains the purpose of the Jones Act which dictates that the 2017 Notice be withdrawn since the Notice fails to fulfill the statutory purpose of promoting the domestic maritime industry.

1. **CBP must take into account the statutory purpose of the Jones Act.**

The purpose of the Jones Act, unlike the purposes of many statutes, is not left to administrative discretion or to be found in legislative history. The purpose of the Jones Act is contained in statute at 46 U.S.C. § 50101 and therefore has the force of law. That section provides that "[i]t is the policy of the United States to encourage and aid the development and maintenance of a merchant marine" that meets certain objectives including that it be "sufficient to carry the waterborne domestic commerce" of the United States. CBP must, therefore, take into account whether its interpretations would further or violate the purpose of the Jones Act to promote the domestic U.S. merchant marine.

DHS and CBP acknowledged in 2010 that economic impacts of Jones Act interpretations must be considered. DHS indicated to API that a rulemaking was necessary because of the "potential scope of impact that a change in law could have on important maritime industries" which required "full consideration of the potential economic impact of any change in CBP's interpretation or application of the Jones Act . . . ."[17] CBP confirmed this view in the *Federal Register* notice announcing the rulemaking project where it indicated that a rulemaking was necessary "[b]ecause any determination on this matter made by CBP would impact a broad range of regulated parties" and "the scope of potential economic impact of any change in existing practice is unknown." 75 Fed. Reg. 79,793 (Dec. 20, 2010).

2. **The 2017 Notice will make less U.S. oil and natural gas offshore activity possible because many projects cannot be accomplished with existing Jones Act vessels.**

The 2017 Notice is projected to increase costs to operations in the U.S. Gulf of Mexico and substantially and inhibit investment in U.S. offshore oil and natural gas projects in large measure because the existing fleet of coastwise-qualified vessels are physically incapable of performing many deepwater and other functions required of existing and future projects.[18] In order to better quantify the potential impact of the 2017 Notice, we analyzed deepwater Gulf of Mexico

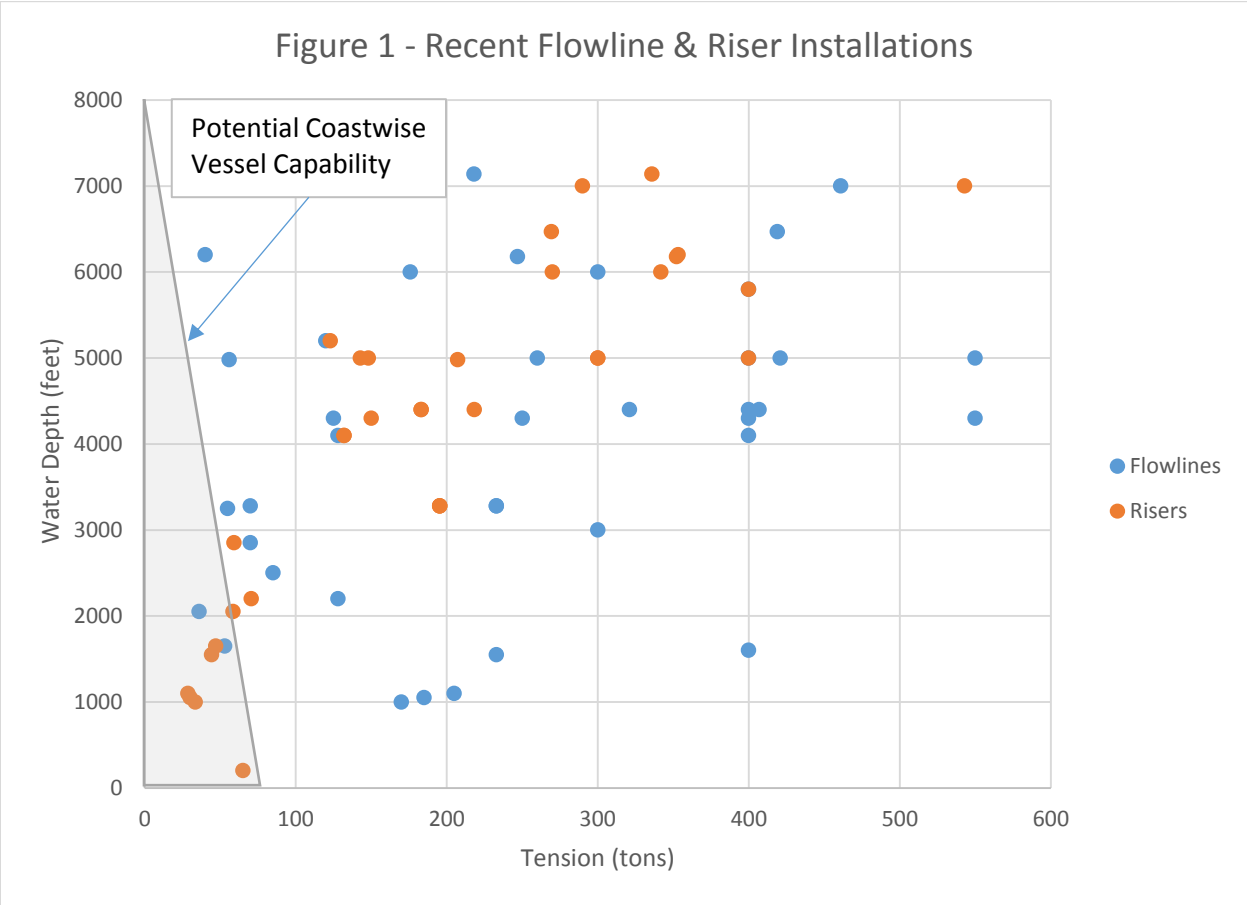
[17] Email to API from Tracy Hannah, Deputy Director, Private Sector Office, DHS (received Mar. 4, 2010).
[18] Further detail is also included in Attachment B.

projects. The scope of this analysis includes drilling and installation activities related to subsea infrastructure, oil and natural gas export pipelines and surface facilities. The analysis is intended to specifically compare actual vessel requirements for deepwater project activities to the actual capabilities of the coastwise-qualified fleet.

Our members considered information regarding deepwater projects in the Gulf of Mexico region. The specific vessel requirements for each installation activity were then compared to the capabilities of coastwise-qualified vessels based on publicly available information (vessel specification sheets) advertised by vessel operators. Recent project data was used to determine the feasibility for conducting projects using available U.S. coastwise-qualified vessels. Figures 1 through 3 show a sample of projects completed in the Gulf of Mexico since 2006. The results of this comparison are displayed graphically in the figures below. As is evident, any diminution in the ability of the offshore industry to utilize foreign-flag vessels for a variety of offshore activities will severely curtail the ability of the industry to continue to explore, develop and produce natural resources in the U.S. Gulf of Mexico.

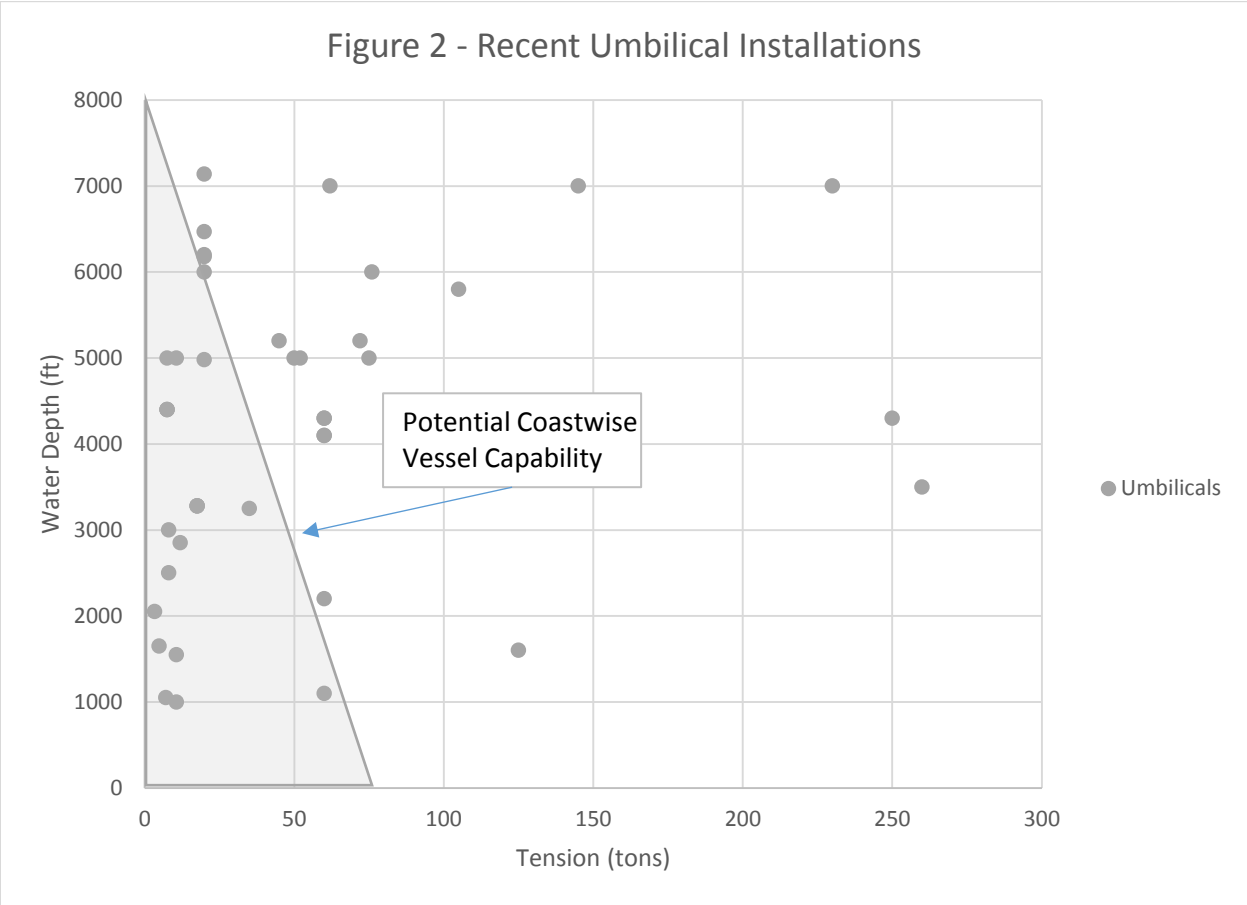
a. Flowlines and Risers

Figure 1 shows a sample of the flowlines and risers installed since 2006. Generally, the top tension requirement increases with water depth. There are no purpose built, U.S. coastwise-qualified pipe lay vessels with permanently installed lay towers, carousels or reel systems. For smaller diameter pipelines, it is possible to install a portable reel lay system on a U.S. coastwise-qualified vessel because of their smaller size. However, because of their smaller size, these vessels would operate at the limit of their safe operating capability. As shown in figure 1 below, even when fitted with a portable lay system, current U.S. coastwise-qualified vessels would be incapable of completing nearly 90 percent of the sample flowline and riser installation projects.



b. <u>Umbilicals</u>

Figure 2 shows a sample of the umbilicals installed since 2006. Generally, the top tension requirement increases with water depth and with umbilical diameter. In addition, because umbilicals are typically installed in a single length, long umbilicals greater than a few miles in length require a high capacity reel or carousel to accommodate the umbilical weight and length. There are no purpose built, U.S. coastwise-qualified umbilical lay vessels with permanently installed lay towers, carousels or reel systems. For smaller diameter and short distance umbilicals, it is possible to install a portable reel lay system on a U.S. coastwise-qualified vessel. However, because of their smaller size, these vessels would operate at the limit of their safe operating capability. These vessels would be limited in their ability to carry umbilicals longer than a few miles. As shown in figure 2 below, even when fitted with a portable lay system, the current coastwise-qualified fleet would be incapable of completing more than 50 percent of the sample umbilical installation projects.

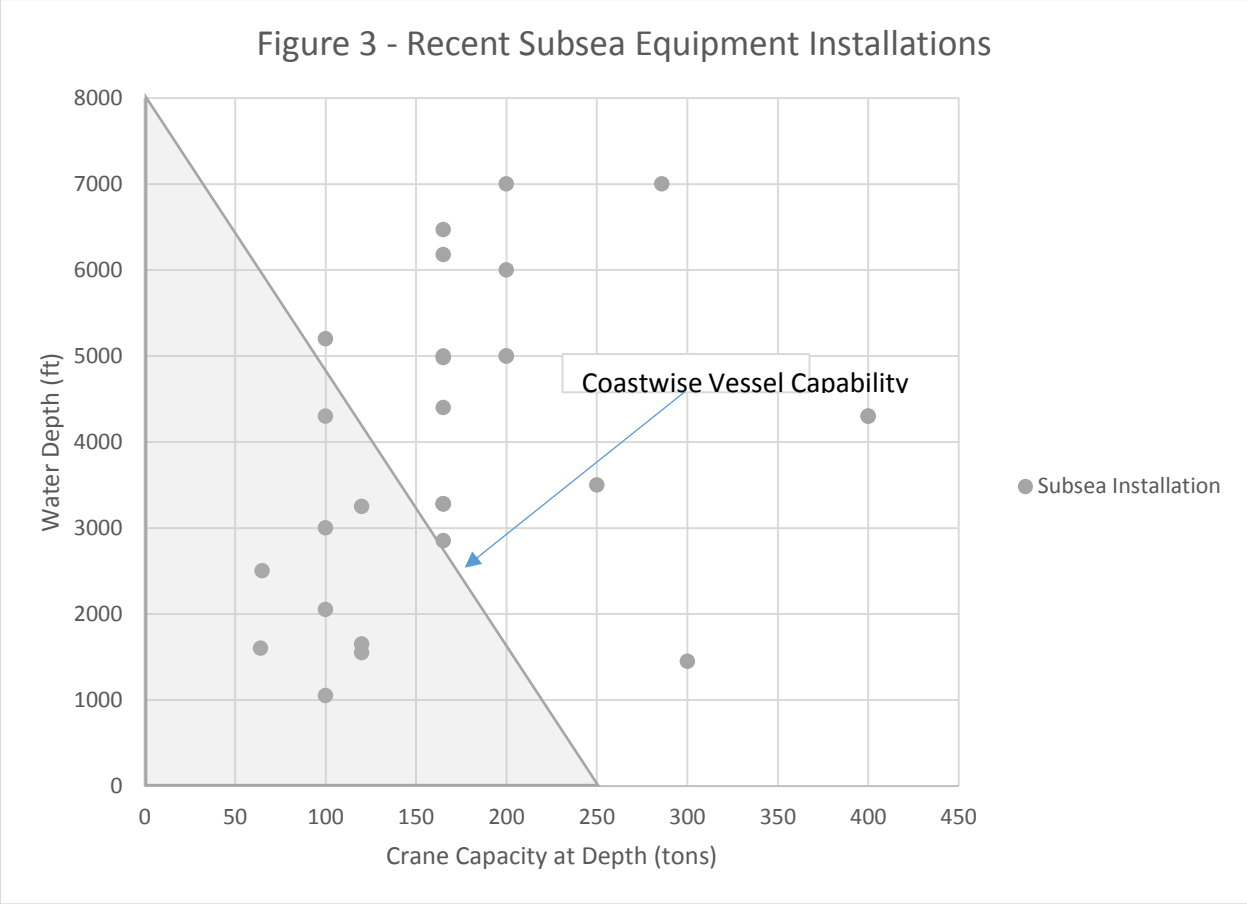


c. **Well Construction**

Deepwater well construction is completed with floating rigs, including drill ships and semi-submersibles, for use in water depths ranging from 500 to 12,000 feet. Currently there are around thirty floating rigs active in the Gulf of Mexico. No floating drilling rigs capable of operating in deepwater are coastwise qualified. While these vessels do not typically transport equipment from shore and are resupplied by coastwise vessels, they frequently transit from well site to well site with "vessel equipment" essential to the mission such as pipe and drilling riser. If the 2017 Notice modifies the longstanding definition of "vessel equipment," mobile drilling units would have to be offloaded and reloaded with drilling materials and equipment (casing, mud, marine risers, etc.) when transiting from well site to well site. These operations would increase the safety risk to the vessel crew and risk to the environment with additional equipment and fluid transfers. In addition, it could add seven to fifteen days per well (if it is even operationally feasible) potentially increasing annual drilling costs in the Gulf of Mexico substantially, as discussed in the attached economic analysis (Attachment B).

d. Subsea Equipment

Figure 3 shows a sample of the subsea equipment installed since 2006. Currently, the maximum advertised crane capacity of coastwise-qualified vessels is 250 tons at the main deck of the vessel. However, the capacity of these vessels decreases rapidly with increased water depth. In addition, due to the length (300-400 feet) and width (60-80 feet) of these vessels, they are limited in their maximum crane radius and have limited deck space. As shown in figure 3 below, a large portion of subsea lifts (greater than 50 percent) could not be completed by the current U.S. coastwise-qualified vessels.



e. Export Pipelines

In the last ten years, there were more than 1,000 miles of export pipelines with pipe diameter ranging from 16-inch to 24-inch installed in water depths greater than 2,500 feet in the Gulf of Mexico. A summary of those pipelines is listed in the table below. There are no existing U.S. coastwise-qualified pipelay vessels that have the tension capabilities and dynamic position systems required to install those pipelines.

Table 1 Installed Export Pipelines with Diameters Equal or Above 16-inch (Gulf of Mexico, 2007-2016)

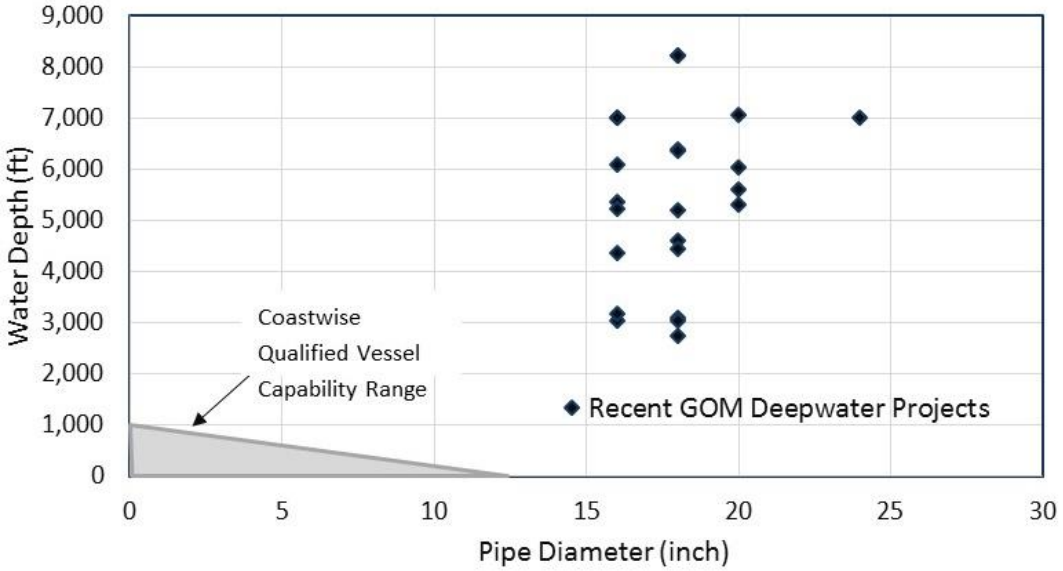
BSEE Segment #	Pipeline OD (in)	MAOP (psi)	Year Installed	Water Depth (ft)	Pipeline Length (miles)
0015949	18	3,435	2007	6,390	37.4
0016072	18	3,600	2007	4,600	94.4
0015948	18	3,400	2007	6,349	37.0
0016071	18	3,600	2007	3,100	61.0
0016109	20	2,220	2008	6,030	5.9
b0016110	16	3,250	2008	6,100	5.4
0016103	18	2,220	2008	8,226	105.9
0016102	18	2,100	2008	8,226	75.6
0017901	18	NA	2009	2,739	3.6
0018189	16	2,311	2011	3,050	18.5
0018593	18	4,062	2012	5,210	1.9
0016302	16	2,142	2012	3,170	39.9
0016303	18	2,500	2012	3,050	39.9
0018663	16	3,639	2013	7,000	1.7
0018664	16	3,600	2013	7,000	2.1
0018711	20	3,600	2013	7,064	209.2
0018287	20	3,650	2013	5,610	37.6
0018958	20	3,180	2013	5,300	35.7
0019017	16	3,180	2014	5,375	1.5
0019022	16	3,600	2014	5,218	6.9
0016329	24	4,500	2014	7,020	136.9
0018814	16	2,220	2014	4,370	31.1
0019426	18	3,650	2016	4,435	14.0
Total					**1003.1**

Note: Data in the table above are based on pipeline information published on the Bureau of Safety and Environmental Enforcement (BSEE) website.

In addition to installations in deep water, there were large-size export pipelines installed in shallow water to replace or enhance the existing offshore pipeline transportation networks. Due to more active currents and waves in shallow water, most of these pipelines required concrete coatings more than 2 inches thick to ensure stability. Their installation required pipelay vessels with high tension capability, which no existing U.S. coastwise-qualified vessel could provide.

The figure below presents the capabilities of coastwise-qualified pipelay vessels and the large export pipelines installed in Gulf of Mexico in the last ten years. As shown, coastwise-qualified

pipelay vessels are typically suitable to install small-diameter pipelines in shallow water but are not appropriate for deep water or large size export pipeline installations.



f. <u>Surface Construction</u>

Offshore topsides installation typically requires heavy lift vessels with crane capacity of 4,000 tons and above. For safety and operational reasons – such as vessel capabilities, varied weather conditions, and subsea infrastructure at a particular installation site – minimum clearances are required between the heavy lift vessel and the offshore facility where components are being installed, and the heavy lift vessel requires the ability to conduct some incidental movement in order to perform safely the construction operation and as an integral part of that construction operation that is not the "transportation" of "merchandise" within the meaning of the Jones Act. There are very few vessels that are capable of this type heavy lifting, and all of them are foreign flagged.

Given the lack of coastwise-qualified capability discussed above, if industry cannot use foreign-flagged vessels or cannot carry on those vessels all the supplies, materials, and equipment those vessels need to complete installation, repair, maintenance, and other activities, there is no apparent way to complete offshore developments.

3. <u>The 2017 Notice may violate the Jones Act standstill agreement in GATT 1994 which could threaten the Jones Act.</u>

When the General Agreement on Tariffs and Trade (GATT) 1994 entered into force, it committed its signatories, including the United States, in Part II not to use internal measures to discriminate against the imports of other signatories. This "national treatment" provision in GATT 1994 can be interpreted to prohibit the requirement that vessels engaged in territorial service be built in that territory. In that connection, GATT 1994 grandfathers such vessel build requirements relating to "commercial applications between points in national waters or the

waters of an exclusive economic zone" provided such measures are notified to the other signatories prior to GATT 1994 going into effect.

Moreover, the grandfather treatment no longer applies "[i]f such legislation is subsequently modified to decrease its conformity with Part II of GATT 1994." The United States provided the notification necessary to grandfather the Jones Act in 1994. *See* Letter from P. Sutherland, Director-General, General Agreement on Tariffs and Trade, to B. Gardner, Dep. U.S. Trade Rep. in Geneva (Dec. 20, 1994). In other words, the grandfather treatment is conditioned on a standstill agreement.

The 2017 Notice is a measure that increases the reservation of activities in U.S. waters to U.S.-built vessels and therefore it "decreases the conformity" of the Jones Act with the GATT 1994 grandfather provision. As such, the 2017 Notice endangers the Jones Act's U.S. build requirement, which will be open to challenge by other GATT 1994 signatories if the 2017 Notice goes into effect.

D. <u>The 2017 Notice suffers from numerous serious procedural defects.</u>

In addition to the substantive legal defects making the 2017 Notice arbitrary and capricious, the Notice also suffers from a number of serious procedural defects.[19]

1. <u>The 2017 Notice violates CBP's informed compliance obligations.</u>

As noted in the 2017 Notice's preamble, Title VI (Customs Modernization Act) of the North American Free Trade Agreement Implementation Act introduced the concept of informed compliance and shared responsibility. In order to maximize compliance, the regulated community needs to "be clearly and completely informed of its legal obligations." CBP cites these requirements as the underlying rationale for promulgating the 2017 Notice.

The 2017 Notice fails to advance informed compliance since it will bring more, not less, uncertainty as to the applicability of the Jones Act to offshore oil and natural gas operations. The Notice revokes 40 years of precedent expressed through at least 25 ruling letters, yet CBP has

[19] Compounding the problems with CBP's flawed process for the 2017 Notice is that CBP provided incorrect email comment submission addresses in *both* notices on the issue published in the *Customs Bulletin*. *See* 2017 Notice (providing incorrect address of CBPPublicationsResponse@cbp.dhs.gov) *and* "Proposed Modification and Revocation of Ruling Letters Relating to Customs Application of the Jones Act to the Transportation of Certain Merchandise and Equipment between Coastwise Points; Extension of Comment Period," 51 *Customs Bulletin* 6 at 22 (Feb. 8, 2017) (providing incorrect address of CBP-Publication Response@cbp.dhs.gov). Yet another, third incorrect address (Response@cbp.dhs.gov) was provided in a post on the CBP webpage, although the version with the incorrect address is no longer accessible. *See* "Extension of Comment Period for Jones Act Proposed Revocations and Modifications," https://www.cbp.gov/trade/extension-comment-period-jones-act-proposed-revocations-and-modifications (accessed Apr. 13, 2017). The correct address has never been published in the *Customs Bulletin* and was only made available in a revised version of the above-mentioned CBP webpage post, which was apparently edited on April 11, 2017, with what is presumably the correct address (CBPPublicationResponse@cbp.dhs.gov). There is no telling how many public comments are not being considered because they were submitted to one of the three incorrect email addresses.

offered only a partial modification of one 1976 ruling letter. Obviously, the 1976 ruling letter was not sufficient to answer all of industry's questions or the other ruling letters identified in the Notice would not have been requested. Thus, although the proposal eliminates rulings that certain activities are not captured by the Jones Act, it leaves open questions about related activities and activities that are referenced in the revoked rulings.

This starts with the definition of "vessel equipment." CBP states that the original meaning of the 1939 definition was "expanded by the phrases quoted above, and, thus, used out of context" and such an interpretation is "less consistent with the more narrow meaning of 'vessel equipment'" in the 1939 definition. 2017 Notice at 5. The "phrases quoted above" relate to equipment being articles necessary to the "mission of the vessel," *i.e.*, the operation of the vessel. But then CBP does not provide what replaces those "phrases quoted above" and all of the enumerated rulings. If it is reversion to the 1939 definition, then CBP has committed serious error since that definition provides support for the "phrases quoted above" in its including of "articles necessary for the operation of the vessel." If it is not the 1939 definition, then CBP has also committed serious error in not providing replacement guidance.

Uncertainty also reigns with respect to the numerous identified rulings. The 2017 Notice only restates a single ruling – the 1976 Ruling – and for the other 24 referenced rulings revokes them or modifies them "to the extent they are contrary to the guidance set forth in this notice." 2017 Notice at 2. Since the guidance is unclear, the extent to which those rulings "are contrary" is unclear.[20] Moreover, the effect of revoking rulings without explaining whether any of the reasoning in those rulings continues to pertain is also unclear.

For example, at least several of the affected rulings distinguish the installation of risers, flowlines and umbilical lines from pipeline connectors. *E.g.*, Customs Rulings HQ 115311 (May 10, 2001) and HQ 115522 (Dec. 3, 2001). In the case of the first group, CBP determined that the installation by a foreign-flag vessel did not involve unlading (and therefore the Jones Act would not apply) because "flexible flowlines and umbilical lines will be installed in the same manner as cable or pipe laid on the ocean floor (i.e. paid out, not unladed)." Customs Ruling HQ 115311. In the case of pipeline connectors, CBP determined that they could be installed by a foreign vessel when they are standard equipment for the vessel and were installed from the vessel. The 2017 Notice does not directly address risers, flowlines and umbilicals, therefore leaving the industry unsure as to whether the portion of the rulings pertaining to "paid out, not unladed" continue to pertain.

A further example is Customs Ruling HQ 115487 (Nov. 20, 2001) which is slated in the 2017 Notice to be revoked "to the extent contrary to the guidance" in the 2017 Notice. In that ruling, CBP determined that umbilical line reels and carousels (whether empty or not) were not "merchandise" provided they are carried by a vessel that utilizes them as part of the umbilical paying out installation process. Again, the lack of specificity in the 2017 Notice will cause

[20] The revocation timing is also unclear. The 2017 Notice provides (at 4) that "we are revoking the following rulings to the extent they are contrary to the guidance set forth in this notice and to the extent that the transactions are past and concluded." It is not clear whether the reasoning in rulings not past and concluded continues to be valid.

considerable confusion about what is permitted and potentially substantial disruption if pipe laying and similar vessels are unable to load reels and carousels in the United States for use ashore.

Similarly, one of the affected rulings appears to be focused solely on a remotely operated vehicle (ROV). Customs Ruling HQ 115771 (Aug. 12, 2002); *see also* HQ H004242 (Dec. 22, 2016). No other vessel equipment is mentioned in the ruling which generally restates the parameters of "vessel equipment." There is no discussion as to whether the ROV would at any point in time even conceivably be considered to have been "unladed." As a consequence, there is now tension between the provision in the 2017 Notice validating that inspection, maintenance and installation activities are not encompassed by the Jones Act and the implication that an ROV might not be considered "vessel equipment" and so might be considered "merchandise."[21] For the record, the Trades do not agree that an ROV is "merchandise" within the meaning of the Jones Act. In other words, an ROV is "necessary and appropriate for the . . . operation . . . of the vessel." An interpretation to the contrary would yet again represent massive and complex operational challenges and add entirely unjustified costs to exploration and production activities.

Another example concerns the definition of a "point" in the United States. The 2017 Notice makes no express reference to this – but it lists a ruling for revocation/modification that dealt primarily with how a "point" is defined. *See* Customs Ruling HQ H004242 (Dec. 22, 2006). Specifically, in that ruling CBP confirmed that a foreign-flag vessel could pick up debris on the U.S. OCS and return such debris to the United States because "debris cannot be legally perceived as being affixed or attached to the OCS seabed for exploration, development or production purposes pursuant to the OCSLA." This is a sound principle and should be retained. The Trades request that CBP be clear about how each ruling is affected if it chooses to proceed to prevent unintended consequences to other long held principles such as the foregoing.

CBP's interpretation of the "valueless material" amendment could also lead to unintended consequences. First, CBP's interpretation is internally inconsistent. At one point, CBP ropes in "repair materials" to be included as "merchandise" because they are "articles of value." 2017 Notice 15. Later, CBP states that the "value of the merchandise is irrelevant to a determination that a coastwise transportation of merchandise has taken place." This inconsistency must be reconciled in a transparent, rational manner and meanwhile undermines CBP's entire superficial justification for modifying long-standing precedent.

In addition, taken literally CBP's position that "repair materials, being articles of value, would appear to be merchandise as well" would also ensnare sea stores (including items such as welding rods) and automobiles and baggage even when accompanied by passengers. *See* 2017 Notice at 15. Under CBP's 2017 Notice logic, sea stores, automobiles and baggage are not "without value" so they must be "merchandise" regardless of other considerations (like the considerations which led to the "vessel equipment" being considered separately from "merchandise" in the first place). This would be contrary to other sets of long-standing and

[21] CBP has also ruled that the use of equipment ashore can break the continuity of a voyage. *See* HQ 105644 (June 7, 1982); HQ 114305 (Mar. 31, 1998). The continued validity of this line of reasoning is also brought into question by the 2017 Notice.

consistent rulings which go unrecognized in the 2017 Notice. This is the wrong approach since the "valueless material" amendment is not, and was never intended by Congress, to be an overriding criterion of when the Jones Act applies. As set forth below, it is unreasonable and unsupportable to interpret the "valueless material" amendment as anything more than legislative action meant to capture sewage sludge in the definition of "merchandise" in response to the holding in the *106 Mile Transport* case.

CBP also employs faulty logic to retreat from the 1976 Ruling's provision for "incidental to the vessel's operations." The 1976 Ruling provided, among other things, that:

> Further, the transportation by the vessel of such materials and tools as are necessary for the accomplishment of the mission of the vessel (i.e., materials to be expended during the course of the underwater inspection and repair operations and tools necessary in such operations) for use by the crew of the vessel is not, generally speaking an activity prohibited by the coastwise laws since such transportation is incidental to the vessel's operations.

2017 Notice at 8. CBP now asserts that "'incidental to an operation' could possibly imply that it may be transported over the span of several voyages, *e.g.*, unladen and laden at different coastwise points as many times as necessary during the time the vessel is engaged in an operation." *Id.* at 16. CBP does not explain how multiple ladings and unladings should inform a decision as to whether "materials and tools" should be considered "merchandise." "Materials," as noted by CBP in 1976, will be "expended during the course" of operations, *i.e.*, not laden and unladen multiple times. And tools may very well be laden and unladen multiple times, but CBP separately acknowledges that "tools being used to make the repairs . . . would be considered vessel equipment." *Id.* at 17.

This leaves the industry in uncertainty. The "incidental to operations" interpretation was properly issued in 1976, properly followed for decades and is now proposed for elimination based on faulty logic. The interpretation is particularly important to drilling, well stimulation, and other well maintenance activities where the well intervention vessel will carry and pump into the well cement or chemicals, which CBP has considered "supplies incidental to the vessel's service which are consumed in that service." *E.g.*, Customs Ruling HQ 108442 (Aug. 13, 1986); HQ 115938 (Apr. 1, 2003). CBP's "laden and unladen" logic for restricting "incidental to service" has no application to such operations because the "materials" are "expended" as provided under the original 1976 Ruling reasoning, which CBP should confirm. The point is not that "incidental" is somehow precluded because incidental articles would logically have some incidental value, but rather that the articles are not properly considered "merchandise" in the first place because they are incidental to a vessel's operation. CBP should consider going back to the drawing board to ensure that this and other ramifications are clarified.

Finally, there is the complete unknown. The 2017 Notice indicates, as did the 2009 Notice, that unidentified rulings may be affected. The 2017 Notice provides that it "covers any rulings

raising the subject issues which may exist but have not been specifically identified." *Id.* at 2.[22] CBP should limit the scope of any proposed changes to rulings it can specifically identify to promote informed compliance.

In short, CBP issued an important ruling letter in 1976, and it took four decades, and at least 24 additional ruling letters, to establish the current state. CBP cannot replace this precedent with a partial modification of one ruling letter with unexplained application to every other ruling letter, identified or not.

2. **The Section 625 modification and revocation process does not apply to the reversal of long-standing Jones Act rulings.**

As it did in 2009, CBP has chosen to announce a substantial change in decades of Jones Act precedents with significant negative safety and economic impact via the process contained in Section 625 of the Tariff Act of 1930, as amended. 19 U.S.C. § 1625. In 2009, CBP eventually abandoned the Section 625 effort and replaced it with a regulatory project. If this project proceeds, CBP should do the same this time because the lock-step time periods in Section 625 make it an arbitrary and harmful process when applied to the reversal of 40 years of precedents relied upon by a significant national industry.

Section 625 is designed to deal with individual rulings – not rulings en masse. It provides a process for modification or revocation of "a prior interpretive ruling or decision," not for changes to rulings or decisions. In a review of the employment of Section 625 by CBP during calendar 2016, the Trades could not find a single instance when Section 625 was used for more than a handful of rulings. Rather, the process is used to modify after-the-fact, very discrete rulings.

Section 625 is particularly ill suited to a situation that has industry-wide ramifications, presents complicated issues and affects decades of reasonable reliance interests. Section 625 does not require CBP to consider any number of impacts that should be carefully weighed and considered. It is certainly not designed to affect unidentified rulings – as the 2017 Notice purports to do. Section 625 by its terms is to be used where specific rulings in effect more than 60 days will be modified or revoked.

The time periods contained in Section 625 do not permit adequate deliberation by either the affected industry or CBP. As CBP has recognized through its extension of the initial comment period, a thirty-day comment period is an incredibly short period of time for an industry to digest the potential effects of altering decades of precedents affecting virtually every corner of the offshore oil and natural gas industry.[23] That is also an insufficient amount of time for companies to obtain outside analyses and coordinate comments which would make the review process more

[22] In addition, one of the enumerated rulings for revocation or modification – HQ 113841 (Feb. 28, 1997) – was posted with missing pages on the CBP web site.

[23] Executive Order 13563 provides, for example, that the public comment period for statements of general applicability and future effect should be at least 60 days. 76 Fed. Reg. 3821, 3822 (Jan. 21, 2011).

efficient. This unreasonably short comment period is indicative of the inappropriateness of applying Section 625 to an action of this type.

Section 625 also provides an inadequate amount of time for the industry to react once CBP digests public comments. It provides that the "final ruling or decision shall become effective 60 days after the date of its publication." This is nowhere near enough lead time for the industry to make operational, commercial, contractual and other adjustments to new requirements which will replace requirements in place for 40 years.

CBP admitted that the Section 625 process was inadequate in 2009 for the purpose of revoking even fewer rulings of such importance than CBP now seeks to revoke or modify. CBP indicated that a regulatory process was appropriate instead of the Section 625 process "[b]ecause any determination on this matter made by CBP would impact a broad range of regulated parties, and the scope of potential economic impact of any change in existing practice is unknown." 75 Fed. Reg. 21,811 (Apr. 26, 2010). DHS similarly acknowledged that a regulatory process was necessary "to allow for a full consideration of the potential economic impact of any change in CBP's interpretation or application of the Jones Act and related laws as it pertains to the transportation by non-coastwise-qualified vessels in U.S. waters of certain equipment and materials for use in the maintenance, repair, or operation of offshore, subsea energy extraction operations."[24] There is no reason for a different conclusion now. There is, instead, amplified reason for more time, process, and dialogue now because of the distressed state of the impacted industry and the expanded class of proposed changes.

Moreover, CBP has also proceeded in the past on similar cabotage issues by rulemaking. *See* 72 Fed. Reg. 65,487 (Nov. 21, 2007). In that instance, CBP proposed a new interpretive rule regarding Hawaii coastwise cruises. The potential impact of the 2017 Notice goes far beyond that of what was proposed for Hawaii cruises and therefore merits even more substantial regulatory treatment.

The inappropriateness of the Section 625 process is particularly acute because reportedly some industry insiders have been in regular *ex parte* communication with CBP regarding changing rulings going back to 2009. This was noted in a March 8, 2016 Congressional hearing where the CBP Deputy Commissioner testified that the CBP Commissioner had recently met with OMSA and reported "that we're engaging our interagency partners at MIRAD [sic] as well as the U.S. Trade representative to see if there are some options for kind of reviewing prior rulings and updating some of our findings going back to 2009." U.S. Senate Comm. on Appropriations, Subcomm. on Homeland Security, F.Y. 2017 Budget Hearing for U.S. Customs and Border Protection and U.S. Immigration and Customs and Enforcement (Mar. 8, 2016).

[24] Email to API from Tracy Hannah, Deputy Director, Private Sector Office, DHS (received Mar. 4, 2010).

3. **The changes in the 2017 Notice are required to be made by notice-and-comment rulemaking.**

CBP's proposed changes are required to be made, if at all, through notice-and-comment rulemaking, because CBP's proposed action amounts to a "legislative rule," not just an interpretative rule or general statement of policy. As indicated in these comments, CBP's proposed action applies to numerous prior rulings, not just one specific factual situation, and there are significant, widespread enforcement implications to the regulated parties that arise from the 2017 Notice.

A rule that is "legislative" typically "supplements a statute, adopts a new position inconsistent with existing regulations, or otherwise effects a substantive change in existing law or policy." *Mendoza v. Perez*, 754 F.3d 1002, 1021 (D.C. Cir. 2014). "An agency action that purports to impose legally binding obligations or prohibitions on regulated parties—and that would be the basis for an enforcement action for violations of those obligations or requirements—is a legislative rule." *Nat'l Min. Ass'n v. McCarthy*, 758 F.3d 243, 251 (D.C. Cir. 2014).[25]

The 2017 Notice meets this standard and, as such, it can only be accomplished through notice-and-comment rulemaking. If CBP does not intend that the 2017 Notice can lead to penalties for violations of the Jones Act – which would be the case if the Notice results in an enforceable rule – it should inform affected parties. In the absence of that notice, the affected industry must assume that CBP intends the 2017 Notice to be binding on itself and the affected industry and as such is a legislative rule. The industry cannot be expected to guess as to what is enforceable and what is not enforceable – "citizens may reasonably expect that their government will refrain from running circles around them." *U.S. v. Sears, Roebuck & Co.*, 778 F. 2d 810, 818 (D.C. Cir. 1985).

4. **CBP failed to conduct analyses required by Executive Orders 12866/13563, Executive Order 13211, and the Regulatory Flexibility Act.**

Executive Orders 12866 and 13563 signed by Presidents Clinton and Obama, respectively, in 1993 and 2011 require agencies to take certain steps before undertaking the issuance of any regulation, rule or regulatory action. *See* 58 Fed. Reg. 51,735 (Oct. 4, 1993); 76 Fed. Reg. 3821 (Jan. 21, 2011). Among those steps is that "each agency must . . . propose or adopt a regulation only upon a reasoned determination that its benefits justify the costs." 76 Fed. Reg. at 3821. The Executive Orders apply to any "agency statement of general applicability and future effect, which the agency intends to have the force and effect of law, that is designed to implement, interpret, or prescribe law or policy . . . ." In seeking to reset a whole body of administrative precedent, the 2017 Notice is in fact such a statement which should have required CBP comply with those Executive Orders.

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[25] The Supreme Court case of *Perez v. Mortgage Bankers Ass'n*, 135 S. Ct. 1199 (2015), is not to the contrary. There, the Supreme Court reaffirmed that interpretive rules do not require notice and comment, but did not alter existing precedents on what constitutes a legislative rule.

Executive Order 13211 requires agencies to take additional steps before issuing a "significant energy action," defined as "any action by an agency . . . that promulgates or is expected to lead to the promulgation of a final rule or regulation" that is a "significant regulatory action under Executive Order 12866 or any successor order" and is either "likely to have a significant adverse effect on the supply, distribution, or use of energy" or "is designated by the Administrator of the Office of Information and Regulatory Affairs as a significant energy action." 66 Fed. Reg. 28,355-56 (May 22, 2001). The terms "rule" and "regulation" are given the same meaning as in Executive Order 12866. *Id.* at 28,355. For the reasons stated above and in the attached economic analysis describing the 2017 Notice's adverse effects on energy production and distribution (Attachment B), the Notice is a "significant energy action." Accordingly, Executive Order 13211 requires that CBP must prepare a "Statement of Energy Effects" that describes any adverse effects that the Notice would have on energy supply, distribution, or use, as well as reasonable alternatives to the action. *Id.*

Similarly, the Regulatory Flexibility Act of 1980, 5 U.S.C. §§ 601-612 (RFA), requires agencies to analyze the impact of their regulatory actions on small entities and, where the regulatory impact is likely to be "significant," affecting a "substantial number" of these small entities, seek less burdensome alternatives for them. CBP conceded in 2010, when it succeeded the 2009 Notice with a regulatory project, that the RFA applies. 75 Fed. Reg. 21,811 (Apr. 26, 2010). That conclusion pertains today and an RFA analysis of the 2017 Notice is required.

5. <u>The January 20, 2017 Regulatory Freeze Pending Review Memorandum, the 2-for-1 Executive Order, and the Energy Independence Executive Order all require the 2017 Notice to be withdrawn.</u>

Subsequent to the publication of the 2017 Notice, three executive actions were taken that require that the Notice be withdrawn.

First, on January 20, 2017, the White House issued a Memorandum for the Heads of Executive Departments and Agencies entitled "Regulatory Freeze Pending Review." The Freeze Memorandum requires, among other things, that "regulations that raise substantial questions of law or policy" should be notified to the Office of Management and Budget Director to take appropriate action. "Regulations" are defined to include "any agency statement of general applicability and future effect 'that sets forth a policy on a statutory, regulatory, or technical issue or an interpretation of a statutory or regulatory issue.'" The 2017 Notice is all those things – the substantial alteration of the 1976 Ruling and the revocation of vessel equipment rulings constitute statements of general applicability and future effect and in both instances involve interpretations of statutes and regulations. The 2017 Notice should therefore be withdrawn pending OMB consultation.

Second, President Trump signed Executive Order 13771, 82 Fed. Reg. 9339, on Reducing Regulation and Controlling Regulatory Costs on January 30, 2017. In general, Executive Order 13771 prohibits agencies from issuing new regulations unless they do so in conjunction with the repeal of two other regulations. In addition, for the fiscal year 2017, the cost of all new

regulations, including repealed regulations, cannot be greater than zero. As with the January 20 Memorandum, the Executive Order 13771 applies to "regulations" defined as "an agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy." Revoking and modifying 25 rulings stretching back over 40 years en masse in one document amounts to such statements of general applicability and requires CBP to propose two matters for de-regulation in order to proceed with the 2017 Notice. Importantly, the massive costs imposed by the regulatory change of the proposed modification, as projected in the attached economic analysis, require offsets in the form of regulatory cost savings, and it is incumbent upon CBP to identify and secure such savings before the changes could take effect. This is a clear requirement of Executive Order 13771, and to ignore it would render the important regulatory reform efforts meaningless.[26]

Third, President Trump signed Executive Order 13783, 82 Fed. Reg. 16,093, on Promoting Energy Independence and Economic Growth on March 28, 2017. Executive Order 13783 states that "[i]t is in the national interest to . . . avoid[] regulatory burdens that unnecessarily encumber energy production, constrain economic growth, and prevent job creation." It further states that the policy of the United States includes suspension, revision, or rescission of regulatory actions "that unduly burden the development of domestic energy resources." The discussion above and the attached economic analysis show that the action proposed in the 2017 notice would impose significant burdens on development of the county's offshore oil and natural gas resources, which directly conflicts with the policy of the United States as stated in this Executive Order.[27]

E. **The Jones Act waiver provision will not remedy dislocation caused by the 2017 Notice.**

The 2017 Notice effectively redefines "merchandise" to include items which have not been "merchandise" since at least 1976. The redefinition for a number of offshore activities will likely result in situations – as explained elsewhere in this Comment – where there is no coastwise-qualified vessel available capable of safely performing the necessary tasks which will in turn require major project delays and cancellations. In those situations where no coastwise-qualified vessel is available, the pre-existing Jones Act waiver provision is completely inadequate and unrealistic as a potential remedy.

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[26] Executive Order 13771 applies to the action proposed in the 2017 Notice. CBP is an "agency" as defined under 44 U.S.C. § 3502(1). *See* Office of Information and Regulatory Affairs, "Memorandum: Implementing Executive Order 13771, Titled 'Reducing Regulation and Controlling Regulatory Costs,'" § III.Q1. The 2017 Notice proposes a "significant regulatory action" that imposes total costs greater than zero or, at the least, is a "significant guidance document" because of the annual effect it would have on the economy and the serious inconsistency or other interference it would create with an action taken or planned by another agency (*e.g.*, the Department of the Interior's duties regarding the development of offshore oil and natural gas resources as mandated by OCSLA). *See id.*, § III.Q2-Q3.

[27] The 2017 Notice also directly conflicts with the policy of the United States as stated in OCSLA, that the OCS "should be made available for expeditious and orderly development." 43 U.S.C. § 1332(3). This conflict is especially acute because there is no indication that CBP has made any efforts to meaningfully consult or coordinate with the Department of the Interior or the U.S. Coast Guard, which share responsibility for implementing OCSLA.

The authority to waive the coastwise laws does not appear in the Jones Act itself. Rather, it is contained in a stand-alone provision enacted in 1950 and now codified at 46 U.S.C. § 501. Section 501 contains a formidable array of requirements and obstacles designed to make Jones Act waivers virtually impossible to obtain.

Specifically, Section 501 provides that a waiver of U.S. navigation laws, including the Jones Act, can be granted either upon request of the Secretary of Defense "to the extent the Secretary considers necessary in the interest of national defense" or when the DHS (because CBP is an agency of that Department) "considers it necessary in the interest of national defense."

CBP guidance echoes the national defense interest standard. Its informed compliance publication – "What Every Member of the Trade Community Should Know About: Coastwise Trade: Merchandise" (Jan. 2009) – states that the "Jones Act can only be waived in the interest of national defense." Indeed, any waiver request received from any person other than the Secretary of the U.S. Department of Defense can only be granted by the Secretary of DHS. *Id.* at 8.

In addition, the U.S. Maritime Administration must determine that there is "non-availability of qualified United States flag capacity to meet national defense requirements," "identify any actions that could be taken to enable qualified United States flag capacity to meet national defense requirements" and publish such determination on the U.S. Department of Transportation public web site. Finally, Homeland Security must notify certain Congressional Committees of the waiver request and again, if granted, provide notice of the reasons for the approving the request and why using U.S.-flag vessels is not feasible.

CBP has confirmed in practice that no waiver of the Jones Act is possible without a national defense finding. For example, in denying one request for a waiver, CBP indicated that "[o]wing to the necessity for some national defense justification, requests for waiver of the coastwise laws are infrequently granted" and activities "commercial in nature . . . do not constitute the types of activities which are entitled to a waiver."[28] Moreover, there are numerous Jones Act waiver denials in the CBP publicly accessible database which contain the words "as is readily apparent that the case in question is not related to national defense, a waiver is unavailable."[29]

CBP has also made it clear that any other justification other than national defense necessity will not result in a waiver.[30] Waiving the Jones Act for individual instances when a coastwise-qualified vessel would be unavailable as a result of the 2017 Notice would therefore be totally impractical. It is highly unlikely that Homeland Security would accept, as a national defense justification, the forgone Gulf of Mexico production (given the production levels of the U.S. onshore) or deleterious economic effects on a single offshore project, and no amount of economic pain would be sufficient to overcome that lack of a national security nexus.

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[28] Customs Ruling HQ 112237 (May 27, 1992).
[29] *E.g.*, Customs Ruling HQ H059376 (May 22, 2009).
[30] For example, CBP has stated that "[a] waiver of the provisions of the coastwise laws cannot be issued solely for economic reasons." Customs Ruling HQ 111867 (Sept. 24, 1991); see also Customs Ruling HQ 112520 (Nov. 20, 1992) (noting that waiver is not available for "private economic benefit").

IV. Conclusion

The 2017 Notice should be withdrawn and, if CBP continues to believe that changes are justified, CBP should adhere to well-established legal and administrative precedent and commence a regulatory process to ensure that all interests have an equitable opportunity to participate to ensure that the full effects of the proposed action are analyzed and understood under long-standing, applicable Executive Orders, statutes, and other regulatory guidance.

In the absence of such withdrawal, CBP should provide for a sufficient time before any change becomes effective to permit the industry a reasonable time to make operational, commercial and contractual adjustments and grandfather all ongoing contracts executed in reliance on the 40 years of prior precedent.

We appreciate the opportunity to provide these comments. If you have any questions or need clarification, please do not hesitate to contact the undersigned at the contact information listed above.

Sincerely,

Holly Hopkins, API

Phil Newsum, ADCI

Alan Spackman, IADC

Daniel Naatz, IPAA

Dustin Van Liew, IAGC

Allen Leatt, IMCA

Chris Johns, LMOGA

Evan Zimmerman, OOC

Leslie Beyer, PESA

Alby Modiano, US Oil and Gas Association

Attachment A: "Marine Construction Vessel Impacts of Proposed Modifications and Revocations of Jones Act Letters Related to Offshore Oil and Natural Gas Activities" (Apr. 4, 2017).

Attachment B: "Economic Impacts of Proposed Modification and Revocation of Jones Act Ruling Letters Related to Offshore Oil and Natural Gas Activities."

cc: Reince Priebus, Assistant to the President and Chief of Staff
Mick Mulvaney, Director OMB
Stephen Miller, Senior Advisor to the President
Andrew Bremberg, Assistant to the President for Domestic Policy
Peter Navarro, Director, National Trade Council
Mike Catanzaro, Special Assistant to the President for Domestic Energy & Envtl. Policy
Dominic J. Mancini, OIRA
Christa Brzozowski, Deputy Assistant Secretary, Trade and Transport Policy, DHS
Sean Moon, Director, Transportation & Cargo, Transborder Policy, DHS
Brenda Smith, Executive Assistant Commissioner, Office of International Trade, CBP
Lisa Burley, Chief, Cargo Security, Carriers & Restricted Merchandise Branch, CBP
Glen Vereb, Director, Border Security & Trade Compliance Division, CBP

Attachment A

Marine Construction Vessel Impacts of Proposed Modifications and Revocations of Jones Act Letters Related to Offshore Oil and Natural Gas Activities

IMCA
April 4, 2017
Prepared for: CBP
Prepared by/Submitted by: IMCA

The International Marine Contractors Association (IMCA) is the international trade association representing offshore, marine and underwater engineering companies.

IMCA promotes improvements in quality, health, safety, environmental and technical standards through the publication of information notes, codes of practice and by other appropriate means.

Members are self-regulating through the adoption of IMCA guidelines as appropriate. They commit to act as responsible members by following relevant guidelines and being willing to be audited against compliance with them by their clients.

There are five core committees that relate to all members:

- Competence & Training
- Contracts & Insurance
- Health, Safety, Security & Environment
- Lifting & Rigging
- Marine Policy & Regulatory Affairs

The Association is organised through four distinct divisions, each covering a specific area of members' interests: Diving, Marine, Offshore Survey and Remote Systems & ROV.

There are also five regions which facilitate work on issues affecting members in their local geographic area – Asia-Pacific, Europe & Africa, Middle East & India, North America and South America.

IMCA

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Date	Reason	Revision
April 4, 2017	Initial Issue	1

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Marine Construction Vessel Impacts of Proposed Modifications and Revocations of Jones Act Letters Related to offshore Oil and Natural Gas Activities

IMCA – April 2017

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Executive Summary

IMCA has considered the implications of the CBP notice published on January 18, 2017 and conclusively demonstrated the practical reality that the coastwise approved fleet is unable, on its own, to support the deepwater Gulf of Mexico construction market. This has always been the case and unlikely to change.

Vessels Supporting the Offshore Oil and Gas Exploration and Production Industry

IMCA has analysed the worldwide offshore support vessel (OSV) fleet of over 8,500 vessels and defined a specific set of characteristics of ships technically qualified to be competitive in the deepwater markets.

There are only 528 vessels worldwide in five key categories which are suitable for working in water depths of 3,280 ft/1,000 meters(m) or greater, of which there are only 33 coastwise approved vessels.

Vessel Type	Coastwise Qualified	% Coastwise Qualified	Non-Coastwise	% Non-Coastwise	Total
Light Construction vessels	9	5.5%	156	94.5%	165
Pipelayers	0	0%	55	100%	55
Heavy Lift vessels	0	0%	26	100%	26
Well Intervention vessels	1	8.3%	11	91.7%	12
Seismic survey/geophysical	23	8.5%	247	91.5%	270
Total	**33**	**6.3%**	**495**	**93.7%**	**528**

Breakdown of worldwide deepwater fleet capacity
Source: IMCA analysis of Clarkson Research Services 2016 Worldwide OSV Database dated November 2016

Of the total global deepwater fleet, in 2016 there were only 30 non-coastwise approved vessels active in the GoM and 5 coastwise approved. To put these numbers into perspective, the US has the largest OSV fleet in the world with 1,004 vessels, of which 772 fall into the high volume commodity markets of supply vessels (PSV) and anchor handlers (AHTS); 474 were believed to be active in the GoM in 2016. This is the domain of the US marine services industry, which has clearly prioritized investment in the lower risk commodity sectors where commercial reimbursement is typically based on the dayrate business model.

The deepwater construction market is a completely different business model, with reimbursement typically based upon a fixed price basis, where the contractor is responsible for the complete engineering, project management and offshore execution of the work. This is the domain of large marine contractors based in the US but with their own specialist non-coastwise fleet of vessels and equipment. These ships are of a completely different asset class than the commodity markets, and far most costly to build and operate. They are often purpose built incorporating contractors' own intellectual property for equipment layout and offshore operation. These are niche markets and clearly demonstrated in a comparison of GoM deepwater vessels in 2013 (prior to the industry downturn) and in 2016.

	2016		2013	
Vessel Type	**Coastwise Qualified**	**Non-Coastwise Qualified**	**Coastwise Qualified**	**Non-Coastwise Qualified**
Light Construction vessels	2	18	2	16
Pipelayers	0	7	0	8
Heavy Lift vessels	0	2	0	4
Well Intervention vessels	1	1	0	1
Seismic survey/geophysical	2	2	2	15
Total	**5**	**30**	**4**	**44**

Deepwater Coastwise Qualified and Non-Coastwise Qualified offshore support vessels operating in the US GoM in 2016 and 2013.
Source: IMCA analysis of Clarkson Research Services 2016 Worldwide OSV Database dated November 2016

The data is remarkably constant, with only one significant deviation in the survey and seismic category. The remaining categories are very stable, and emphasise the narrow niches of the market that support the handful of high value deepwater developments that take place each year.

The coastwise fleet cannot meet the needs of the GoM for deepwater construction activities beyond 1,000 meters (3,280 feet). There are no coastwise qualified pipelay vessels, no coastwise qualified heavy lift vessels, and only one coastwise qualified well servicing vessel. Despite plenty of opportunity, historically the coastwise sector has not invested in larger, higher value deepwater capable construction and IRM assets outside of the LCV segment:

- Deepwater construction is a high risk business where work is often conducted on a fixed price basis, unlike the market for PSV and AHT vessels which is a day-rate business.
- In addition to specialised ships, contractors need advanced engineering, project management, procurement, and construction skills to manage large sophisticated projects on a fixed price basis.
- The specialised ships represent very high levels of unit investment, which can range from a lower end of around $200 million to upwards of $1 billion at the higher end.
- This is a world-wide market for the large marine contractors, as no single domestic market can support the levels of investment needed.

Should the proposed CBP modifications and revocations take place, the impact on business in the Gulf of Mexico could be catastrophic, simply because there would be no capacity to install the production facilities offshore. The resulting impact on the whole oilfield supply chain in the USA could cause a collapse in industry confidence and countless job losses onshore and offshore.

A strategy intended to support a limited number of vessel owners could well have enormous unintended consequences for the whole US offshore oil and gas industry.

1 Introduction

On 18 January 2017, the US Customs and Border Protection (CBP) published a notice of proposed modification and revocation of ruling letters related to Customs application of the Jones Act to the transportation of certain merchandise and equipment between coastwise points. This proposal, which could have serious and widespread impact on a variety of industries and the entire US economy, comes nearly eight years after the same Obama administration attempted a similar proposal that was ultimately rejected in response to industry concerns. The purpose of this study is to demonstrate that the same concerns related to fleet capacity remain as of today; and the industry structure, absent of a very large increase in capital investment in specialist shipbuilding, is very unlikely to change going forward.

Something which will rapidly become apparent when reading the report is that despite the very small number of vessels working in the sector, they are essential to deepwater offshore oil and gas exploration and production (E&P). This means that the proposed CBP modifications and revocations only need to impact a tiny number of vessels to result in negative consequences for the entire deepwater E&P market with the potential to seriously impair output and potentially to stop some development activities altogether. This point must be understood, since otherwise it might be easy to conclude that the number of vessels involved is so small that preventing their deployment in areas subject to the Jones Act would not result in significant negative consequences.

This study was conducted to provide a concise but comprehensive overview of both US coastwise-qualified and non-US coastwise-qualified vessels engaged with: cable/umbilical and flexible pipelay, rigid steel pipelay, heavy lift operations, dive and ROV support, well intervention and survey activities. The analysis considers the US coastwise endorsement of the aforementioned vessels, and how the proposed CBP modifications and revocations could affect activities in the Outer Continental Shelf (OCS), the area generally referred to as the US Gulf of Mexico (GoM).

The present report provides:

- Background information on the types of vessels that routinely support the repair, installation and servicing activities on the OCS;
- An analysis of the types, numbers and flag states of offshore support vessels which provide the aforementioned support globally, with a particular emphasis on the US GoM fleet;
- A discussion of the negative impact on the US marine workforce and US industry based on comparative data analysis between the current US coastwise-qualified vessel capacity and non-US coastwise-qualified vessel capacity in the US GoM.

The information provided in this report contains details on the US coastwise qualified and non-US coastwise qualified vessels as described above and a list of conclusions supported by the data. All data is believed to be accurate at the time of collection and/or analysis.

Certain assumptions regarding regionalised vessel allocations have been made, including:

- The vessels included in the following tables and exhibits represent the assessed fleet distribution of both US coastwise-qualified and non-US coastwise-qualified vessels as of November 2016, which is the most recent worldwide database report;
- The report focuses on five market segments relevant to the proposed CBP action: light construction vessels (LCVs), pipelay vessels, heavy lift vessels and crane barges, survey and seismic vessels and well intervention vessels.

This report makes frequent reference to deepwater and the associated technical challenges. As the industry has developed, the definition of deepwater has progressively moved deeper. For instance, in the 1970s this may have been 400ft, and in the 1980s 1,000 ft. Today, the API defines the deepwater contour as 2,000 feet and ultra-deepwater beyond 6,000 feet. The US Energy Information Administration has published material referencing shallow water or continental shelf water depth as up to 125 meters (410 feet), deepwater 125-1,500 meters (410-4,921 feet) and ultra-deepwater as more than 1,500 meters (4,921 feet). In practice, there will be many factors that governing a vessel's water depth capability, not least statutory and class certification rules. This report defines key operational capabilities which are considered to differentiate deepwater capable vessels (generally 1,000 meters or 3,280 feet which is used by many industry commentators) from those which operate in shallower water.

The report opens with an overview of market conditions followed by an introduction to offshore market sectors and business models. These sections are intended to provide sufficient background information to allow those from outside the industry and who are not familiar with offshore operations to better understand the information and arguments presented in the main body of the report.

The body of the report is supported by two appendices:

Appendix 1 - A case study of an actual project to further assist readers to understand the operational implications of the analysis, by demonstrating the real-world impact of the proposed CBP revocations and modifications for an ultra-deepwater GoM project which started in 2016 and is still ongoing.

Appendix 2 – Silhouettes of offshore vessels, in scale, to illustrate the sizes and complexity of the different categories of offshore vessel.

2 Market Conditions

The collapse in oil price from $100/barrel in mid-2014 has had a significant negative affect on the offshore oil and gas industry world-wide, resulting in immeasurable job losses and distress to the whole supply chain. Oil companies reacted swiftly to the collapse by reducing investment and driving costs down. Offshore operating expenditure (OPEX) has been hard hit with all but essential expenditure curtailed, with the supply chain taking the brunt of the cuts. Offshore capital investment expenditure (CAPEX) has collapsed by an unprecedented 50% in the past two years (2015-2016), bringing the industry to an almost standstill in certain markets.

The impact on the offshore marine sector has been particularly hard, and exacerbated by a high level of new vessel building in the preceding 10 years, much of which was financed by debt. Consequently, today we have a gross over-supply situation in every market of the world, where we have seen:

- A collapse in equity values of vessel owners;
- Wide scale asset write-downs;
- Corporate failures;
- A significant proportion of the world's fleet of offshore support vessels laid-up and inactive due to a lack of work.

The GoM is not immune to these realities, despite enjoying record investment in deepwater production in the 10 years prior to the collapse in oil price.

In high level terms, the oil industry has always been cyclical, with an oil price shock every 10 years or so. That said, the current down-turn is analogous to the collapse in the mid-1980s which took 10-15 years to recover. Going forward, some recovery in the market can be expected if the oil price continues to rise, but all will depend upon the industry's cost-base and economic efficiency of competing global oil markets for capital. Should the GoM not remain competitive, market forces will encourage movement of capital to onshore production (shale oil for example) or overseas.

3 Market Sectors

The oil industry comprises many different market sectors. The offshore support vessel (OSV) market is no different, and comprises a range of different vessel types designed to meet the needs of each market segment. In order to put this into context and provide the framework for this report, it is worth considering the typical life cycle of an offshore oil field and the marine assets needed to support each phase. This is shown in Table 1.

Phase	Life Cycle Activity	Vessel Category Requirements
1	Drilling	Drilling rigs, supply vessels, anchor handlers/tugs
2	Construction and installation of offshore production facilities	Pipelay vessels, heavy lift vessels, light construction vessels, survey vessels, supply vessels, tugs, barges
3	Inspection, maintenance and repair of production facilities	Light construction vessels, survey vessels
4	Maintain production and production optimisation	Light construction vessels, drilling rigs, well intervention vessels, supply vessels
5	Plug wells and abandonment	Drilling rigs, well intervention vessels, supply vessels
6	Decommissioning and removal of facilities	Heavy lift vessels, light construction vessels, supply vessels, barges

Table 1 – Life cycle of an oil field and vessel requirements

By far the most common support vessel category requirement is that for supply vessels, often called platform supply vessels or PSVs, and tugs (and combinations thereof) often called anchor handling tug supply vessels (AHTS). They provide all the offshore transport and logistical supply-runs in support of all phases of an offshore production facility. The high-volume markets are in the support of drilling operations and the daily logistical support of offshore production facilities over a 20-30 year lifespan.

Light construction vessels encompass diving vessels and ROV support vessels. Diving support vessels (DSV) can vary from sophisticated purpose-built ships with all-weather deep diving capability (typically diving to 400-1,000 ft) to small anchored ships and barges for shallow diving activity (typically 100-200 ft). Likewise, remotely operated vehicle (ROV) support vessels can vary in configuration, but all deploy sophisticated robotic vehicles and tools in deep water well beyond diving range (and typically up to 10,000 ft). Light construction vessels typically have small to medium sized cranes on board (typically 100-250 tons) for supporting diver or ROV construction intervention activities.

There are many forms of drilling rigs today, from deepwater drill ships, to midwater semi-submersible rigs, to shallow water jack-up rigs. They are often generically referred to as mobile offshore drilling units (MODU) and all are equipped with a high level of equipment inventory to support drilling operations.

Well intervention vessels provide intervention into a live well for maintenance operations when the full capability of a drilling rig is not warranted. It is a specialised operation with a limited number of such vessels in operation world-wide.

Heavy lift vessels are used for installing the very heaviest of loads (between 1,000 to 10,000 tons) comprising offshore platforms, decks, etc. It is a highly specialised market with a limited number of deepwater capable vessels world-wide.

Pipelay vessels vary considerably in configuration depending upon the technology they deploy for laying pipelines on the seabed. The market has developed greatly over the past 30-40 years from the early generation of anchored barges to highly sophisticated units today for successfully laying rigid steel pipelines in deep and ultra-deep water. An adjacent market to rigid steel pipelaying is that of laying pipelines manufactured from flexible materials, the so called flexible flowlines, which are a competing product for rigid steel pipelines and risers. These vessels are configured with heavy duty storage facilities for thousands of tons of flexible products and sophisticated equipment for handling and laying the product on the seabed. These vessels are also used for laying umbilicals and cables which provide the power and telemetry systems for remotely controlling production wellheads on the seafloor. The vessels are normally configured with cranes (300-500 tons) for installing the associated production hardware on the seabed.

Survey vessels comprise a range of sub-categories from seismic surveying activities to hydrographic surveying. Seismic is in support of exploration and mapping of oil and gas reservoirs, whereas hydrographic surveying is largely associated with topographical surveys of the seafloor providing design data for subsea structures, pipelines, etc.

A common feature of modern tonnage today has been the shift away from traditional means of position keeping on location offshore. Traditionally this was with an anchor mooring system, but has now been almost completely replaced with dynamic positioning (DP). This system uses computer based technology to navigate and control the ship's thrusters and propellers to maintain accurate position. The technology has been developed massively over the past 30 years and deploys a multitude of technology including satellite, sonar and microwave navigation systems. However, there are various classes of DP system, which use a numbering system DP1, 2 and 3 to differentiate between vessels with higher levels of equipment redundancy and resilience, DP3 being the most sophisticated, and DP1 being viewed as quite limited today.

4 Offshore Business Models

When considering fleet capacity in the offshore sector it is important to have some understanding of the different business models used by the industry, and that the model varies according to the market sector. The most prevalent model is a day rate reimbursement mechanism based on prevailing market conditions. Oil companies charter tonnage either on a term basis or spot market basis, or a combination the two to suit their business needs. It is therefore a relatively low risk business model, provided there is adequate vessel utilization, and has a low overhead burden.

There is plenty of scope for technical differentiation in the drilling and well servicing sectors, but little technical differentiation in the supply vessel and AHTS sectors beyond cargo capacity and bollard pull. Pricing in these commodity sectors is largely driven by the spot market. The supply vessel and AHTS markets are the domain of the marine service providers, which are often companies with large fleets of vessels operating in domestic and international markets.

By contrast, the business model in the construction and decommissioning sectors is completely different and based on a fixed price contracting mechanism. It is therefore a high risk business with potentially higher returns, but is not one for the faint hearted, as the risks are wide-ranging, including operational performance risks, weather risks, procurement risks, etc. It is the domain of international marine contractors who engineer, design, build and install offshore production facilities on a world-wide basis. They normally own or at least control their vessels and installation equipment; this is because the assets are highly specialised for deepwater activities and incorporate their own intellectual property. The market is truly international in nature because no single domestic market can support the level of investment – which is the case in the GoM. The business model is therefore much more sophisticated than the chartering model, as contractors not only have to lay pipelines and construct production facilities offshore in extreme water depths, but also need the engineering, project management and procurement capabilities in order to integrate the activities successfully on a fixed price basis.

5 Methodology

Clarkson Research Services Ltd is an internationally recognised provider of marine services with a global presence, including Clarksons Platou Shipping Services USA LLC. They maintain an updated list of offshore support vessels worldwide, this list is an industry recognised resource and includes data from the near real-time ship tracking system ShipAIS, which is an automatic identification system of commercial shipping. As part of this study, IMCA accessed and reviewed Clarkson's 2016 database edition of A-Z of *Offshore Support Vessels of the World*. The 2016 database contains 8,610 vessels operating internationally. As part of the analysis a number of vessel types that were not considered relevant to the scope of the CBP's proposed modification and revocation of rulings were eliminated, including dredgers, shuttle tankers, offshore production vessels, offshore supply vessels, and similar vessel categories. IMCA recognises and accepts that vessels transporting merchandise and/or passengers are within the scope of the Jones Act. Therefore, this report does not consider those vessel types.

The screening process identified a list of 1,818 vessels in seven key vessel classes. The seven vessel classes were then consolidated into five construction sector categories in order to simplify the presentation, this involved combining several vessel classes into a single category.

A final screening identified vessels in the five categories suitable for deepwater operations and resulted in a list of 528 deepwater capable vessels. The consolidation was conducted as follows:

- Light construction vessels (LCVs) include the sub-categories of dive and ROV support, and multi-purpose support vessels;
- Pipelayers include the sub-categories of cable, umbilical, and flexible pipelay, and rigid steel pipelay;
- Heavy lift vessels include the sub-categories of crane vessels and transportation/heavy lift – note that some of these vessels are also capable of laying pipe;
- Survey vessels include the sub-categories of hydrographic/oceanographic and seismic/geophysical vessels;
- Well intervention vessels include the sub-categories of multi-purpose support, multi-role, and other support where they are configured as well intervention vessels.

The report provides a gap analysis between the US and foreign fleet capacity to support the offshore oil and gas exploration and production industry in the US. For this reason, the scope of this report primarily focuses on the aforementioned vessel types, and narrowing them down to those which are able to operate in deepwater environments. Industry experience shows that the US coastwise qualified fleet is able to support shallow water offshore oil and gas operations in the OCS.[1] In contrast, this report shows the practical reality that the US coastwise qualified fleet is unable to support deepwater offshore oil and gas operations in the OCS.

Supplementary sources of information include the following reports by Clarkson Research Services Ltd:

- Offshore Review and Outlook North America (*October 2016*);
- Offshore Review and Outlook (*October 2016*); and,
- Regional Outlook North America (*November 2016*).

1 Coastwise is a specific endorsement issued by the US Coast Guard. To receive a coastwise endorsement, vessels must be built in the US with a majority of US products, owned by a US company and registered in the US. Only vessels with coastwise endorsement are allowed to engage in coastwise trade.

As part of this study, IMCA accessed and reviewed Clarkson's 2016 database and used it as a cross-reference to distinguish coastwise qualified vessels and non-coastwise qualified vessels.

There is a crucial difference between US flag and US-coastwise qualified; a vessel may be flagged to the US registry but not satisfy the requirements to be coastwise qualified (see section 6.2). This is usually because the vessel was not constructed in a US shipyard or fails to meet Jones Act ownership criteria. Section 7 of this report identifies coastwise qualified vessels, as opposed to simply being US registered.

Vessel requirements were developed based on discussions with marine contractors and vessel captains, literature reviews, and industry commentaries.

6 Vessels Supporting the Offshore Oil and Gas Exploration and Production Industry

6.1 International Overview

The offshore oil and gas exploration and production (E&P) industry is dependent on the support of numerous types of specialised support vessels. Worldwide, there is a fleet of over 8,500 vessels that support various aspects of offshore operations.[2] Table 2 depicts the fleet capacity of major flag states regarding offshore support vessels (OSVs). The US OSV fleet is the largest in the world with almost 50% more registered vessels than the next largest fleet (1,004 US flag vessels to Singapore's 678).

Rank	Country	Vessel #	Rank	Country	Vessel #
1	United States	1,004	15	India	187
2	Singapore	678	16	Russia	185
3	Panama	555	17	UAE	169
4	China	432	18	Bahamas	164
5	Malaysia	360	19	Netherlands	159
6	Vanuatu	308	20	Norwegian International	154
7	Norway	280	21	Cyprus	110
8	Mexico	263	22	Bahrain	98
9	Indonesia	251	23	Liberia	88
10	St Vincent & Grenadines	241	24	Azerbaijan	85
11	Brazil	211	25	Italy	82
12	Nigeria	198	26	Danish International	77
13	Marshall Islands	188		*Others*	1895
14	United Kingdom	188		**Total**	**8,610**

Data source: Clarksons Research

Table 2 – OSV fleet capacity of major flag states worldwide (November 2016)

Of those vessels, there is a subset of 1,817 vessels (21% of the total of 8,610) that are capable of providing construction, repair and inspection (such as heavy lifting, installing pipe) in support of the oil and gas E&P industry. Of this subset, approximately 10% are US flag, see Table 3.

2 Offshore Review and Outlook North America, Clarksons Research, October 2016.

Type	US	% US	Non-US	% Non-US	Total
Dive/ROV support vessels	18	12%	129	88%	147
Pipe/cable lay vessels	24	9%	230	91%	254
Crane and derrick lay barges	34	12%	240	88%	274
Heavy lift vessels	1	1%	93	99%	94
Multipurpose support	18	6%	300	94%	318
Well stimulation vessels	8	27%	22	73%	30
Survey vessels	81	12%	620	88%	701
Total	**184**	**10%**	**1,634**	**90%**	**1,818**

Table 3 – Breakdown of overall OSV fleet capacity worldwide (November 2016).
Within this subset, there is a further, much smaller subset of vessels suitable for deepwater operations

To simplify the presentation, these seven vessel types were consolidated into the five categories defined in section 5 of this report. Their technical capabilities to allow operation in deepwater are defined in Section 7. After this consolidation and screening process to identify the deepwater capable fleet, a list of 528 vessels remains. This is shown in Table 4. The report concentrates on this small fleet of deepwater capable offshore vessels and separates them into coastwise and non-coastwise qualified.

Type	Coastwise qualified	% Coastwise qualified	Non-coastwise qualified	% Non-coastwise qualified	Total
Light construction vessels	9	5.5%	156	94.5%	165
Pipelayers	0	0%	55	100%	55
Heavy lift vessels	0	0%	26	100%	26
Well intervention vessels	1	8.3%	11	91.7%	12
Seismic survey/geophysical	23	8.5%	247	91.5%	270
Total	**33**	**6.3%**	**495**	**93.7%**	**528**

Table 4 – Breakdown of worldwide deepwater fleet capacity

This small group of highly capable vessels represents approximately 6% of the global OSV fleet. If only looking at pipelayers, heavy lift and well intervention vessels then the global fleet of deepwater vessels is less than 100, just 1% of the global OSV fleet. This small number of vessels are essential for deepwater oil and gas operations and, put simply, developing deepwater fields would not be possible without them. To put these numbers into perspective, in the high volume commodity sector there are currently believed to be a combined total of 5,535 PSV and AHTS vessels in the global fleet, of which 772 are US flag and of which 474 were believed to be active in the US GoM in November 2016 (excluding vessels in long term lay up).[3]

[3] Regional Outlook North America (November 2016).

6.2 US Overview

Out of a US flag OSV fleet of 1,004 vessels, 820 vessels, or 82% of the total, fall into the high-volume commodity types such as platform supply vessels, anchor handlers (AHTS) and crew boats. There are 184 US flag OSVs capable of providing construction, repair and inspection (such as heavy lifting, installing pipe) in support of the oil and gas E&P industry. But there are just 33 coastwise qualified deepwater capable vessels in the five deepwater categories analysed in section 7 of this report, or 3.6% of the US flag OSV fleet, most of which are survey vessels.

It is very clear that the US flag OSV fleet is focused on the commodity and shallow water markets, and largely absent in the high cost deepwater markets.

The OSV business in the US is dominated by US flagged, coastwise qualified vessels. This results from the fact that, with limited exceptions, US laws reserve the privilege of conducting 'coastwise trade' to vessels meeting the criteria for coastwise qualification, which include requirements that vessels are built and documented in the US, crewed with US citizens and owned by US nationals. Similarly, only US documented vessels with a coastwise trade endorsement may engage in towing or carrying passengers between ports or places in the US.

Section 4(a) of the Outer Continental Shelf Lands Act of 1953, as amended (OCSLA), extended the coastwise laws of the US to:

> "*the subsoil and seabed of the outer Continental Shelf and to all artificial islands, and all installations and other devices permanently or temporarily attached to the seabed, which may be erected thereon for the purpose of exploring for, developing, or producing resources therefrom … to the same extent as if the outer Continental Shelf were an area of exclusive Federal jurisdiction within a State.*"

The 1978 amendments to OCSLA added the language above concerning attachment to the seabed of installations and other devices. CBP has interpreted this language to mean that only US-coastwise qualified vessels (i.e. US build, owned, manned and documented) can:

- carry cargo between shore and an offshore MODU, platform, or other fixed or floating facility while temporarily or permanently attached to the seabed;
- carry cargo between two such offshore locations (or points);
- carry passengers from shore to an offshore MODU, platform, or other fixed or floating facility while temporarily or permanently attached to the seabed;
- carry passengers between two such locations;
- engage in towing between shore and an offshore MODU, platform, or other fixed or floating facility while temporarily or permanently attached to the seabed; or
- engage in towing between two such offshore locations.

For example, CBP applies the Jones Act applies to anchor handling tug supply vessels (AHTSs) and PSVs supplying offshore vessels, structures or installations captured by Section 4(a) of OCSLA as stated above.

The vast majority of the US flag OSV fleet will not be affected by the proposed ruling revocations as they fall into categories which are reserved for coastwise qualified vessels such as transporting supplies and offshore workers. The number of coastwise qualified deepwater vessels is very small in the context of overall fleet numbers.

6.3 Offshore Activities in Deepwater Environment

Offshore oil and gas exploration and production in deepwater is technically challenging, and is associated with highly demanding requirements for dynamic positioning, lifting capacity and other vessel industrial systems.

These and other factors will dictate the physical characteristics of a vessel, such as displacement and hull form. Similarly, the technical characteristics of cranes and other lifting appliances used in deepwater environments are strictly defined which necessitate 'purpose built' specificity to meet innovative performance criteria.

Dynamic positioning allows a ship to accurately and automatically control its position and heading, including remaining stationary using a system of computers, position references, propellers and thrusters. In shallower water it is possible to use anchors or spud cans to control the position of a vessel, however this is not practical in deepwater. There are three classes of dynamic positioning, many deepwater offshore vessels require DP systems meeting the more demanding requirements of DP equipment classes 2 or 3 to provide more dependable positioning. The requirements for these equipment classes are provided in International Maritime Organization (IMO) guidelines (MSC/Circ.645).

Many of the vessels under consideration need ship mounted cranes. These cranes are not the same as the small cranes installed on board PSVs for handling stores and spare parts, or even larger cranes installed on board conventional cargo carrying vessels such as bulk carriers or crane equipped container vessels. The cranes required for deepwater capable OSVs include the largest cranes in the world, and even the smaller examples used on LCVs and survey vessels have a high lifting capacity relative to most marine cranes, and have high wire capacity and sophisticated control systems to lower items to deep depths.

Using a crane for tasks outside its design intent significantly increases safety risks, equipment failures and downtime. The intended use of the crane includes shipboard lifts, subsea construction, the installation and retrieval of loads on the seabed, remotely operated vehicle (ROV) support, supply vessel operations, vessel to vessel lifts, vessel to platform lifts and personnel lifting.

In addition to requirements for the lifting equipment itself, the hull of the vessel must be suitable, and must have adequate stability for the intended operations, while satisfying international stability regulations as enforced by the USCG in the US.

The result of these factors is that the vessels considered in this report will tend to be much larger, be provided with greater installed power and have larger, more capable mission systems than vessels designed to perform similar activities in shallow water or which are restricted to near coastal and inshore operations. This means they are much more expensive to build and operate. They also need highly specialised technical expertise if they are to be safely operated; only a limited number of companies in the world currently possess the necessary technical expertise, hence the small number of such vessels.

6.4 Oil Production in the US Gulf of Mexico

According to the US Energy Information Administration, average daily consumption of oil in the United States in 2016 was 19.4 million barrels per day (MB/d). Domestic oil production was 8.9 MB/d. Production from the Gulf of Mexico was approximately 1.6 MB/d of oil (excluding gas

equivalent to oil) representing around 17-18% of domestic production. Offshore oil production is much more expensive than onshore production and globally represents approximately 30% of the world's oil production.

Offshore oil production volumes in the US GoM are enjoying something of a renaissance, the weaker oil price environment notwithstanding. In 2014, offshore oil production in the area increased year on year for the first time since 2002. The revival of offshore production can be substantially attributed to the advent of deepwater and ultra-deepwater E&P activity in the last decade: the US GoM has been one of the foremost areas for deepwater E&P spending and innovation globally.[4] The health of the US GoM and fulfilment of these expectations depends on continued availability of deepwater capable OSVs. As highlighted in section 6.1, a very small number of deepwater capable vessels are essential for continued deepwater activity in the region. Section 7 of this report demonstrates that there will be insufficient vessel capacity to service these deepwater activities if non-coastwise qualified vessels are excluded from the GoM.

6.5 Employment of American Workers Employed Onboard Offshore Vessels in the US Gulf of Mexico

The GoM provides a wealth of marine and offshore employment opportunities for US citizens. From welders to caterers, from chief engineers to deck hands and commercial divers to ROV pilots, the GoM offers opportunities for people with a wide and diverse range of skills and talents. In the current downturn however, there is a surplus of American seafarers and resulting unemployment.

The present poor market conditions may superficially make measures intended to exclude non-coastwise vessels seem an attractive means of boosting employment for US seafarers. However, the surest way to provide long term job opportunities for seafarers is for the industry to return to good health and for the market to grow. The small fleet of non-coastwise qualified vessels offer opportunities for US workers offshore, a survey of twelve Contractor members of IMCA conducted in February 2017 found that these companies had more than 1,100 US workers offshore.

It must also be recognised that marine contractors have substantial investments in the US and a long heritage of pioneering commitment to the GoM. They have significant onshore operations with extensive engineering, management, production, and fabrication facilities throughout the Gulf Coast States, and employ many thousands of US workers onshore. Banning their construction vessels from the market through the proposed CBP modifications and revocations will cost jobs rather than create jobs. Onshore, the GoM market is supported by a vast range of industrial infrastructure and suppliers representing a huge supply chain of activities. These businesses employ many tens of thousands of American workers and are dependent on continued investment offshore – which is at risk through the proposed CBP modifications and revocations.

4 ibid.

7 US Fleet Capacity for Offshore Support Vessels Operating in Deepwater Environments

7.1 General Overview

Offshore oil and gas exploration and production in deepwater environments is technically challenging, and is associated with more demanding functionality such as dynamic positioning, increased lifting capacity and other complex vessel industrial systems (section 6.3). This section provides information about the five categories of vessel considered suitable for operating in water depths of 3,280 ft/1,000 meters(m) or greater, summarized in Figure 1.

To assist readers in appreciating the different sizes of the vessels considered in this section, a selection of vessel silhouettes is provided in Appendix 2.

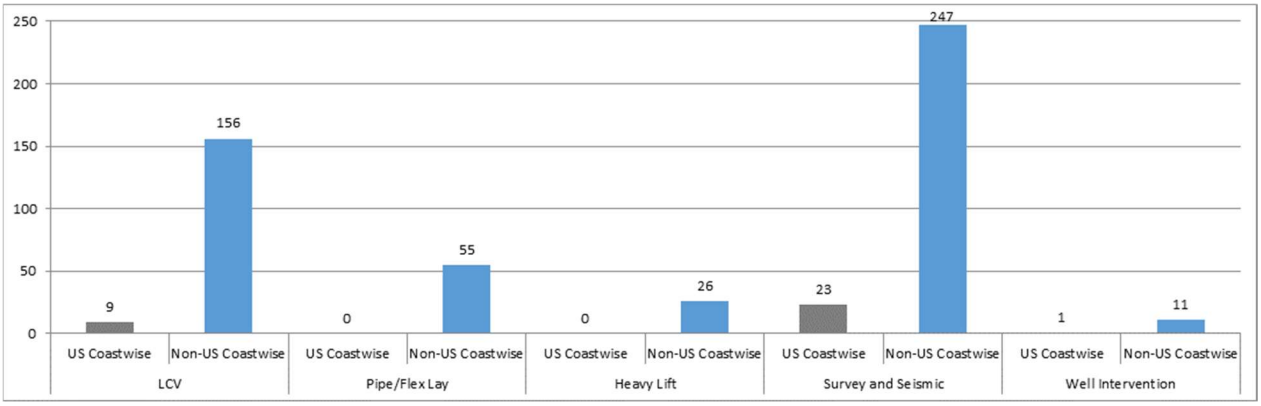

Figure 1 – Worldwide breakdown of deepwater OSV types (528 vessels)

7.2 Light Construction Vessels (LCVs)

This category includes a number of vessel types, including those that conduct the light and medium construction activities in the support of the installation of offshore oil and gas platforms, pipelines and related facilities.

LCVs are often configurable for a wide range of potential activities and can be mobilised with different mission equipment according to the needs of the contractor. Although in the last 20 years there has been an increasing move to specialization in this sector. This category includes vessels which are capable of supporting manned and/or remotely operated vehicle (ROV) diving.

The basic requirements[5] for a light construction vessel include:

- Station keeping of DP2 or greater;
- Minimum of 100T crane capacity in single fall mode[6];
- Minimum crane working depth of 1,000 meters.

Although many LCVs look like enlarged platform supply vessels, they are provided with accommodation and appropriate certification for carrying industrial workers, power supplies capable of feeding mobilised equipment and will be provided with a crane capable of supporting construction and deploying systems and equipment overboard. A typical LCV, the *Grand Canyon II*

5 Vessel requirements were developed based on discussions with marine contractors, vessel captains, and literature reviews. Individual construction companies may apply different criteria based on their own preferences or specific circumstances.

6 For subsea work, it is highly advisable to avoid multi-fall arrangements due to the likelihood of spinning and fouling.

of Helix Energy Solutions Group Inc, is illustrated in Figure 2 alongside the same company's semi-submersible well intervention vessel *Q5000*.

Figure 2 – LCV Grand Canyon II *(left) and Helix well intervention vessel* Q5000

LCVs suitable for supporting their intended activities in water depths of 3,280ft/1,000m or greater will be equipped with minimum of 100T crane capacity and 3,280ft/1,000m wire[7].

The currently available number of US coastwise and non-US coastwise LCVs with a crane capacity of >100T and >1000m wire is highlighted graphically in Figure 3.

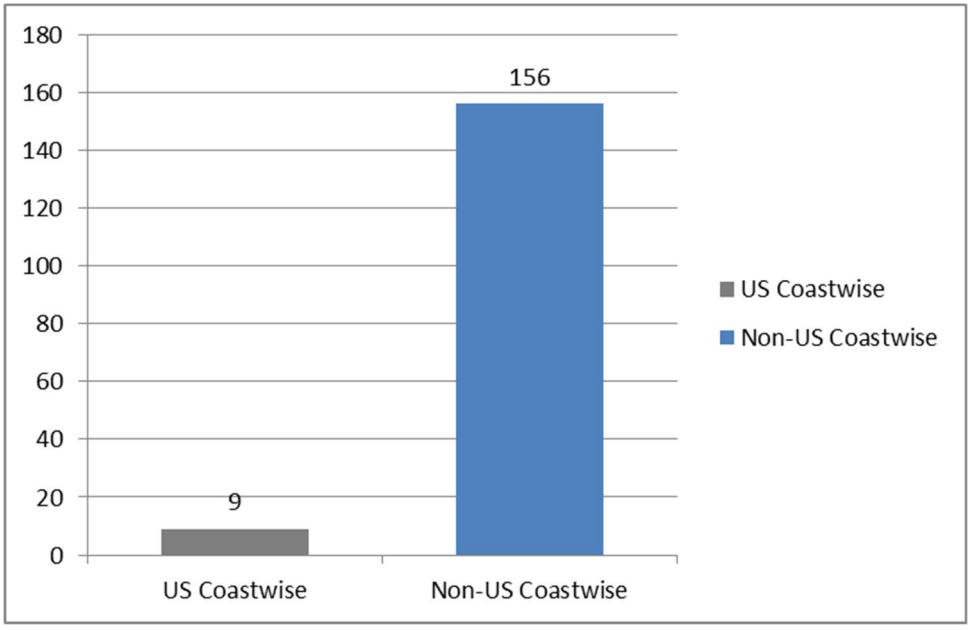

Figure 3 – Worldwide breakdown of deepwater capable light and medium construction vessels (>100T crane capacity; >1000m wire)

[7] Vessel requirements were developed based on discussions with marine contractors, vessel captains, and literature reviews. Individual construction companies may apply different criteria based on their own preferences or specific circumstances.

Of the nine coastwise qualified LCVs meeting the criteria used to define deepwater capability, six are equipped with a crane of 150T or greater capacity which is considered the industry accepted minimum capacity for deepwater lifts.[8] These vessels are shown in Table 5.

Name	Owner	DP Class	LOA (m)	Beam (m)	Crane SF (mT)	Max Working Depth (m)
HOS Warland	Hornbeck Offshore	DP2	92	23	250	3700
HOS Woodland	Hornbeck Offshore	DP2	92	23	250	3700
Harvey Deep-Sea	Harvey Gulf	DP2	92	20	165	3000
Harvey Intervention	Harvey Gulf	DP2	92	20	165	3000
C-Installer	ECO	DP2	97	20	150	3000
Ocean Alliance	Oceaneering	DP2	94	20	150	3000

Table 5 – US-coastwise LCVs suitable for deepwater lifts

IMCA is aware that there are small number of additional coastwise new build projects underway. The inclusion of these vessels does not provide any meaningful new capacity, or do anything to close the capability gap.

A significant complicating factor is that offshore marine construction is undertaken by marine contractors – not marine service providers. It would challenge normal economic and industrial logic to expect contractors, with all the operational risks they shoulder, to bankroll marine service providers while somehow redeploying or stacking their own vessels. This would be a significant backward move to an earlier era which was not sustainable in the 1980's, let alone today. Our industry has a long history of integrating important parts of the supply chain in order to manage risk, and it is unrealistic to now start to disaggregate the industry's structure.

7.3 Pipelayers

This category includes a number of vessels that support the installation of rigid steel pipelines and flexible pipelines. There are several methods in use for laying pipe, principally:

- J-Lay – used to install rigid pipelines in deep water. Pipe is upended and welded to the seagoing pipe in a near vertical ramp or tower, the angle of which is adjusted so that it is in line with the pipe catenary to the seabed. This method minimises pipe bending.
- S-Lay – pipe joints are welded together onboard the vessel in a horizontal production line, a stinger supports the pipe as it leaves the vessel to control the radius as it bends towards the seabed. This method offers a high rate of laying pipes and is mainly found in shallow to intermediate water depths although the method can also be used in deepwater.
- Reel Lay – long pipe segments are welded, tested and coated onshore and then spooled onto a large, usually vertically oriented pipe reel, in one continuous length. Once the reel-lay vessel is offshore, the pipe is unspooled, straightened and then lowered to the seabed as the vessel moves forward. This offers a high production rate and high quality assurance as the welds and quality are checked onshore before loading. A fabrication spool base is required onshore.

8 Vessel requirements were developed based on discussions with marine contractors, vessel captains, and literature reviews. Individual construction companies may apply different criteria based on their own preferences or specific circumstances.

- Flex Lay – uses a vertical tower, equipped with one or more tensioners, and a chute or wheel aligner on top to install flexible pipelines. The installed pipeline is less sensitive to fatigue and requires less complex installation, abandonment and recovery procedures.

Some pipelayers can operate in several of the above modes, offering a multi-lay capability which optimizes the lay system used according to specific requirements. Pipelayers may be very large vessels and are often provided with large cranes to undertake construction activities when not laying pipe. Figure 4 shows the pipelayer *Seven Oceans* laying pipe using a reel lay system; Figure 5 shows the same vessel at a fabrication spool base. To demonstrate how large some pipelay vessels are, Figure 6 shows the Allseas vessel *Solitaire*.

Figure 4 – Subsea 7's Seven Oceans *pipelay vessel*

Figure 5 – Seven Oceans *alongside at the Subsea 7 Port Isabel, Texas fabrication spool base*

Figure 6 – The large deepwater pipelay vessel *Solitaire* at sea

Pipelayers suitable for deepwater operation[9] will be provided with:

- Station keeping of DP2 or greater;
- Minimum of 100T top tension;
- Minimum of 1,000T pipe carrying capacity.

At present, there are no US-coastwise qualified pipelay vessels believed to be provided with either dynamic positioning and/or this minimum pipe tension, thereby severely limiting their ability to serve deepwater fields in US waters. Dynamic positioning is essential as in deepwater; as it is not practical to use anchors for positioning. If operating in deepwater and ultra-deepwater pipe tension capabilities of 100T and greater are typically required.

Non-US coastwise qualified assets dominate the deepwater pipelay sector. These assets have long been a staple in the development of offshore oil and gas field development projects and have an unparalleled track record of safe, environmentally friendly operations. This is the result of many years of highly skilled asset management, design expertise and leveraging experiences gained from global operations.

Figure 7 provides the numbers of coastwise and non-coastwise qualified pipelay vessels meeting the specified criteria for deepwater operation.

[9] Vessel requirements were developed based on discussions with marine contractors, vessel captains, and literature reviews. Individual companies may apply different criteria based on their own preferences or specific circumstances.

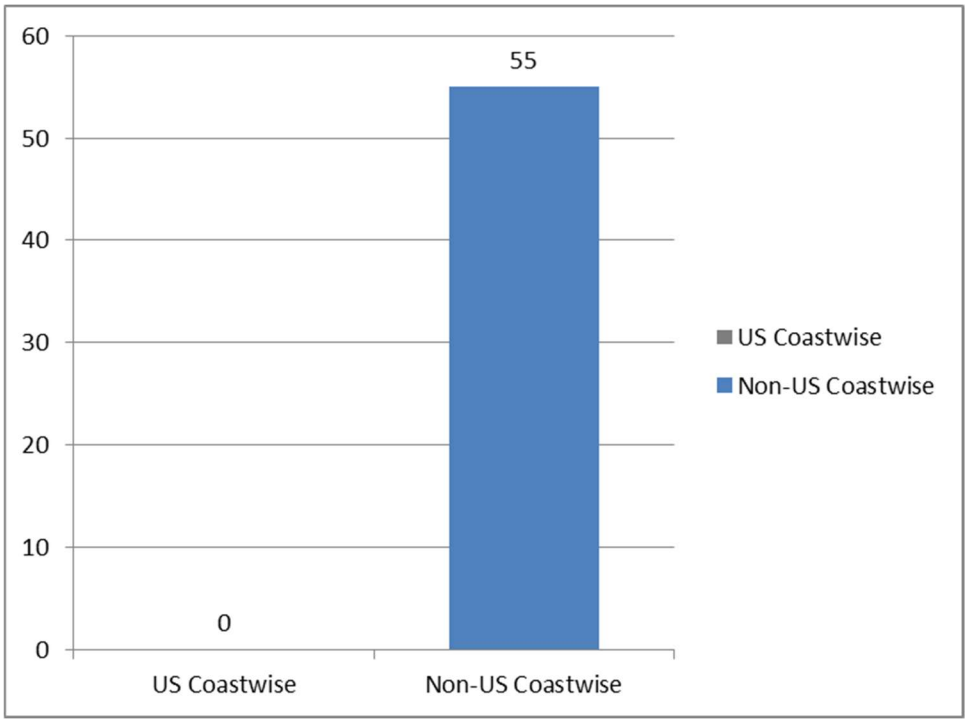

Figure 7 – Worldwide breakdown of pipelay vessels capable of deepwater operations; meeting the minimum requirements

Table 6 lists the known coastwise pipelaying fleet. All of these vessels are designed for shallow water operations, less than 984ft/300m, utilising anchors or spud cans to maintain vessel position.

Name	Operator	DP	LOA (m)	Beam (m)	Top Tension (>100mT)	Flag	Coastwise
Rider	Everest Hill	Anchor	79	22	UNK	US	Y
Brave	Cal Dive Intl	Anchor	84	21	UNK	US	Y
Pecos	Cal Dive Intl	UNK	78	22	UNK	US	Y
CLB Big Max	Mobro	Anchor	79	22	UNK	US	Y
CM9	Chet Morrison	Anchor	55	16	18	US	Y
Diamond 85	Diamond Services	Anchor	66	21	UNK	US	Y
Diamond Jim	Diamond Services	Anchor	53	23	UNK	US	Y
DLB Super Chief	Bisso Marine	Anchor	81	22	45	US	Y
Midnight Runner	Torch Inc	Spud	46	16	14	US	Y
Mighty Chief	Bisso Marine	Anchor	60	23	23	US	Y

Table 6 – US-coastwise qualified pipelay fleet

7.4 Heavy Lift Vessels

This category includes various self-propelled and non-self-propelled heavy lift vessels. These vessels are used for lifting large loads into position offshore. For the purposes of this report a heavy lift vessel is considered one provided with a crane of at least 1,000T lifting capacity. Smaller lifts may be performed by LCVs (see section 7.2) or smaller lift vessels.

Heavy lift vessels may take many forms, including both semi-submersible and conventional ship-shaped hull forms.

A large semi-submersible heavy lift vessel is shown in Figure 8 and a more conventional ship-shaped vessel shown in Figure 9.

Figure 8 – Large semi-submersible heavy lift vessel

Figure 9 – Large conventional ship shape heavy lift vessel

The basic requirements[10] for a deepwater heavy lift vessel include:

- Station keeping of DP2 or greater;
- Minimum of 1,000T crane capacity;
- Minimum of 200ft hook height;
- Minimum of 100ft working radius.

The discrepancy between the coastwise qualified and non-coastwise qualified fleet is readily apparent in this crucial heavy lift segment.

Figure 10 shows the coastwise and non-coastwise qualified heavy lift fleet satisfying the above criteria for deepwater heavy lifting.

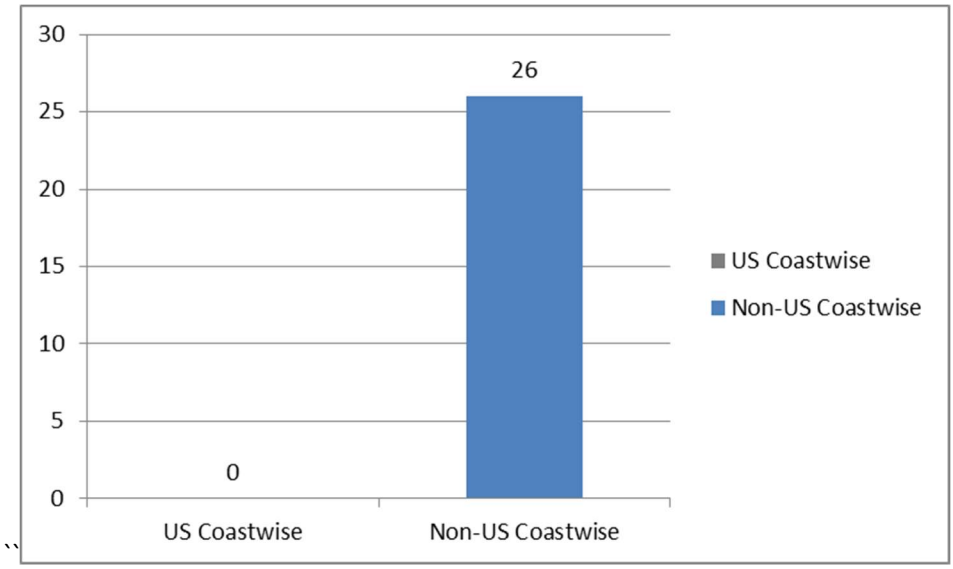

Figure 10 – Worldwide breakdown of coastwise and non-coastwise qualified deepwater heavy lift vessels

10 Vessel requirements were developed based on discussions with marine contractors, vessel captains, and literature reviews.

Table 7 lists some of the larger coastwise qualified heavy lift vessels and their capabilities (this is not a complete list).

Type	Name	Owner	LOA (m)	Beam (m)	DP	Crane Max Load (>1000mT)
Heavy lift crane	VB 10000	Versabar	85	96	DP3	6,800
Heavy lift crane	EP Paup	Manson Construction	116	32	Anchor	907
Heavy lift crane	Chesapeake 1000	Donjon Marine Co	58	31	Anchor	907
Heavy lift crane	Mr Two Hooks	Laredo Construction	64	21	Anchor/Spud	800
Heavy lift crane	Tetra Arapaho	TETRA Tech	107	31	Anchor	726
Heavy lift crane	DB General	General Construction	91	30	Anchor/Spud	700
Heavy lift crane	Cappy Bisso	Bisso Marine	61	21	Anchor/Spud	635
Heavy lift crane	Lili Bisso	Bisso Marine	59	22	Anchor/Spud	544
Heavy lift crane	Illuminator	Laredon Construction	55	21	Anchor/Spud	513
Heavy lift crane	Wotan	Manson Construction	91	27	Anchor/Spud	454
Heavy lift crane	Derrick No 24	Manson Construction	61	26	Anchor/Spud	400

Table 7 – Sample of US coastwise qualified heavy lift vessels and their capabilities

The only US-coastwise heavy lift vessel which meets the 1,000T lifting capacity and dynamic positioning requirements is the *VB 10000*. However, this vessel does not fulfil the minimum of 200ft hook height and as it is not a slewing crane, and is not used for platform jacket installations. The remaining 10 US heavy lift barges are positioned utilising anchors/spud cans and designed for shallow waters. As such, there are no coastwise heavy lift vessels which meet the defined criteria.

7.5 Well Intervention Vessels

These specialised vessels perform operations on an oil or gas well during its life to increase production efficiency, provide well diagnostics and support well abandonment activities. The intervention is accomplished through the use of riser and riserless technologies. A semi-submersible well-intervention vessel is shown in Figure 2 (Section 7.2).

The basic requirements for a deepwater well-intervention vessel include[11]:

- Station keeping of DP2 or better – the USCG recommends DP3;
- Minimum of 350T tower for riser based intervention;
- Minimum of 150T tower/crane for riserless intervention;
- MODU class notation.

Figure 11 shows the global and coastwise qualified well intervention vessel fleet meeting the above deepwater criteria.

At present, there is only one US-coastwise qualified well intervention vessel meeting the aforementioned requirements.

11 Vessel requirements were developed based on discussions with marine contractors, vessel captains, and literature reviews. Individual construction companies may apply different criteria based on their own preferences or specific circumstances.

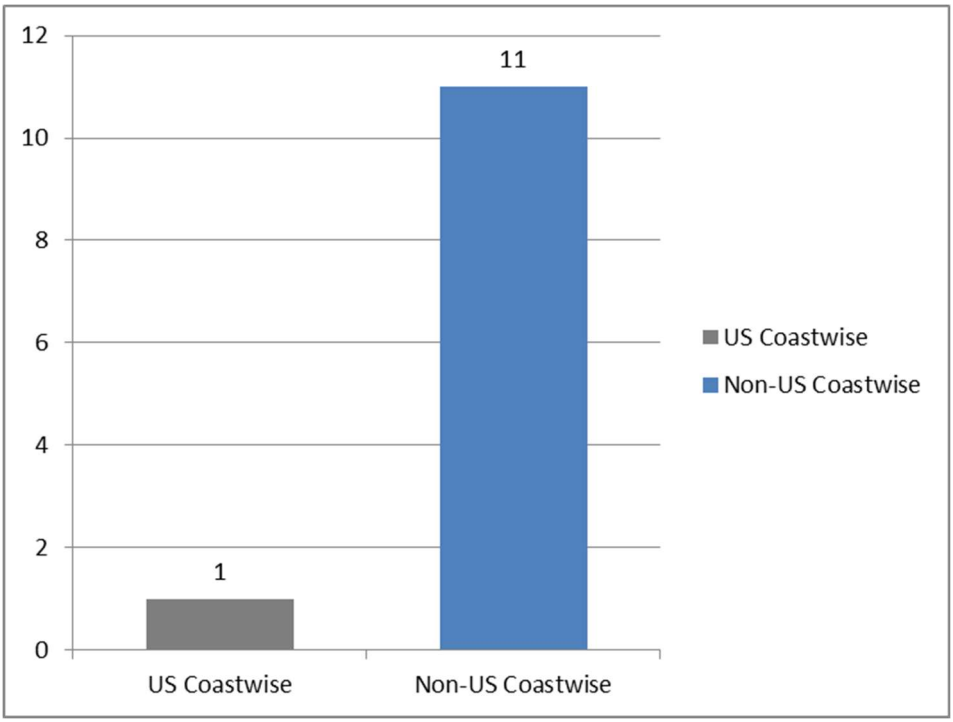

Figure 11 – Worldwide breakdown of coastwise and non-coastwise qualified deepwater well intervention vessel capacity

7.6 Seismic Survey/Geophysical

These vessels are equipped with specialised equipment to collect data needed to characterise the seafloor and underlying geologic formations. Some basic features for a deepwater survey vessel include:

- Echo sounder equipment – multi beam, single beam or side scan;
- Hull transducer;
- Acoustic positioning equipment;
- Hydrophone streamers;
- Seismic sound source arrays (air guns) with appropriate compressors;
- Sound velocity profiling equipment;
- Magnetometer equipment and gravity sensing equipment;
- Antennas and below-decks equipment for satellite positioning;
- Motion reference units – means to detect heave, pitch and roll;
- A-frame and/or back deck space for storage and deployment and recovery of subsea equipment;
- DP capability.

The majority of the survey vessels at home and abroad are engaged in research for universities, institutions and government entities. The coastwise fleet alone has over 65 survey vessels; however, less than 25 are available to support the oil and gas sector. Figure 12 shows the global and coastwise qualified deepwater capable survey and seismic vessel fleet.

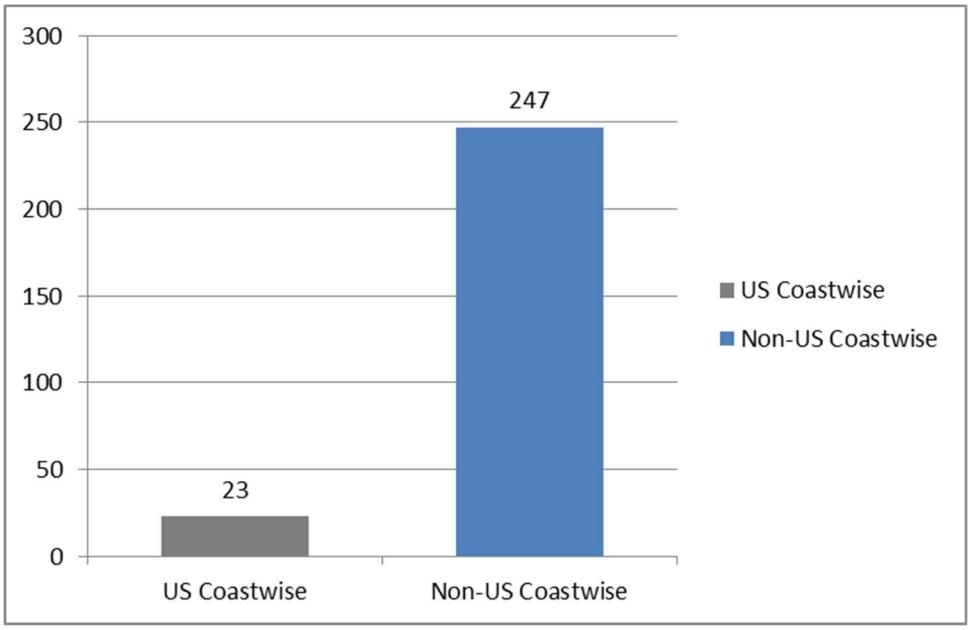

Figure 12 – Worldwide breakdown of coastwise and non-coastwise qualified deepwater survey and seismic vessel capacity

8 Vessels Deployed in the US Gulf of Mexico: 2013-2016 Comparison

This section of the report has quantified the coastwise and non-coastwise qualified offshore vessels in each category believed to have been deployed in the US GoM in 2016 (a poor year) and 2013 (a good year). Figure 13 shows the number of vessels which were operational in the US GoM meeting the following criteria:

- LCVs: DP2 or better; 100T + single fall crane capacity; 1000m + crane working depth;
- Pipelayers: DP2 or better; 100T + top tension;
- Heavy lift vessels: DP2 or better; 1000T + crane capacity;
- Seismic/survey vessels: working on commercial activities;
- Well intervention vessels: DP2 or better; MODU or well intervention notation.

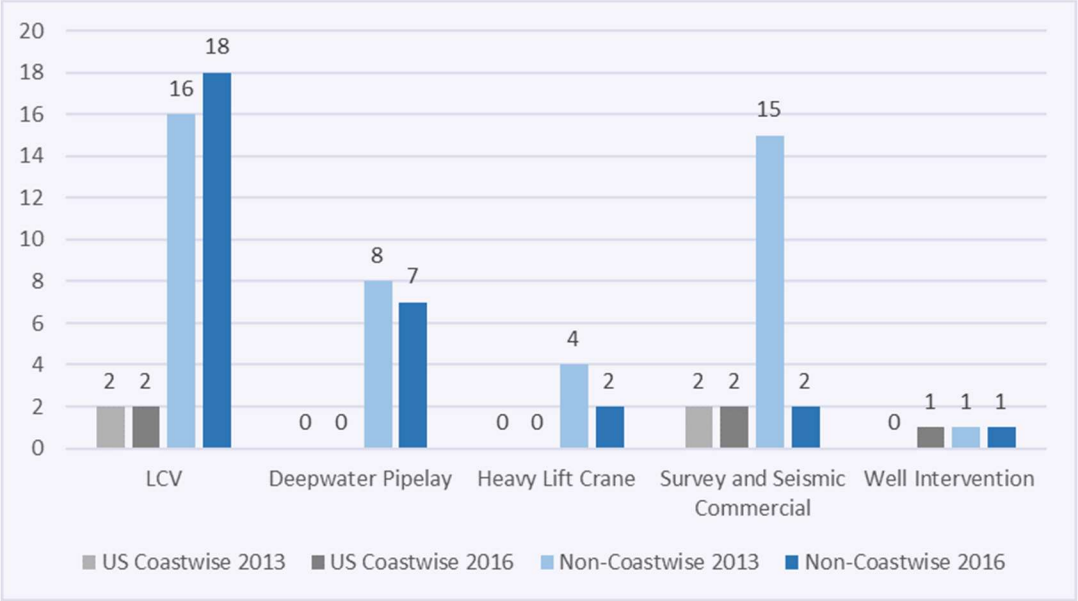

Figure 13 – Offshore support vessels operating in the US GoM 2013 and 2016

The data is remarkable, in that there is very little change in the overall vessel numbers active in four of the five vessel categories considered. The only category showing a major change is survey and seismic vessel segment, which is always the first market to be hit in a downturn. This indicates that these are niche market segments, and that vessel numbers have been stable in both good and poor market conditions. And in neither case has the coastwise fleet been sufficient to meet the needs of the market.

The reason for this phenomenon is readily explained by the fact there are only a handful of large deepwater projects per year, which although generate a lot of drilling and supply vessel activity during the upfront development phase, only require a small number of specialist construction vessels during the installation phase. Table 8 was published by the US Energy Information Administration in February last year and lists the limited number of deepwater and ultra-deepwater projects being worked on in the period 2015-17.

Deepwater Gulf of Mexico field starts (2015)

Field name	Majority operator	Associated project	Water depth (ft)	Discovery year
Silvertip	Shell	Perdido	9,280	2004
West Boreas	Shell	Mars B	3,094	2009
Hadrian South	ExxonMobil	Lucius	7,983	2009
Lucius	Anadarko	Lucius	7,168	2009
Deimos South	Shell	Mars B	3,122	2010
Big Bend	Noble Energy	Rio Grande	7,273	2012
Marmalard	LLOG Exploration	Delta House	6,148	2012
Dantzler	Noble Energy	Rio Grande	6,580	2013

Anticipated Deepwater Gulf of Mexico field starts (2016-17)

Field name	Majority operator	Water depth (ft)	Discovery year	Anticipated production start
Stones	Shell	9,556	2005	2016
Gunflint	Noble Energy	6,138	2008	2016
Heidelberg	Anadarko	5,271	2009	2016
Holstein Deep	Freeport McMoRan	4,326	2014	2016
Son of Bluto 2	LLOG Exploration	6,461	2012	2017
Horn Mountain Deep	Freeport McMoRan	5,400	2015	2017

Table 8 – source: US Energy Information Administration, February 18, 2016

Despite many years of previously healthy demand, the US coastwise industry has not invested in these niche sectors with the exception of the LCV segment. This is because:

1. The vessels and their systems are highly specialised and vastly more expensive than the commodity markets of supply vessels and AHTS vessels.
2. These are global segments; no single domestic market is large enough to support the required investments.
3. This is the domain of international marine contractors, and large investments are needed in engineering, project management and procurement capabilities to execute the work.

These barriers to entry have dissuaded the US coastwise industry from entering these higher risk segments, they have instead invested in high volume commodity segments of supply vessels and AHTS vessels.

9 Conclusions

In 1989, the US Congress Office of Technology Assessment expressed strong reservations about further expanding cabotage restrictions on the US OCS.[12] These reservations remain valid today. The existing cabotage laws are some of the most stringent in the world and have allowed the US OSV fleet to become the largest in the world with over 1,000 ships.

This report shows that the overwhelming majority of OSVs operating in the US GoM are coastwise qualified vessels. The industry readily acknowledges that the US-coastwise qualified fleet is capable of supporting offshore activities in the shallower waters of the Gulf of Mexico. However, for deepwater construction activities beyond 1,000 meters (3,280 feet) this report supports the practical reality that the US-coastwise qualified fleet is pretty much absent from these niche markets.

Current US cabotage laws permit a small market for non-coastwise qualified vessels engaged in specific niche activities other than transport. This report has focused on the five deepwater niche segments of (1) light construction activities, (2) pipelaying including cable/umbilical laying, (3) heavy lift construction, (4) seismic and hydrographic surveying, and (5) well-servicing.

Worldwide, there are approximately 528 vessels technically capable of addressing these niche deepwater markets, of which 33 are coastwise qualified. Importantly, there are no coastwise qualified pipelay vessels, no coastwise qualified heavy lift vessels, and only one coastwise qualified well servicing vessel. There are only nine light construction vessels and 23 survey vessels which are coastwise qualified. Even when some planned new vessels are delivered, the coastwise fleet will not meet the capability or capacity gaps.

Over the past decade, marine service companies have invested in building ships for the alternative high volume markets of logistical supply vessels and tugs, for both the domestic and international markets. This US fleet comprises some 772 ships, 474 of which were active in the US GoM in November 2016. These vessels represent relatively modest unit investment, and the market has a relatively low commercial risk profile. With the collapse in market demand following the oil price crash in mid-2014, the market is now grossly oversupplied and many ships are laid up. This is a world-wide phenomenon and the economic and human distress in terms of job losses is significant during this phase of the business cycle.

With the single exception of the LCV segment, US marine service providers have clearly not invested in the deepwater construction niche markets:

1. Deepwater construction is a high risk business where work is conducted on a fixed price basis, and totally unlike the commodity markets which are day-rate businesses.
2. In addition to specialised ships, contractors need advanced engineering, project management and procurement skills to manage large sophisticated projects on a fixed price basis. This is a market for marine contractors not marine service companies.
3. The specialised ships represent very high levels of unit investment, often incorporating the contractor's intellectual property of equipment design and layout. Unit investments can range from a lower end of around $200 million to upwards of $1 billion at the higher end.
4. This is a world-wide market for the large marine contractors, as no single domestic market can support the levels of investment needed; and many of the assets that work in the deepwater Gulf of Mexico move from one geographic market to another as projects dictate. That said, marine contractors in the US have substantial investments in their workforce, industrial assets and market positioning; and importantly a long history of pioneering development in the GoM.

12 US Congress, Office of Technology Assessment, Competition in Foreign Seas: An Evaluation of Foreign Maritime Activities in the 200-Mile EEZ – Background Paper, OTA-BP-0-55 (Washington, DC: US Government Printing Office, July 1989).

This report shows that the level of demand in the deepwater construction market for these specialist ships has remained pretty much constant in both good and poor market conditions. Whereas the high volume businesses can be expected to do well in a good market, they are left highly exposed in a poor market.

Despite plenty of opportunity, historically the coastwise sector has not invested in the larger, higher value assets in the deepwater construction markets. Nor have they shown the ambition to vertically integrate from vessel owners and marine service companies to marine contractors (which is the history of many contractors). Should the proposed CBP modifications and revocations take place, the impact on business in the Gulf of Mexico could be catastrophic, simply because there would be no capacity to install the production facilities offshore.

The big dollar investments in the Gulf are targeted at the deepwater plays, as these represent the largest and most prolific oil and gas reservoirs. Should these projects be blocked by the banning of non-coastwise approved deepwater construction vessels, or result in increased costs making these investments uneconomic, then it is very unlikely that the projects will happen. In which case, capital can be expected to flow to other projects, potentially abroad. The resulting impact on the whole oilfield supply chain in the USA could cause a collapse in industry confidence and countless job losses onshore and offshore. Such a collapse would have a particularly bad effect on the gulf coast states.

The collateral effects of such a market collapse could be dire. Onshore, the subsea production hardware plants, umbilical manufacturing plants, fabrication spoolbase yards, etc could be empty, with the corresponding impact on engineering and construction companies. While some capacity may be used for exports to international markets, the longer-term response from those markets could well turn negative and protectionist. Offshore, the routine operations of existing facilities and shallow water projects may be able to continue unaffected, but the CBP modifications and revocations could make the US activity uneconomical for marine contractors. It could take years for the coastwise sector to invest in deepwater assets to the necessary level, if ever, which could have dire consequences for any ambitions of growing Gulf of Mexico production. The potential impact and risks to industry look grossly out of all proportion to the intended consequences of the CBP's modification and revocation strategy. A strategy intended to support a limited number of vessel owners could well have enormous unintended consequences for the whole US offshore oil and gas industry.

A Study of an Ultra-deepwater Project in the Gulf of Mexico

A case study to demonstrate the need for international vessel capability to develop deep water fields in the Gulf of Mexico

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Ultra-deepwater Project in the Gulf of Mexico

A study of an ultra-deepwater project demonstrating capability gaps if international vessels are not available to support the development of deep water fields in the Gulf of Mexico

1 Introduction

The International Marine Contractors Association (IMCA) established a technical workgroup to assess the capability of the US coastwise qualified fleet to support the offshore oil and gas industry in the US Outer Continental Shelf (OCS).[13]

This report contains the results of the technical workgroups analysis and assessment. The report studies different phases of the development of the field, details the foreign flagged and non-coastwise qualified[14] vessels used on the project and assesses:

- existing rulings that allow the use of a non-coastwise qualified vessel to perform the scope of work
- if the proposed modification and revocation of rulings would have had an effect on the eligibility of the non-coastwise vessels used to perform the work
- what changes to the methodology would be required to comply with the proposed modifications to the rulings
- if alternative coastwise qualified vessels capable of performing the work are available.

For simplicity, the term non-coastwise qualified is used in this report, as it encompasses both foreign flag vessels and any US flag vessels which are non-coastwise qualified. The requirement for coastwise qualified vessels to be constructed in US shipyards precludes the possibility of re-flagging a foreign vessel to the US register to undertake tasks which are restricted to the coastwise fleet. Not all readers may understand that the terms 'coastwise qualified' and 'US flag' are not synonymous and that a US flag vessel may not be eligible for coastwise qualification.

2 Case Study Project Summary

This study is based on an actual ultra-deepwater project, the operator and project name are not referenced specifically and will be referred to throughout as Case Project.

The Case Project operates in a water depth of over 9,000 feet. The reserves are 30,000 feet below the seabed. The project was chosen to demonstrate how the technology challenges of developing such deepwater fields in the OCS are being met.

The case study will discuss the vessels used throughout the development of the field and focus on:

- whether the proposed modifications and revocations of ruling letters would have affected that vessel's eligibility to perform the work
- whether there are Coastwise approved vessels that can perform that scope and, if not, the barriers to bringing such a vessel to the market.

13 This report has been produced in response to the publishing on 18 January 2017 by the US Customs and Border Protection (CBP) of a notice of proposed modification and revocation of ruling letters related to Customs application of the Jones Act to the transportation of certain merchandise and equipment between coastwise points.

14 Multiple coastwise approved vessels were also used in the field development for transport and other support.

3 Early Development

Exploration of the field required the use of deep water capable drilling rigs, the availability of deep water capable drillships was essential for the viability of the project.

3.1 Effect of Proposed Modifications

The bulletin removes the long standing acceptance that equipment used and supplies incidental to the vessel's service are not merchandise. Ultra-deepwater drillships during exploration often move from one well to another within the same field.

3.2 Coastwise Approved Alternatives

There are no coastwise qualified ultra-deepwater drillships. No coastwise approved rig or vessel could have performed the exploratory drilling for the project.

4 FPSO: Installation of Moorings and Buoy

The Case Study project's host facility is a floating production storage and offloading (FPSO) vessel with a disconnectable buoy that allows the FPSO to move off site in a hurricane event. The buoy is secured to the seabed by suction piles and nine mooring lines. Each line is a combination of polyester rope and chain arrayed in three groups of three.

4.1 Effect of Proposed Modifications

The installation of the buoy (weighing 3000Tons) and its moorings was done by a foreign flagged heavy lift vessel with the assistance of coastwise approved vessels.

Due to recent CBP rulings, there has been significant uncertainty with respect to the term "transportation" as it applies to necessary incidental movement associated with construction work, which for decades has been conducted for safety purposes.

It is clear that the proposed modifications could potentially affect the method used for work offshore and that to facilitate such activities the industry would need a pragmatic, workable means of allowing vessels to make minor movements when working. For example, agreeing to a safe zone within which vessel movements would not be considered to be transportation could provide a solution which allows construction vessels to work without compromising Jones Act requirements concerning transportation.

Before the above mentioned ruling, a lift was considered to begin when the cargo was secured for removal from the transport vessel or from the offshore facility and ended when the load was positioned in place or when the final rigging or cargo was detached from the lifting device and secured on the transport vessel.

From the above, it is clear that the proposed modifications could potentially affect the method used and that to facilitate such activities the industry needs a pragmatic, workable means of allowing vessels to make minor movements when working. For example, agreeing a safe zone within which vessel movements would not be considered to be transportation could provide a

solution which allows construction vessels to work without compromising Jones Act requirements concerning transportation.

4.2 Coastwise Approved Alternatives

Not required. However, it is worth noting that there is no coastwise approved rig or vessel that could have performed the work of installing the moorings and buoy.

5 FPSO

The FPSO is a vessel registered to a country other than the USA. The FPSO is shown in figures 14 and 15.

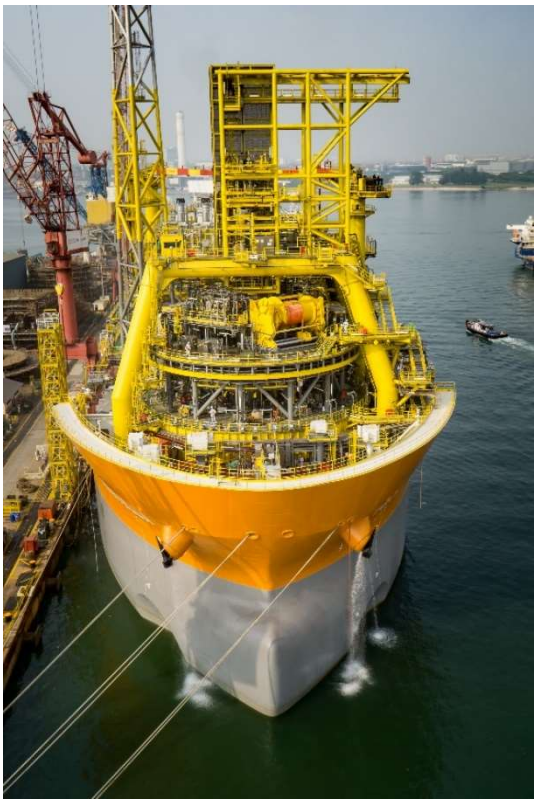


Figure 14 – The FPSO deployed for the case study project being prepared before arriving on location. The large yellow structure on the foredeck is the turret mooring system which connects the vessel to the 3000T disconnectable buoy.

5.1 Effect of Proposed Modifications

As noted in footnote 13, the revocation of HQ 108223 introduces some concern about whether it is permitted for the FPSO to move off of location with chemicals and other materials to support production onboard. There is additional concern that in the event of severe weather then moving off location for reasons of safety could be considered as transportation and as such a violation of the Jones Act.

5.2 Coastwise Approved Alternatives

Not applicable. FPSO was selected, in part, because it can be re-used on future developments. International deployment of a theoretical coastwise approved FPSO build would not be viable as a result of the costs associated with such a vessel relative to alternatives and would, certainly, change the decision making significantly.

Figure 15 – FPSO at anchor being prepared for operation

6 Wellheads

The deepwater trees built in Houston, Texas, were transported to the drillships by coastwise qualified vessels and then installed from the drillships

6.1 Effect of Proposed Modifications

None. The wellheads were transported on coastwise approved vessels.

It should be noted that Subparagraph 10 of HQ 101925 was discussed in the bulletin but the statement in the original ruling that 'use of a vessel in the installation of a wellhead assembly at a location within United States waters, after transportation of such assembly by a vessel entitled to engage in coastwise trade, is not considered a use in coastwise trade' was not questioned and, for this study, is assumed to stand.

6.2 Coastwise Approved Alternatives

Not required.

7 Gas Pipeline

The Case Study project features a gas pipeline which can be used for importing fuel gas or for exporting sales gas. A 20-mile gas pipeline was installed from the FPSO to an existing pipeline system. The gas pipeline system includes a subsea maintenance valve in-line sled (ILS), a pipeline end termination (PLET) at the tie-in and an intermediate manifold.

7.1 Effect of Proposed Modifications

The pipeline was fabricated at a coastal spoolbase located in Alabama and loaded onto a non-coastwise qualified reeled pipelay vessel which then laid the pipeline in the Case Study field. The ILS and the PLET were installed incidental to the pipelay. The manifold was transported to the field by a coastwise qualified vessel and installed by the pipelay vessel.

The long standing ruling that 'the transportation of pipeline connectors to be installed by the crew of the work barge incidental to the pipelaying operations of the work barge is not an activity prohibited by the coastwise laws' is proposed to be revoked. The gas pipeline portion of the Case Study project could not have proceeded as it did if the proposed modifications had been in place.

The following long standing ruling has made pipelay operations permissible in the Gulf of Mexico:

> "*since the use of a vessel in pipelaying is not a use in the coastwise trade, a foreign-built vessel may carry the pipe which it is to lay between such points. It is the fact that the pipe is not landed but only paid out in the course of the pipelaying operation which makes such operation permissible*."

The subparagraph[15] above is not subject to change in the modification bulletin. However, in the explanation of modification of ruling of subparagraph 2) of the same ruling, it is stated;

> "*The statute does not provide exceptions for certain activities. It does not state that if the activity the vessel is engaged in does not constitute coastwise trade then the transportation of the merchandise in order for the vessel to engage in such activity does not violate 46 USC § 55102.*"

It is, therefore, assumed that the transportation of the pipeline from the spoolbase to the Case Study field on the reel of the non-coastwise qualified vessel would not be permitted.

7.2 Coastwise Approved Alternatives

The interpretations of the bulletin explained above remove the option of fabricating the pipeline onshore at a spoolbase and transporting the pipeline on a reel to the field. There are no coastwise qualified vessels that have the equipment to lay a pipeline from a reel. Further, there are no coastwise approved pipelay vessels that can work in the water depth in Case Project field.

15 Citation is from subparagraph 1) of HQ 101925 (7 October 1976)

The alternative to this would be to transport the pipe to the field on a coastwise qualified vessel, transfer the pipe to the DP lay vessel, weld the pipe on the vessel and lay it. This can be done in either J-lay or S-lay. There are several non-coastwise qualified vessels that are capable of performing the work in this manner.

8 Flowlines

The case study project has two Steel Lazy Wave Risers and flowlines that tie to the first drill centre and two flowlines to the second drill centre. The risers have buoyancy to provide a wave in the riser configuration. The risers also feature a combination of fairings and strakes to protect against surface current induced vortex-induced vibrations (VIV). PLETs are installed at the drill centre end of the FPSO flowlines and on each end of the in-field flowlines.

8.1 Effect of Proposed Modifications

HQ15311 (10 May 2001) clarified that the use of a non-coastwise qualified vessel for the installation of flexible flowlines, umbilical lines and risers on the OCS does not constitute a violation of 46 USC App. § 883. This ruling is proposed to be withdrawn.

As with the gas pipeline, the flowlines were fabricated at a coastal spoolbase and loaded onto a foreign flagged reeled pipelay vessel that then laid the flowlines in the Case Study field. The PLETs were installed incidental to the pipelay.

Again, it is assumed that the transportation of the flowlines from the spoolbase to the Case Study field on the reel of the non-coastwise flagged vessel would not be permitted.

Further, the transportation of the PLETs, buoyancy, strakes and fairings by the non-coastwise pipelay vessel would not be permitted. Prior to the bulletin, such items were considered to be permitted since they are 'installed by the crew of the work barge incidental to the pipelaying operations'.

8.2 Coastwise Approved Alternatives

As stated for the gas pipeline, there are no coastwise approved pipelay vessels that can work in the water depth in Case Project field.

9 Umbilicals

Two high voltage electro-hydraulic umbilicals are installed between the FPSO and the first drill centre. A single umbilical connects the first drill centre to the second.

The umbilicals were manufactured in a facility in Florida and, for the umbilicals between the FPSO and the first drill centre (referred to as the dynamic umbilicals), transpooled into carousels on a non-coastwise qualified dedicated umbilical and flexible pipe installation vessel at the facility in Florida then installed in the Case Study field. The riser configuration used for the umbilicals was a pliant wave configuration. This required a clamp/anchoring system as well as buoyancy modules. Fairings were installed to address concerns about VIV. The umbilical termination assemblies (UTA) consisted of mudmats with a hydraulic

distribution manifold. All of these accessories (including the UTA mudmats) were transported on the installation vessel and installed incidental to the laying of the umbilicals.

The static umbilical between the two drill centres was loaded onto a reel and lifted into a reel drive system on a non-coastwise qualified specialty umbilical and flexible pipe installation vessel that then installed it in the Case Study field. The static umbilical had a UTA mudmat at each end, that were transported on the installation vessel and installed incidental to the lay.

9.1 Effect of Proposed Modifications

As noted above, it is assumed that the transportation of the umbilicals from the fabrication site to the Case Study field on the non-coastwise vessel would not be permitted and the umbilical installation for the Case Study project could not have proceeded as it did if the proposed modifications had been in place.[16]

9.2 Coastwise Approved Alternatives

There are no coastwise approved vessels capable of installing the dynamic umbilicals. The deep water and large (and heavy) umbilicals created a maximum umbilical top tension of around 170 tonnes. Only a small number of vessels are capable of gripping that tension without crushing the product and none of them are coastwise qualified.

The static umbilical was delivered on a reel and was smaller (and lighter) than the dynamic umbilicals. There are no coastwise vessels with a lay system capable of installing the static umbilical. However, since the umbilical is on a reel, the reel could, in theory, be transported to the field on a coastwise approved vessel then lifted onto the lay vessel. Note that for Case Study project, the chosen installation vessel's crane would not have been able to lift the loaded reel, though there are other non-coastwise qualified vessels with a suitable lay system and crane.

10 Subsea Distribution Hardware (SDH)

Steel tubed and electrical flying leads connect the wells and manifolds to the umbilicals. Electrical distribution modules (EDMs) are located at both drill centres. This equipment was transported on the installation vessel and installed incidental to the laying of the umbilicals.

10.1 Effect of Proposed Modifications

The SDH (connectors) has previously been installed from the lay vessel incidental to the laying of the umbilical. Previous ruling letters had stated[17] "the use of a foreign-flag vessel to transport … connectors … would not violate the coastwise laws if the work was done from the vessel, but would violate the coastwise laws if the vessel merely transported the connectors … and the connection operation was not performed on or from that vessel." For the reason explained above (when discussing the gas pipeline), the Case Study project could not have proceeded as it did if the proposed modifications had been in place.

16 HQ15311, as previously stated, is proposed to be withdrawn and was used as the basis of demonstrating that this scope was permitted.
17 Citation is from HQ15311 which, as previously stated, is proposed to be withdrawn.

10.2 Coastwise Approved Alternatives

There are coastwise approved vessels capable of installing the SDH. Also, the SDH could be transported on a coastwise approved vessel and transferred to a non-coastwise vessel in the field.

11 Artificial Lift System (ALS)

At a future date the Case Study project will be provided with a complete artificial lift system, which is expected to boost production by approximately 20%.

The overall dimensions of the ALS manifold are 40 feet by 65 feet by 27 feet, and the structure weighs approximately 400 metric tonnes. The pump station sits on a suction pile with a diameter of 32 feet and length of 50 feet, which alone will weigh approximately 200 metric tonnes.

To provide power and controls to the pump system, a variable frequency drive (VFD) building will be installed on the FPSO. It is built as one unit and will be installed offshore.

11.1 Effect of Proposed Modifications

The ALS subsea pile is to be transported to the field on a coastwise approved vessel and installed with a non-coastwise qualified vessel.

The subsea manifold also will be transported to the field on a coastwise approved vessel and installed with a non-coastwise vessel.

The topside power and control unit will be transported to the field on a coastwise approved vessel and installed with a non-coastwise vessel.

Given the above, and given the assumption detailed earlier in the FPSO section, whether or not the ALS installation would be affected by the proposed modifications is dependent upon the position taken by the CBP on incidental movement. Usually the safe over boarding locations will be the equivalent of a nominal 10% water depth away from subsea structures. If any lateral movement is deemed to be transport of merchandise then this would likely prevent the installation being carried out by non-coastwise qualified vessels.

11.2 Coastwise Approved Alternatives

There are no coastwise approved vessels capable of installing all of the ALS components.

12 Jumper Pipe Connectors

Jumpers are installed to connect the manifolds to the pipelines, flowlines or trees. These jumpers are fabricated at coastal fabrication facilities, loaded onto coastwise approved vessels, transported to the field where they were installed by a foreign flagged construction vessel.

12.1 Effect of Proposed Modifications

None. The assumption made earlier about incidental movement of a vessel during installation operations would continue to make this work permissible to be performed as it was.

12.2 Coastwise Approved Alternatives

There are some coastwise approved vessels capable of installing the jumpers in the same manner.

13 Safety Considerations

In various stages described above, the proposed alternative methods that are suggested involve transporting items on a coastwise vessel to the field and transferring offshore. Vessel to vessel transfers are commonplace in the offshore industry but they are a risk that is preferred to be avoided. Introducing more vessel to vessel lifts than needed inarguably makes the industry less safe.

14 Summary

As shown in Table 9, one impact of the proposed modifications for the Case Study project would have been that more vessels would have to be used than needed. However, the particular specialist equipment required for the transportation and installation of the umbilicals had no reasonable alternative and would have meant that the project may not have been able to go ahead.

Phase	Non-coastwise Qualified Vessel(s) Used?	Effect from Proposed Modifications?	Coastwise Alternative?	Impact from Modifications?
Early development	Yes	Possibly	No	Safety, cost
Installation of FPSO buoy and moorings	Yes	Possibly	No	Unclear, subject to clarification on incidental movement
FPSO	Yes	Possibly	No	Safety, cost
Wellheads	Yes	No	No	None
Gas pipeline	Yes	Yes	No	Safety, cost, availability
Flowlines	Yes	Yes	No	Safety, cost, availability
Umbilicals	Yes	Yes	No	Not possible to proceed
SDH	Yes	Yes	Yes	Cost, availability
ALS	Yes	Possibly	No	Not possible to proceed
Jumpers	Yes	Possibly	Yes	None

Table 9

Silhouettes of Offshore Vessels

Heavy lift semi-submersible vessel

Heavy lift monohull vessel

Pipelay vessel – reeled

Pipelay vessel – rigid

Well intervention semi-submersible vessel

Well intervention monohull vessel

Light construction vessel >350ft

Light construction vessel 300-350ft

Platform supply vessel

Attachment B

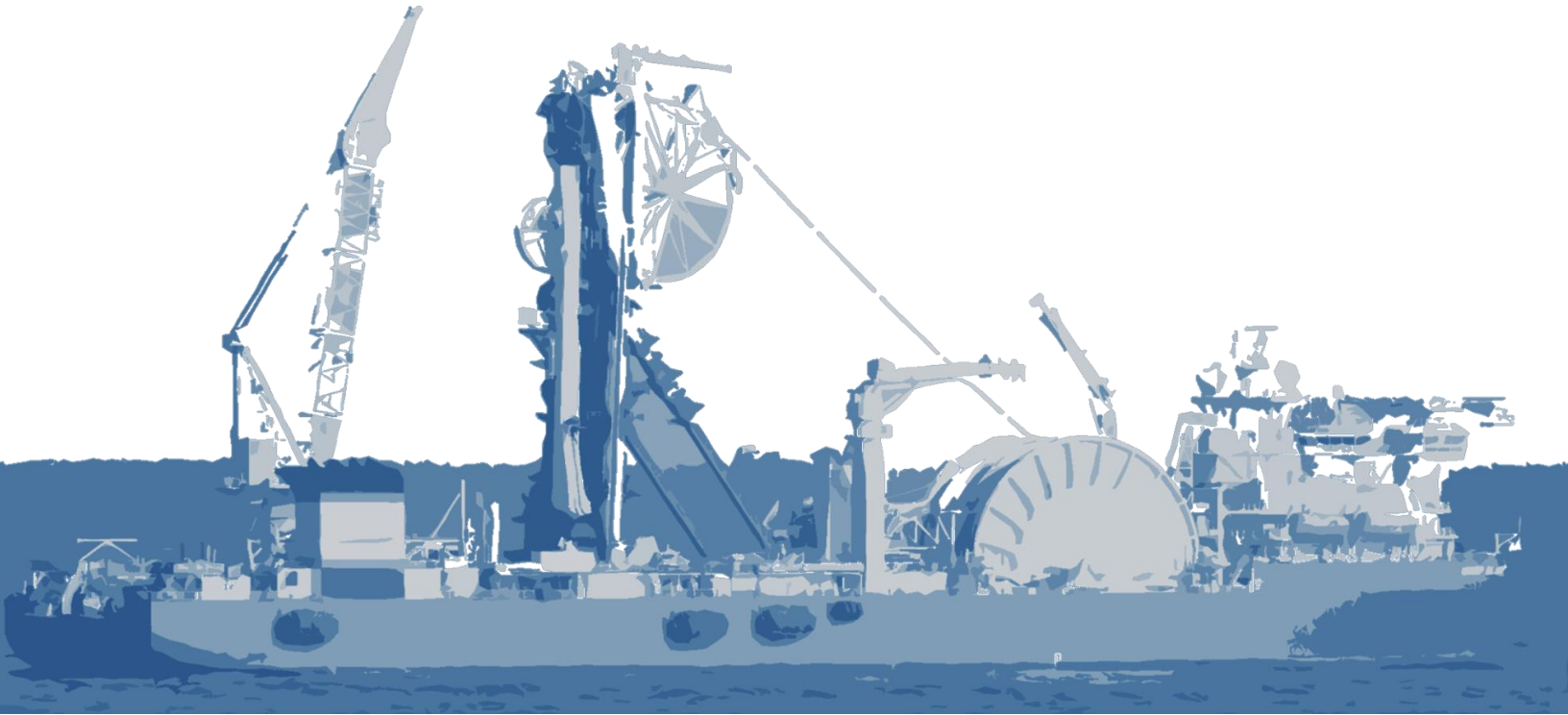
Economic Impacts of Proposed Modification and Revocation of Jones Act Ruling Letters Related to Offshore Oil and Natural Gas Activities

Prepared For:

The American Petroleum Institute (API)

Prepared By:

CALASH



Executive Summary

Introduction

The Customs and Border Protection Agency (CBP) announced proposed modifications and revocations to around 30 identified rulings, as well as additional unidentified rulings, related to the use of Jones Act (coastwise) vessels in offshore oil and natural gas activities on January 18, 2017. The modifications and revocations change long-standing rulings related to vessels transporting and using specialized equipment used in the oil and natural gas industry. The proposed modifications and revocations would likely fundamentally impact and change the development of offshore oil and natural gas projects on the U.S. Outer Continental Shelf (OCS).

Calash was commissioned by the American Petroleum Institute (API), to provide an independent evaluation of the potential impacts on offshore oil and natural gas project development and spending associated with the proposed changes. In addition, potential impacts on Gulf of Mexico oil and natural gas production, supported employment, gross domestic product, and government revenue were also projected. The conclusions set forth in this study are based solely upon government and other publicly-available data and Calash's own expertise and analysis.

Overall, given the time constraints and conservative assumptions associated with this study, it is likely that the costs and economic impacts presented represent a conservative projection of the impact of the proposed modifications and revocations. The impacts presented could be imprecise by as much as 10% or more for a variety of reasons, including government agency interpretations and enforcement decisions.

Impact of Proposed Modifications and Revocations on Gulf of Mexico Oil and Natural Gas Development

If the proposed revocations and modifications are finalized, the study projects a potential reduction in the total amount of Gulf of Mexico oil and natural gas activity, as well as the domestic content of future projects. The proposal would likely negatively influence development, as projects that are under development or have not been installed are delayed, and project economics and risk profiles are negatively impacted. The largest impact of the proposed changes is likely to be due to the inability to use foreign flagged subsea construction, reel lay, and heavy lift vessels to develop U.S. offshore oil and natural gas projects. Depending on the interpretation of the proposed modifications and revocations, a wide variety of vessels including mobile offshore drilling rigs, shallow and deepwater crane and lay vessels and well stimulation vessels may also be affected. Additionally, while U.S. installation content may increase, some activities which previously took place in the U.S. may move to other countries, impacting U.S. employment (e.g.

reeling of pipe, manufacturing subsea hardware and umbilicals and fabricating topsides and modules).

Total cumulative spending on offshore oil and natural gas development in the Gulf of Mexico OCS is projected to be in the range of $460 billion between 2017 and 2030 or in the range of $33 billion per year. If the proposed changes are adopted, the study projects cumulative spending from 2017 to 2030 to be in the range of $385 billion, an average reduction in the range of $5.4 billion (15 percent) per year.

Economic Impact of Proposed Modifications and Revocations

The study projects total employment supported from the Gulf of Mexico offshore oil and natural gas industry to rise from employment in the range of 300 thousand in 2017 to employment in the range of 520 thousand by 2030 under the base development scenario. The adoption of the proposal is projected to lead to a reduction in industry supported employment in 2017 in the range of 30 thousand jobs as projects are delayed, and a reduction in the range of 125 thousand jobs in 2030 due to reduced activity and U.S. content.

The Gulf of Mexico offshore oil and natural gas industry is expected to contribute an estimated $25.2 billion annually to U.S. GDP in 2017, and is projected to grow to over $42 billion by 2030. The proposed modifications and revocations, if adopted as written, are projected to lead to a reduction of GDP supported by Gulf of Mexico oil and natural gas activities of $9 billion annually by 2030. The cumulative lost GDP burden of the proposal from 2017 to 2030 is estimated at $91.5 billion.

Annual government revenues from Gulf of Mexico lease sales, rents, and royalties are expected to rise from about $5.6 billion in 2017 to $8.8 billion by 2030 under the base development scenario. Reduced oil and natural gas development projected under the proposed modifications and revocations is projected to lead to lower overall government revenues. This is primarily because of fewer production royalties being collected due to lower production volumes of an average of around 575 thousand barrels of oil equivalent per day (a 23 percent reduction). Reduced government revenues are projected to average around $1.9 billion per year from 2017 to 2030.

Adoption of the proposed revisions and revocation of Jones Act ruling letters related to the use of non-coastwise vessels for offshore oil and natural gas activities in the U.S. OCS is projected to lead to significant delays in offshore exploration and development projects, reduced overall activity levels, and reduced U.S. content. This is further projected to lead to reduced activity and spending, which is projected to lower production, employment levels, and growth in GDP and government revenues.

Study Limitations

This paper has been limited in scope to the assessment of the effects of the currently proposed revisions and modifications to Jones Act rulings affecting offshore oil and natural gas development activity. Any further revisions to rulings are likely to have increased limiting effects on oil and natural gas activities in the U.S. OCS. Additionally, if the currently proposed revisions are interpreted in such a way that further decreases the ability of non-coastwise vessels to operate in support of oil and natural gas activities in the OCS then the effects of these revisions would likely be larger than what is outlined in this report. This would include changes which construe incidental movement as coastwise transport, and decreased drilling efficiency and availability if mobile drilling units are required to offload either consumables (casing, mud, etc.) or vessel equipment (marine riser, etc.).

The study also excludes potential supply chain reductions due to reduced activity levels in the Gulf as projects are delayed due to the adoption of the proposed revocations and revisions, as well as potential disruptions to the supply chain if larger marine construction companies which possess in house engineering and project management consequently exit the region.

The study has also excluded the impacts of activity in the Alaskan, Pacific, Eastern Gulf and Atlantic OCS regions, which would be greater if changes to the currently proposed 2017-2022 OCS Oil and Gas Leasing Program are made. As such, exploration and production activities in these OCS areas are projected to see similar disruptions under the proposed changes. The study also excludes potential impacts of expired leases due to project delays.

Overall, given the constraints and assumptions discussed above, it is likely that the costs and economic impacts presented in this study represent a conservative projection of the impact of the proposed modifications and revocations. The impacts presented could be imprecise by as much as 10% or more for a variety of reasons, including government agency interpretations and enforcement decisions.

Impact Summary

This study projects that the following impacts may result if the proposed modifications and revocations are implemented:

- A loss of up to 30 thousand jobs in 2017 and average decreased employment of over 80 thousand jobs from 2017 to 2030.
- Between 2017 and 2030, decreased Gulf of Mexico offshore oil and natural gas spending in the range of $5.4 billion on average per year.

- An average reduction in oil and natural gas production in the range of 0.5 Million Barrels per day from 2017 to 2030.
- An average loss of more than $4.3 billion of GDP from 2017 to 2030.
- An average loss of more than $1.9 billion of government revenue per year from 2017 to 2030.

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Section 1 – Introduction

1.1 Purpose of the Report

On January 18, 2017, the Customs and Border Protection Agency announced proposed modifications and revocations to around 30 identified rulings, as well as additional unidentified rulings, related to the use of Jones Act (coastwise) vessels in oil and natural gas drilling and construction activities. These previous rulings, some of which dated back forty years, clarified when and in what ways non-coastwise vessels could be used to support offshore oil and natural gas development activities. The proposed revisions would fundamentally alter the way offshore oil and natural gas activities take place in the U.S. OCS due to the specialized nature of the affected vessels.

Calash was commissioned by the American Petroleum Institute (API), to provide an independent evaluation of the potential impacts on project development and spending associated with the proposed modifications and revocations. In addition, Calash also projected potential impacts on Gulf of Mexico oil and natural gas production, supported employment, GDP, and government revenue. The conclusions set forth in this study are based solely upon government and other publicly-available data and Calash's own expertise and analysis.

1.2 Report Structure

In this report, Calash will first outline the study methodology including the development of data, the review of the modifications and revocations and their potential impacts on vessel types, the limitations of this study and how the two scenarios used in the report were developed. The next section will discuss the potential impact on offshore oil and natural gas development, including the impact on projects, production, and spending. The third section examines the potential economic impacts of the proposed modifications and revocations, including employment impacts, GDP impacts, and government revenue impacts. The final section concludes.

1.3 Excluded from This Study

This paper has been limited in scope to the assessment of the effects of the currently proposed changes to Jones Act rulings affecting offshore oil and natural gas development activity. The potential effects of the proposed modifications on MODUs has been excluded because this is likely to be highly dependent on CBP's interpretation of the proposed modifications and revocations. We do note that the domestic vessel industry has taken the position that MODUs are impacted, and any further revisions to rulings are likely to have increased adverse effects on oil and natural gas activities in the U.S. OCS. Additionally, if the currently proposed revisions are interpreted in such a way that further decreases the ability of non-coastwise vessels to operate in

support of oil and natural gas activities in the OCS then the effects of these revisions would likely be larger than what is outlined in this report.

The study also excludes potential supply chain reductions due to reduced activity levels in the Gulf as projects are delayed due to the adoption of the proposed revocations and revisions, as well as potential disruptions to the supply chain if larger marine construction companies which possess in house engineering and project management exit the region.

The study has also excluded the impacts of activity in the Alaskan, Pacific, Eastern Gulf[1] and Atlantic OCS regions, which would be greater if changes to the currently proposed 2017-2022 OCS Oil and Gas Leasing Program are made. It is a very likely possibility that exploration and production activities in these OCS areas would see similar disruptions under the proposed changes. The study also excludes potential impacts of expired leases due to project delays.

The study also does not attempt to calculate the effects of the proposed modifications and revocations on mid-stream or down-stream oil and natural gas entities. In addition, the calculated government revenue potential does not include personal income taxes, corporate income taxes or local property taxes.

Given the unpredictable nature of advancements in technology and innovation in the oil and natural gas industry, the scope of this paper was limited to the effects that new requirements would have on future activity with the assumption that the methods and equipment mentioned in the proposed revisions would still be in use at the end of the study period.

Overall, given the constraints and assumptions discussed above, it is likely that the costs and economic impacts presented in this study represent a conservative projection of the impact of the proposed modifications and revocations. The impacts presented could be imprecise by as much as 10% or more for a variety of reasons, including government agency interpretations and enforcement decisions.

1.4 About Calash

Since Calash's creation it has evolved from an oil and natural gas commercial and operational due diligence provider into an award-winning energy advisory firm providing strategy, business advisory, economic analysis, and mergers and acquisitions support services. As a function of Calash's core business, the company is engaged daily in the collection and analysis of data as it relates to the oil and natural gas industry. Calash serves the global community of operating oil and natural gas companies, their suppliers, financial firms, and many others by providing detailed analysis on projects, investments, capital investment and operational spending

[1] The Economic Benefits of Increasing U.S. Access to Offshore Oil and Natural Gas Resources in the Eastern Gulf of Mexico, Quest Offshore, November 2014

undertaken by the onshore and offshore industries. Calash analyzes market data from a variety of sources at the project level for projects throughout the world.

Section 2 – Study Methodology

2.1 Data Development

The authors of this report have undertaken a detailed review and analysis of proposed revisions to rulings related to the use of Jones Act (coastwise) vessels in oil and natural gas drilling and construction activities. As the effects of these revisions are open to a wide interpretation, the authors have made a good faith effort to provide a reasonable interpretation of how these revisions would likely be interpreted and enforced. This study is in no way exhaustive, especially considering the relatively short period available to develop this analysis and the high degree of uncertainty around the implementation of these revisions.

This analysis focuses on the likely operational effects of these revisions on project development activity, and considers the potential operational changes oil and natural gas operators and contractors could implement to minimize the effects of the revisions. As such, this analysis is essentially forward looking and potentially subject to significant changes based on the interpretation and enforcement of the revisions by the Customs and Border Protection Agency who is responsible for enforcement of the Jones Act.

Due to the limited time available to prepare this report, as well as the significant uncertainties about the way revisions would be implemented and interpreted if adopted, the projected costs, engineering requirements and operational burdens for all the proposed revisions are not included in this report. Additionally, the internal costs to CBP of implementing and administrating the proposed revisions are not calculated in this report.

2.2 Requirements Review and Vessel Fleet

The Merchant Marine Act of 1920, also known as the Jones Act, is a United States federal statute that regulates maritime commerce in U.S. waters and between U.S. points. Amongst other things, the Jones Act defines cabotage requirements for U.S. waters requiring that all goods transported by water between U.S. points be carried on U.S.-flag ships, which were constructed in the United States, are owned by U.S. citizens, and are crewed by U.S. citizens and/or U.S. permanent residents. Historically, rulings by CBP held that the Jones Act did not apply to certain types of drilling, pipelay, heavy lift and other construction vessels that operate in the Gulf of Mexico and other OCS areas. Despite these rulings, the vast majority of vessels operating in support of offshore oil and natural gas activities have been coastwise vessels; CBP requires that vessels transporting persons and supplies to offshore drilling rigs and platforms, such as platform supply vessels and crewboats, be coastwise vessels.

The proposed modifications and revocations to rulings including HQ 101925, HQ 108223, HQ 108442, HQ 113838, HQ 115185, HQ 115218, HQ 115311, HQ 115522, HQ 115771, HQ

105644, HQ 110402, HQ 111889, HQ 112218, HQ 113841, HQ 114305, HQ 114435, HQ 115333, HQ 115487, HQ 115938, HQ H004242, and others as well as "Any rulings raising the subject issues which may exist but have not been specifically identified"[2] (along with modifying (in an unspecified manner) HQ 11892, HQ 115381, HQ 116078, HQ 32757), would likely greatly alter the way offshore oil and natural gas projects are executed in the U.S. OCS. Specifically, the modifications and revocations would fundamentally alter the definition of vessel equipment that CBP has used in its coastwise trade rulings related to offshore oil and natural gas activity in the past. The amended interpretation would allow "portable articles necessary and appropriate for the navigation, operation or maintenance of the vessel and for the comfort and safety of the persons on board" to be transported on non-coastwise vessels but would revoke previous rulings which allowed these vessels to transport equipment which was considered "in furtherance of the mission", "fundamental to the operation of the vessel", "used by a vessel in the course of its business", "necessary to carry out a vessel's functions" or similar terminology which was used across various headquarters rulings.

Previously, headquarters rulings HQ 111889 and HQ 115938 stated that articles to be installed, such as templates, marine risers, oilfield equipment and structural components, are vessel equipment, while rulings HQ 112218 and HQ 113137 stated that cement, chemicals and other materials are also vessel equipment. This allowed non-coastwise vessels to participate in drilling and construction activities in the U.S. OCS and formed the basis for offshore oil and natural gas activities in the country. The considerable uncertainty around how these proposed revocations and modifications would be interpreted further increases the potential impacts to offshore oil and natural gas activities.

The following types of vessels used in offshore oil and natural gas activities are potentially affected by the modifications and revocations proposed by CBP.

Mobile Offshore Drilling Units (MODU)

Mobile offshore drilling units, include jack-up drilling units, for use in shallow water (up to around 400 feet), as well as floating rigs, including drill ships and semi-submersibles, for use in water depths ranging from 500 to 12,000 feet. Floating rigs can be either moored to the sea bed or utilize dynamic positioning systems for station keeping. Currently there are around thirty MODUs active in the Gulf of Mexico. Of the total worldwide active or warm stacked MODU fleet of around 850 vessels, only a small number of older shallower water jack-up units (the majority of which are currently cold stacked) are coastwise qualified. No floating drilling rigs capable of

[2] Customs Bulletin and Decisions, Vol. 51, No. 3, January 18, 2017., Proposed Modifications and Revocation of Ruling Letters Relating to Customs Application of the Jones Act to the Transportation of Certain Merchandise and Equipment Between Coastwise Points

operating in deep water are coastwise qualified[3]. The proposed modifications and revocations' effect on MODUs is likely to be highly dependent on CBP's interpretation of the proposed modifications and revocations. While these vessels do not typically transport equipment from shore and are resupplied by coastwise vessels, they frequently transit from well site to well site (some of which may be less than twenty feet away from other sites) with equipment such as pipe and drilling riser. For the purposes of this study, it is assumed that this type of activity will not be affected by the proposed changes. However, the domestic vessel industry has taken the position that such activity is deemed to be coastwise trade, and thus mobile drilling units must be offloaded and reloaded with respect to drilling materials and equipment (casing, mud, marine risers, blow-out preventers, etc.). Depending on the CBP's interpretation, this potentially could add seven to fifteen days per well (if it is even operationally feasible) potentially increasing annual drilling costs in the Gulf of Mexico in the range of $715 million on average. This increase in costs would likely make some wells uneconomic to drill and some projects uneconomic to develop.

Crane Barges

Crane Barges are non-self-propelled barges equipped with various cranes for lifting jackets, topsides, modules or other equipment. They are used in installation, decommissioning, and other non-oil and natural gas related construction activities. These barges must be moved to location using tug boats and are moored when in operation by anchoring to the sea bed (which prevents them from operating in deepwater). The effect of the proposed modifications and revocations on the ability of non-coastwise crane barges to operate will likely be less than on dynamically positioned heavy lift vessels as they are anchored to the sea bed and restricted to shallow water work and thus less likely to move while lifting. However, in cases where movement whilst lifting is required or possible this movement could be construed as coastwise transport. There are currently 17 coastwise crane barges, compared to a global fleet of 173. However, most of these vessels are located outside of the main oil and natural gas regions and are not equipped to engage in oil and natural gas activities. The largest of these crane vessels have lifting capacities of 800 to 1,000 tons which covers most shallow water lifts, but would be incapable of lifting the largest fixed platform jackets and topsides in the Gulf of Mexico. This restriction could be circumvented by increasing the number of lifts to install or decommission heavier items which would increase operational complexity, costs and safety risks. Alternatively, in some cases this could lead to operators fabricating topsides, jackets, or modules, which require a larger crane barge, outside the U.S. to avoid the potential that movement while lifting might be construed as coastwise transport under the proposed modifications and revocations.

[3] The Helix Q4000 is Coastwise qualified and classed as a mobile offshore drilling unit but is generally employed for well intervention rather than drilling.

Shallow Water (Derrick) Pipelay

Shallow water pipelay vessels are typically non-self-propelled barges utilizing a tensioner and a stinger to lay pipelines in under 500 feet of water. These vessels utilize anchors and tug boats to move while pipelines are welded on the barge and fed into the water. They can lay pipeline for shallow water projects as well as shallow water sections of pipelines from deeper water projects. These vessels typically receive pipe from transportation barges and are thus unlikely to be significantly affected by the proposed modifications and revocations. Currently, there are seven coastwise vessels of this type compared to around 120 worldwide.

Deepwater Pipelay

Deepwater pipelay vessels perform a similar function to shallow water pipelay vessels but typically install larger diameter pipes greater than 12 inches, although some J-lay vessels are capable of installing smaller lines (for the purposes of this study reel deepwater pipelay vessels are included in the “Reel pipe, umbilical and cable lay category”). In contrast to shallow water pipelay vessels, deepwater vessels are self-propelled and possess dynamic positioning systems for station keeping. Under the currently proposed modifications and revocations these vessels are likely to see a minimal impact (due to increased offshore transfers) as they are typically equipped for offshore pipe transfer and welding from coastwise vessels. However, if the proposed modifications and revocations were to be interpreted to mean that the transportation of pipe while laying constituted coastwise transport, the use of non-coastwise vessels (none of the 19 active deepwater vessels are coastwise) would be prohibited and the effect on deepwater projects would likely be extremely significant. The small number of these vessels globally is a function of their extreme specialization and these vessels typically transit around the world for projects due to the lack of consistent demand in any one region.

Dive Support / Multipurpose Support / Remotely Operated Vehicle Support Vessels (DSV/MPSV/ROV)

This category includes a wide variety of vessels which perform light construction work across water depths using divers, remotely operated vehicles (ROV), and smaller cranes. While some vessels in this category can perform only one of these roles, many are equipped, or can be equipped, to perform a variety of work. Diving vessels may be equipped for either air or saturation diving, ROV vessels typically have work class ROVs, and the cranes on these vessels typically can lift between 100 and 400 tons. Some of these cranes are equipped with special heave compensators to install equipment in deep waters. These vessels perform installation of subsea equipment, hookup, and other miscellaneous work for offshore oil and natural gas projects and frequently move while lifting for operational and safety purposes. Currently, across this category there are thirty-one coastwise vessels out of a global fleet of around 450. There is a specific lack

of larger coastwise vessels with lifting capacity of greater than 250 tons for use in deepwater, which with the required crane radius (lifting capacities are decreased for larger radiuses) makes coastwise vessels unsuitable for subsea lifts greater than 150 tons. Additionally, there is a lack of coastwise "DP3" vessels whose station keeping ability is more resilient in case of faults. The lack of larger cranes and more resilient station keeping ability may lead to larger subsea equipment being fabricated outside the U.S. to avoid coastwise requirements as well as delays to projects due to reengineering to avoid operationally difficult or unsafe lifts. If incidental movement were to be construed as coastwise transport at a later time, further reductions in the ability of foreign flagged DSV/MSV/ROV vessels' ability to work in the US would be expected.

Reel Lay Pipe and Umbilical Lay Vessels

These vessels load steel or flexible pipelines, umbilicals or cables onto vertical or horizontal reels or carousels, transport the product to the field and then install the product onto the seafloor. Reel vessels are typically used for deepwater projects but can in some cases install shallow water pipelines and umbilicals. Typically, the maximum diameter of pipelines these vessels can install is sixteen inches, which accounts for the majority of pipelines within fields. These vessels do not possess the capability to efficiently weld many sections of pipe onboard and thus typically load pipe at a manufacturing facility or spool base (typically a long strip of land on the water with a firing line of welding stations). These vessels possess powerful tensioners to spool the product as well as to hold it in place while laying. Most of these vessels do not have the ability to load reels offshore and these vessels are thus used for smaller diameter sections of pipe, which they can install much faster and more efficiently. There is currently only one coastwise vessel in this category, out of 82 worldwide, which is a barge utilized for laying shallow water power cables. If the currently proposed modifications and revocations are implemented, non-coastwise vessels in this category would be unable to load product from U.S. spool bases or manufacturing plants and install them in fields on the U.S. OCS as this would constitute coastwise transport. As there are no coastwise vessels currently capable of performing this, all deepwater projects requiring the use of these vessels (which would include all major deepwater projects) would be unable to proceed as currently engineered, contracted and planned. This would prevent these projects from moving forward until such a time as an alternative solution could be identified. Due to the specialized nature of individual vessels it is unlikely that U.S. activity alone would support new ship building activity in this sector. Alternative solutions, such as loading pipelines, umbilicals and other products outside the U.S., may be utilized.

Heavy Lift Construction Vessels

Heavy lift construction vessels are large, often semi-submersible, vessels that can lift as much as fifteen thousand tons. These vessels are used to install topsides and modules, install moorings in deepwater, pull in risers, install subsea equipment, and perform decommissioning work. These vessels, which are typically dynamically positioned and self-propelled, are some of the costliest and most complex vessels involved in offshore oil and natural gas construction. There are 76 of these vessels in the global fleet, none of which are coastwise vessels. One coastwise vessel, the VB10,000 which uses an unusual barge-mounted dual truss system is capable of lifting fixed topsides and jackets up to 7,500 tons but is limited by its crane hook height when lifting topsides and modules and does therefore not typically undertake traditional heavy lift work. Worldwide, the number of vessels capable of performing the largest lifts in deepwater is less than ten. Use of these vessels is required for the largest deepwater projects, for many complex tasks in addition to classical topsides lifts, such as the installation of moorings and pulling in risers from extreme water depths. The proposed modifications and revocations would likely prevent these vessels from movement while lifting U.S. built topsides or equipment and would only permit these vessels to rotate their cranes while lifting. Although it is possible that some work could be completed under these conditions, it would be impossible to predict the need for movement for safety or operational purposes while lifting, thus falling afoul of the proposed modifications and revocations. Due to the specialized nature of these vessels, their tendency to work across the world's oil and natural gas areas, their high cost, and the lack of facilities capable of constructing these vessels in the U.S., it is unlikely that Jones Act compliant vessels would be constructed. Operators and contractors therefore may utilize non-U.S. yards and fabricators to construct potentially affected equipment to avoid conflicting with these modifications and revocations. If further changes to CBP rulings were to be adopted which considered incidental movement to be coastwise transport, further reductions in the ability of foreign flagged DSV/MSV/ROV vessels' ability to work in the US would be expected.

Other Potentially Affected Vessels

In addition to the above vessel types, many other vessels are utilized in offshore oil natural and gas operations in the U.S. OCS. While some of these vessels, such as platform supply vessels and crewboats, are unlikely to be significantly affected by the changes as they were previously required to be coastwise and there is a large U.S. fleet, the effect on other vessel types will depend on the interpretation and enforcement of the proposed modifications and revocations. Other potentially affected vessel types include well stimulation vessels (if the transport of onboard fluids between well sites is deemed to be coastwise trade), seismic vessels (if the transport of streamers and other seismic equipment is deemed to be coastwise trade), and well intervention vessels (if the transport of coiled tubing or other intervention equipment is determined to be

coastwise trade). Due to the limited information available, and the wide effects of potential rulings these vessels have been excluded from the effects of this study. However, the potential for reduced project spending and economic activity as a result of the proposed changes exists depending on the interpretation of the proposed rulings and revocations and should be considered as part of the potential effects depending on the interpretation and enforcement of the proposed modifications and revocations.

2.3 Limitations of the Report

The report's authors make no representation as to the effects of proposed revocations and rulings not addressed specifically in this report and do not discount the possibility that these proposed changes could impose significantly greater engineering, operational, cost or other burdens on industry or regulators. The report's authors' estimates herein of the effects that proposed revocations and rulings will have on current and future engineering, operations, and costs are an independent good faith qualitative view arising from a reasonable review of the proposed rulings and revocations. As these rulings are subject to interpretation by Customs and Border Protection (CBP) and other regulators the effects of these changes will be highly dependent on CBP's interpretation and enforcement. Calash provides this independent view expressly disclaiming any warranty, liability, or responsibility for completeness, accuracy, use, or fitness to any person for any reason.

2.4 Scenario Development

The report's scenario development focused on constructing a tiered "bottom-up" model that separates the complete life cycle of offshore operations and subsequent effects into three main categories and five sub categories. The three main categories are as follows: 1) an "Activity" model that assesses potential reserve information in the context of estimating the possible number of projects within the Gulf of Mexico OCS and the currently forecasted projects and trends in exploration and project development in the region; 2) a "Spending" model based on the requirements to develop projects within the "Activity Forecast"; and 3) an "Economic" model focused on the economic impact on employment and government revenue from the "Spending" model. These categories include leasing activity, drilling, infrastructure & project development, and production & operation.

After the creation of the baseline model utilizing the oil and natural gas price strip and production profile from the Energy Information Administration's "Annual Energy Outlook 2017"[4], the potential effects of the proposed revisions and revocation were considered on the basis of both potentially affected vessel types as well as potentially affected offshore oil and natural gas

[4] Annual Energy Outlook 2017, Energy Information Administration

activities. Potential effects that were unclear or considered unlikely given a reasonable reading of the proposed changes were excluded from the study. The following potential effects were deemed most likely to impact U.S. OCS oil and natural gas activities based on direct impacts from affected vessels types. (Table 1)

Table 1: Projected Direct Vessel Impacts from Proposed Modifications and Revocations

Vessel Type	Potential Impact of Proposed Modifications and Revocations	Potential Effect
Crane Barges	Coastwise vessels available for lifts up to 1,000 tons only.	Largest projects (greater than 1,000 tons) delayed, postponed or cancelled due to lack of available vessels, increased engineering and operational complexity. Potential safe lifting issues. Fabrication of large topsides moved outside of US.
DSV/MPSV/ROV	Lack of available coastwise vessels to complete construction work especially lifting of larger equipment in deepwater.	Project currently underway but not installed delayed, postponed or cancelled. Increased engineering and operational complexity. Potential safe lifting issues. Fabrication of equipment moved outside of US.
Reel Lay Pipe and Umbilical Lay Vessels	Reel vessels unable to load pipe, umbilicals, or other product at US spool bases or manufacturing facilities.	Deepwater projects currently underway but not installed delayed, postponed or cancelled. Fabrication, manufacturing, welding and loading of reeled products moved outside of the US.
Heavy Lift Construction Vessels	Heavy lift construction vessels unable to move while lifting US built topsides, modules, moorings and other equipment.	Due to operational and safety issues larger projects delayed, postponed and cancelled. Fabrication of platform topsides, modules, moorings and other subsea equipment moved outside of the US.

Source: Calash

In addition to the potential direct impacts based on the above vessel types, further impacts due to the proposed modifications and revocations are likely due to the increased operational complexity of projects, planning, engineering and procurement issues, as well as due to operators' strategies for developing projects under the proposed changes. (Table 2)

Table 2: Other Projected Impacts from Proposed Modifications and Revocations

Cause of Impact	Potential Impact of Proposed Modifications and Revocations	Potential Effect
Engineering, Operational and Safety Impact	The proposed revisions and revocations would likely lead to increase engineering and operational complexity as well as potentially unsafe operations if work was performed by a less robust vessel with a smaller safety factor.	Operators may delay, postpone, or cancel projects where increased costs effect project economics or engineering, operational, or safety concerns increase risks.
Engineering Procurement and Planning Issues	Currently underway projects are delayed or postponed due to the need to plan, engineer, and contract these projects due to the proposed revocations and revision.	Delay of current projects will delay later projects out due to limited operator engineering, project management, and procurement resources.
Increased costs and complexity of projects affect project feasibility and economics	Potential project may fail to meet IRR thresholds compared to competing projects (Both US and International) and inability to meet operator safety/risk thresholds.	Larger and more complex projects may be permanently cancelled reducing overall project activity
Potential increased costs and complexity of projects affect offshore exploration activity	Potential exploration targets may fail to meet IRR thresholds compared to competing exploration targets (Both US and International) and inability to meet operator safety/risk thresholds.	Reduced explorations, discoveries, and project development activity
Fabrication and manufacturing moved outside of the US	To avoid coastwise equipment transport regulations operators and contractors may relocate spool bases, umbilical manufacturing, fabrication and other facilities outside the US.	Reduced domestic US content, spending and employment.
Increased US shipbuilding and local installation content	Vessel owners may order and deploy additional US construction vessels where demand is consistent enough to justify these orders (likely MSV/DSV/ROV vessels)	Increased US shipbuilding and increased US installation spending and employment after vessels are constructed.

Source: Calash

After the potential impacts of the proposed changes and revocations as discussed in the above tables were considered, the effects on near term projects were considered. Upcoming near term projects were classified based on if the major installation activity had been completed, and if, not how, this activity may be affected. For projects not yet installed, depending on the size and complexity of the project an appropriate delay (generally one to three years) was applied to the projects' timing. For projects not yet sanctioned, potential delays were calculated along with an estimation of the likelihood that the project could be postponed or cancelled. For exploration activity as well as potential projects from new discoveries, a general factor based on potential complexity was applied to account for projected reductions in activity due to increased complexity, costs and risk. The potential delays and reductions in activity were applied to the base scenario forecast resulting in the creation of the "Proposed Modifications and Revocations Scenario" which attempts to provide a reasonable projection of oil and natural gas exploration and development activity in the Gulf of Mexico OCS if the proposed modifications and revocations were adopted as currently proposed. After the development of this scenario, the scenario's potential implications for oil and natural gas production, employment, GDP, and government revenues were then calculated.

Section 3 – Impact on Development

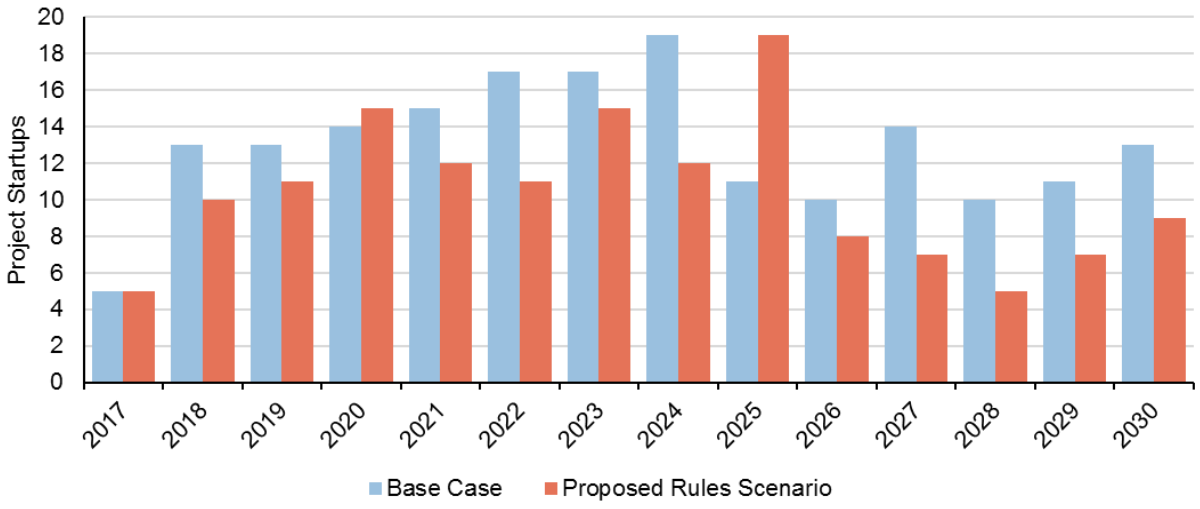
Natural gas and crude oil exploration and production activities in the U.S. OCS provide large contributions to employment, gross domestic product and state and federal government revenues. To quantify the effects of the proposed Jones Act modifications and revocations, the study forecasted activity levels for Gulf of Mexico OCS oil and natural gas activity with and without the proposed changes. The forecasted activity levels include the number of wells drilled, projects executed, total production, and spending. These activity forecasts drive the spending projections from which GDP, employment and government revenue effects are estimated.

3.1 Projects Executed

The development of an offshore oil and natural gas project is a complex process that requires a significant amount of time, planning and high levels of capital investment. Changes to project planning, engineering and contracting strategies typically lead to project delays as well as project cancellations due to changes in project economics and risk profiles. Project executions and their respective timelines are the best indicator of overall market health, as they can be viewed as representative of total trends in production, employment and revenue for the market.

Over the forecasted period of this study (2017-2030), the proposed modifications and revocations are projected to lead to a decline in the number of projects coming online in the range of twenty percent. A decrease in the number of projects coming online is projected as soon as 2018, and apart from one year (2025 as previously delayed projects begin production) this effect is projected to persist throughout the forecast period. (Figure 1)

Figure 1: Projected Gulf of Mexico OCS Project Startups 2017-2030 Base Case and Proposed Modifications and Revocations Scenario



Source: Calash

It should be noted that overall project numbers in both scenarios in the latter part of the forecast are lower than in the earlier part of the forecast due to a projected shift towards larger deepwater projects in the Gulf of Mexico. Larger deepwater projects are typically more complex and require more wells and a longer development period, in addition to requiring increased material resources and larger equipment such as platforms, production trees and pipelines. Smaller projects, on the other hand, often rely on larger projects for certain types of infrastructure such as pipelines or processing facilities. This leads to the spending, production and other effects on a per project basis to be highly variable.

3.2 Production

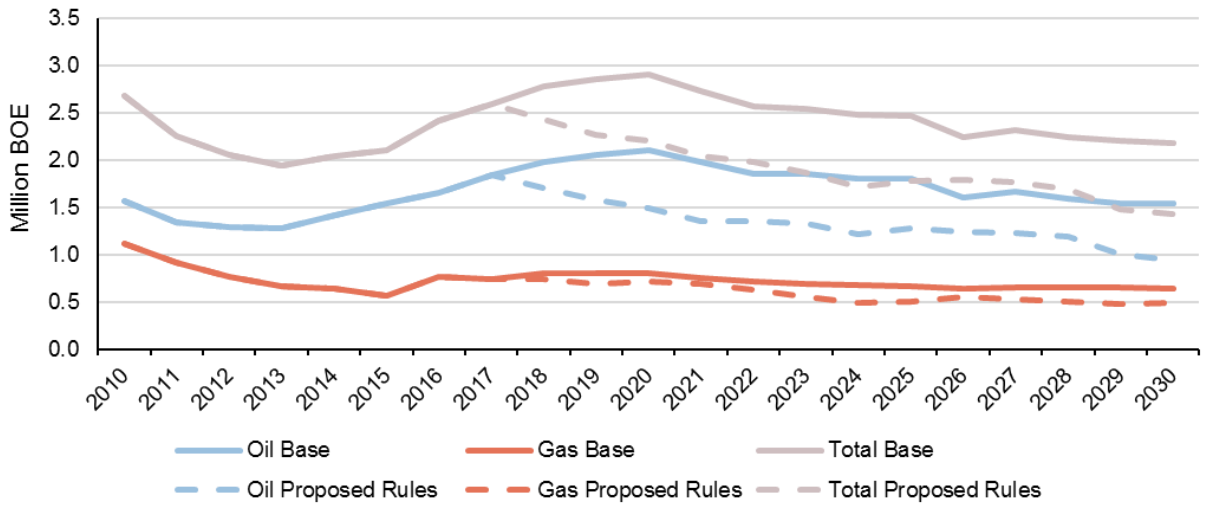
The number of projects developed, coupled with reservoir size, productivity and decline rates determines oil and natural gas production levels. Most oil and natural gas reservoirs contain a combination of oil, natural gas, water, and other substances. In order to forecast aggregate production, each project or potential project was modeled based on production curves for similar developments and reservoirs. The base case production curve for this report was modeled to be relatively in line with the projected offshore production forecast from the Energy Information Administration's "Annual Energy Outlook 2017".[5]

This study projects production in the Gulf of Mexico in the range of 2.6 million barrels of oil equivalent (BOE) per day in 2017, with production peaking in the range of 2.9 million BOE per day in 2020 in the base case before slowly declining throughout the forecast period.

[5] Annual Energy Outlook 2017, Energy Information Administration

Approximately 72 percent of production in 2020 is projected to be oil (2.1 million BOE per day), and approximately 28 percent of the production is projected to be natural gas (.8 million BOE per day). Under the proposed modifications and revocations, reductions in Gulf of Mexico production are projected to be in the range of 23 percent over the forecast period. (Figure 2)

Figure 2: Projected Gulf of Mexico Oil and Natural Gas Production Base and Proposed Modifications and Revocations Scenarios



Source: EIA, Calash

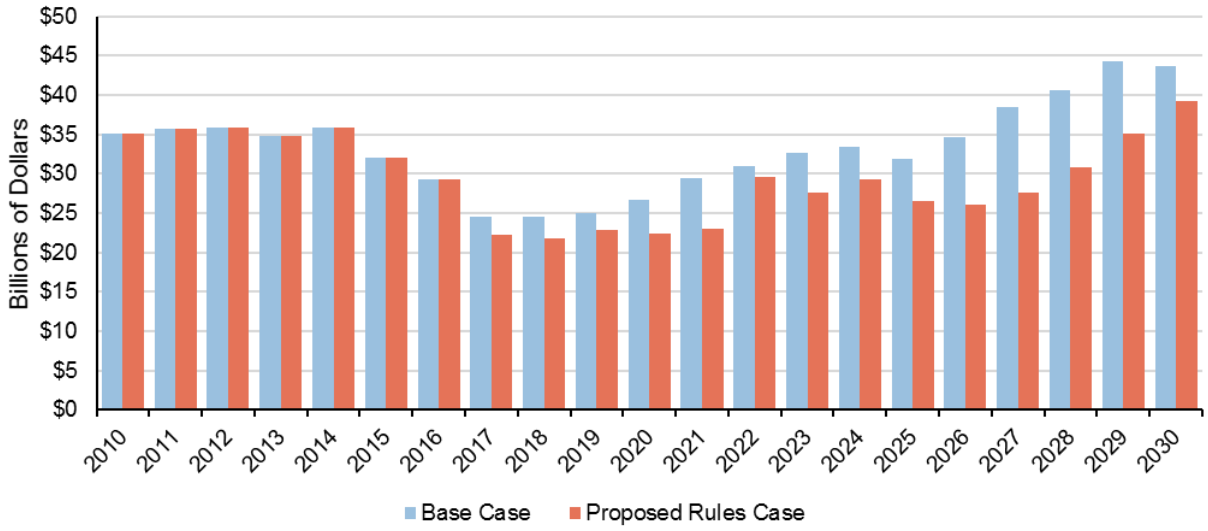
3.3 Spending

Offshore oil and natural gas exploration and development is a capital-intense process. Offshore projects require exploratory seismic surveys, drilling, production equipment, engineering, and operational expenditures to maintain production. In the base case, cumulative spending from offshore oil and natural gas development from 2017 to 2030 is projected to be in the range of $460 billion, compared to projected spending in the range of $385 billion in the proposed modifications and revocations case. This represents a decline across the period of 17 percent, or projected spending in the range of $27.5 billion per year compared to projected spending in the range of $33 billion a year in the base case.

For the purposes of this report, spending is divided into seven main categories: Drilling, Engineering, G&G, Installation, OPEX, Platforms, and Subsea Umbilicals, Risers and Flowlines (SURF). Each category encompasses a major type of exploration and production activity and has a significant influence on overall spending. Both development scenarios estimate total spending amounts that rise slightly through the end of the decade, decline briefly, then recover due to normal project development cycles. Under the base case, spending on offshore oil and natural

gas is projected to stay relatively flat through 2019 before beginning to recover relatively strongly throughout the forecast period with some fluctuations due to normal project cycles. (Figure 3)

Figure 3: Projected Total Offshore Oil and Natural Gas Spending Base and Proposed Modifications and Revocations Cases



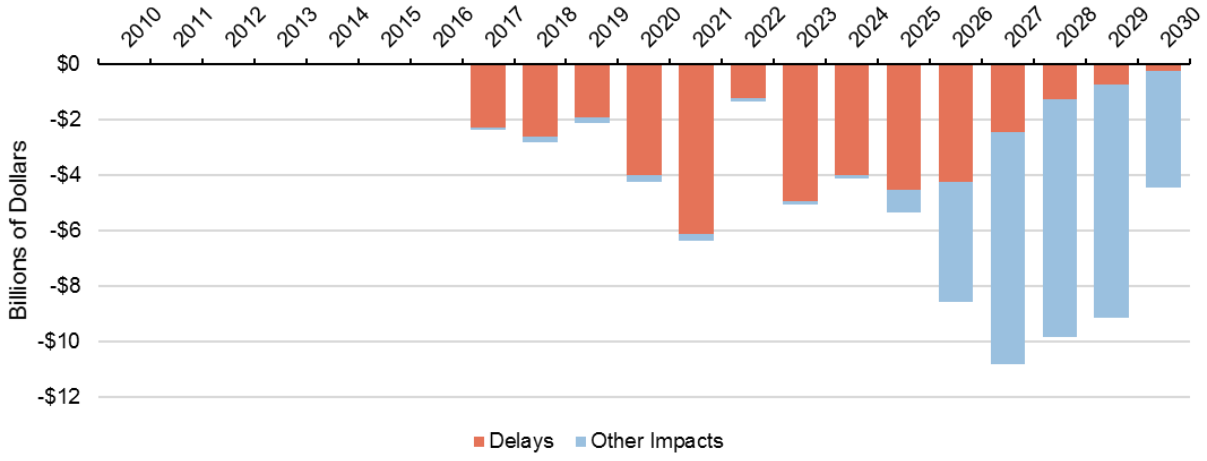
Source: Calash

In contrast, in the proposed modifications and revocations case spending is projected to drop below the base case this year (2017) as projects currently under development but not installed are delayed. Spending is projected to stay relatively flat through 2021 before beginning to recover. Spending is projected to remain below the base case spending levels throughout the forecast period, with spending trending towards the base case levels towards the end of the forecast as operators and contractors adapt to the changed operating environment resulting from the proposed modifications and revocations.

3.4 Lost Spending Analysis

Reduced spending because of the proposed modifications and revocations is projected due to project delays, as well as to reduced drilling and project activity due to failure to meet IRR thresholds compared to competing projects and exploration targets. Additionally, projects are projected to be delayed or canceled due to an inability of projects to meet operator safety/risk thresholds. According to this analysis 47 percent of lost spending across the forecast period is projected to be due to project delays, while 53 percent of lost spending is projected to be due to projects not executed or exploration wells not drilled. (Figure 4)

Figure 4: Lost Spending Analysis – Projected Reduced Spending by Cause



Source: Calash

Delays account for the vast majority of reduced spending in the early years of the forecast period. In 2026 they account for roughly half of reduced spending. After 2026, spending reduction due to project economics and risk profiles accounts for most reduced spending.

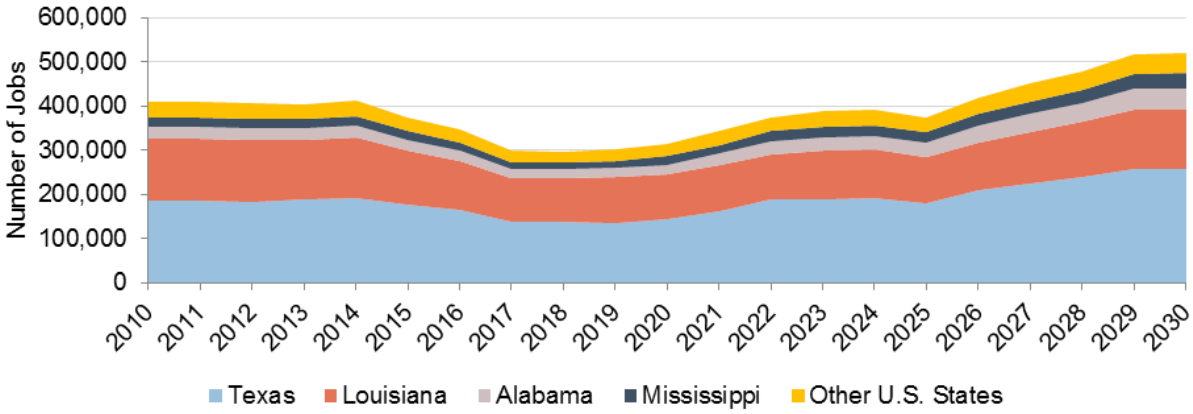
Section 4 – Macro-Economic Impact Conclusions

4.1 Employment

The offshore oil and natural gas industry has a long history of significant employment in the United States, particularly in the Gulf Coast states. Continued investment in offshore infrastructure led to a large U.S. based supply chain that has provided high wages to large numbers of workers. Despite the major downturn in the global oil and natural gas industry, Calash estimates that the offshore oil and natural gas industry is likely to support nearly 300 thousand U.S. jobs in 2017 in the base case (including indirect and induced employment)[6].

As the industry begins to recover, employment is projected to grow throughout the forecast, reaching total supported employment in the range of 520 thousand jobs in 2030 in the base case. In 2020, employment due to offshore oil and natural gas related activities is projected to be in the range of 260 thousand if the proposed modifications and revocations are adopted, compared to employment in the range of 310 thousand in the base case. (Figure 5)

Figure 5: Projected Employment by State - Base Scenario



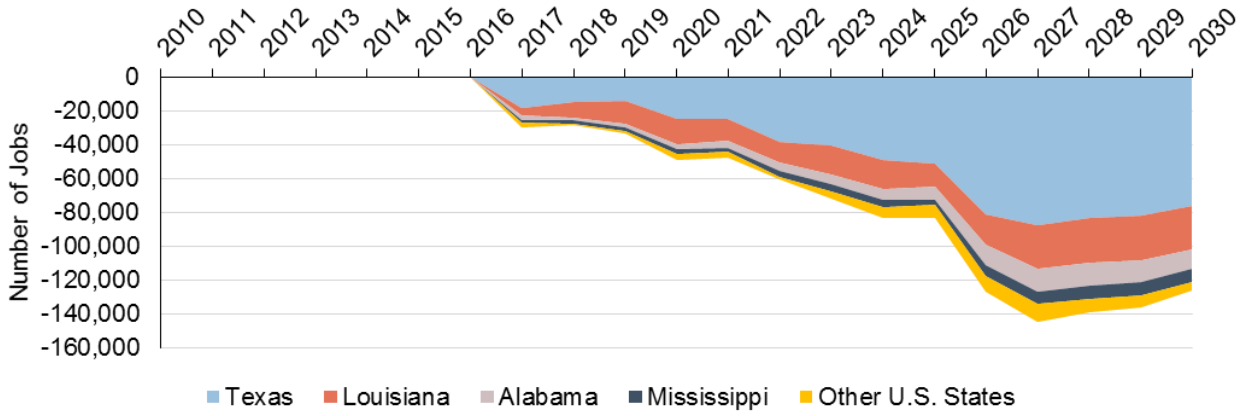
Source: Calash

In contrast, if the proposed modifications and revocations are adopted, average employment in 2017 is projected to drop to below 270 thousand jobs as projects are delayed and canceled due to the inability to execute them as they were planned, engineered and procured. By the end of the forecast period in 2030, employment due to offshore oil and natural gas activities is projected to be in the range of 390 thousand jobs due to reduced spending and the movement of spool bases, manufacturing of umbilicals and equipment and fabrication of some topsides

[6] Indirect jobs are those related to the oil and natural gas supply chain. Induced jobs are created from more income that is spent throughout the economy.

outside of the U.S. This decrease is net of increased employment in U.S. installation spending due to increased U.S. installation content. (Figure 6)

Figure 6: Projected Jobs by State – Proposed Modifications and Revocations Scenario

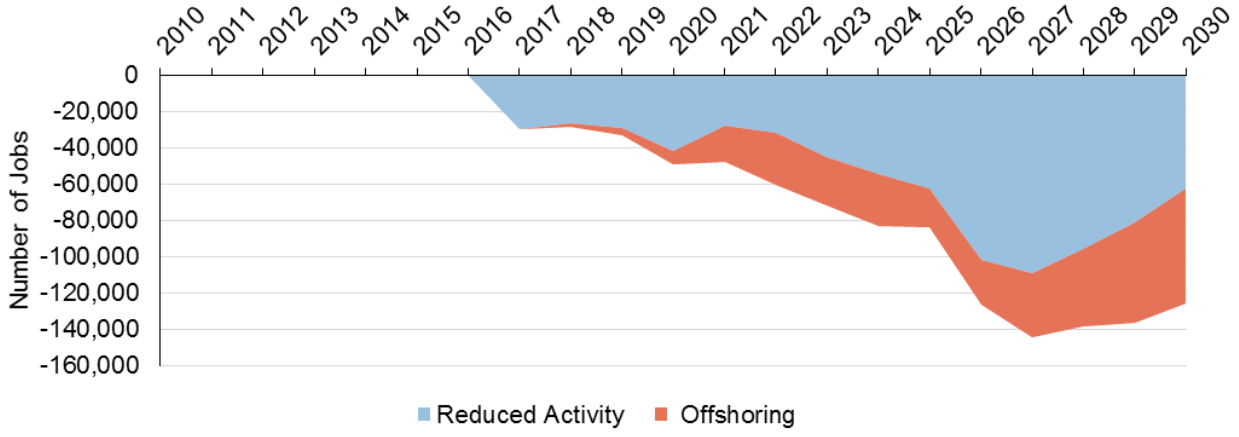


Source: Calash

4.2 Employment Impact Analysis

Decreased employment in the proposed modifications and revocations case is due both to decreased overall spending and activity levels as well as decreased U.S. content as certain activities, such as the reeling and welding of pipelines, manufacturing of umbilicals and fabrication of certain topsides and subsea equipment is moved to other countries. Although the exact strategies operators and contractors may employ to develop U.S. OCS projects if the proposed modifications and revocations are adopted will depend on a variety of factors, offshoring certain activities to countries such as Mexico (due to its proximity to U.S. Gulf of Mexico oil and natural gas activity), South Korea (due to its highly developed platform fabrication industry), or Brazil (due to its large capacity for manufacturing umbilicals and other subsea equipment) to enable projects to be economically developed may reduce overall U.S. content in U.S. OCS projects. This study projects that lost employment would average in the range of 82 thousand jobs over the forecast period, of which 69 percent on average is projected to be due to reduced spending (net of increased U.S. shipbuilding spending), while 31 percent on average is projected to be due to reduced U.S. content (net of increased U.S. installation content). (Figure 7)

Figure 7: Lost Employment Analysis – Projected Reduced Employment by Cause



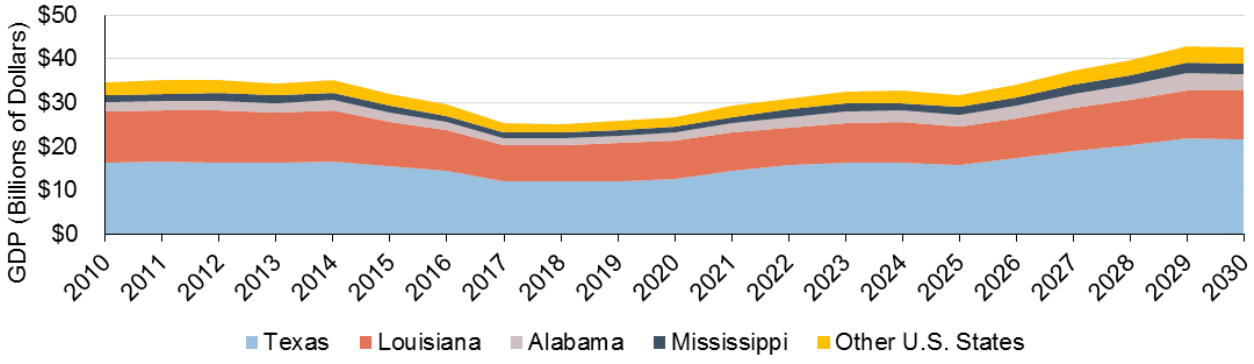
Source: Calash

4.3 GDP (Gross Domestic Product)

Potential gross domestic product (GDP) effects were calculated as a multiplier on spending within the U.S., further utilizing the BEA's RIM II model. The estimated effects of proposed modifications and revocations are therefore likely to be strongly correlated to any shifts within spending, with international spending excluded, and mirror the shifts of employment.

The GDP impact of the Gulf of Mexico offshore oil and natural gas industry in the U.S. in the base case in 2017 is projected to be around $25 billion, and is projected to continue to grow to around $42.5 billion by 2030. (Figure 8)

Figure 8: Projected GDP by State - Base Scenario

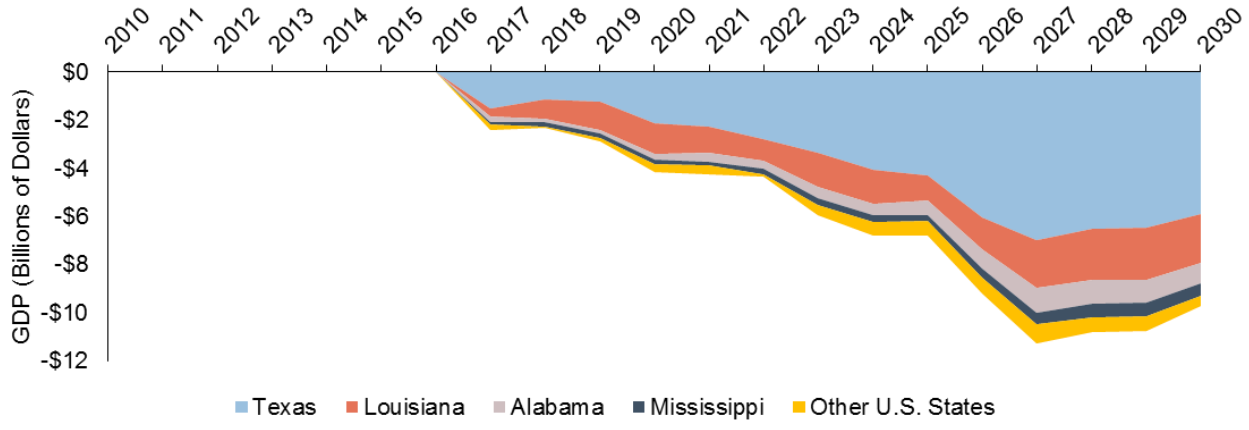


Source: Calash

The proposed modifications and revocations, if adopted as written, are projected to lower the GDP impact from Gulf of Mexico oil and natural gas activities by nearly $2.4 billion in 2017,

and around $7.7 billion in 2030. Cumulative lost GDP from 2017 to 2030 is projected to be around $90 billion. (Figure 9)

Figure 9: Projected Lost GDP by State – Proposed Modifications and Revocations Scenario

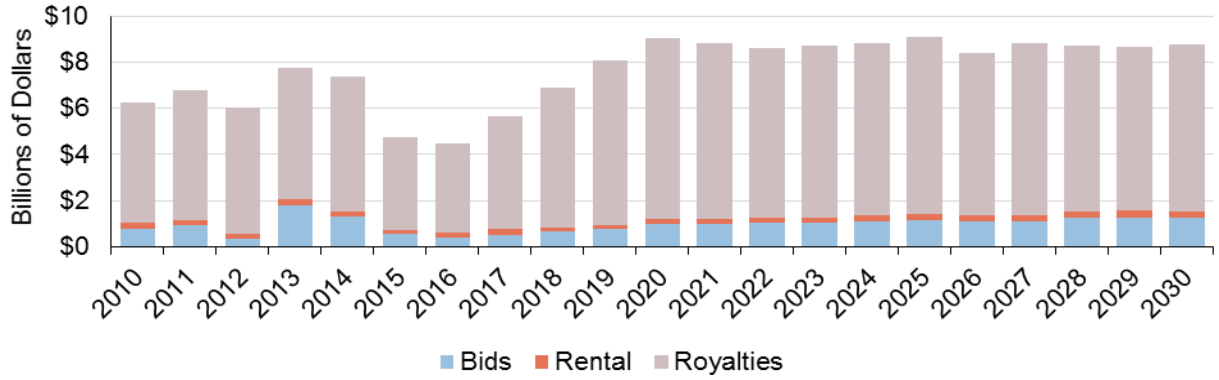


Source: Calash

4.4 Government Revenues

Government revenues due to Gulf of Mexico offshore oil and natural gas operations are currently collected through three main revenue streams: revenue from lease sales, lease rental rates, and production royalties. The distribution of these revenue streams is heavily skewed towards production royalties, which account for around 80 percent of revenues from offshore oil and natural gas activities. Total government revenues from Gulf of Mexico offshore oil and natural gas royalties have been between $4.5 and $7.5 billion in recent years, lease sale revenues have been between $300 million and $1.5 billion, lease rental revenues have been approximately $200 million per year, and production revenues have provided around $4 to $5 billion per year. (Figure 10)

Figure 10: Projected Governmental Revenues – Base Development Scenario

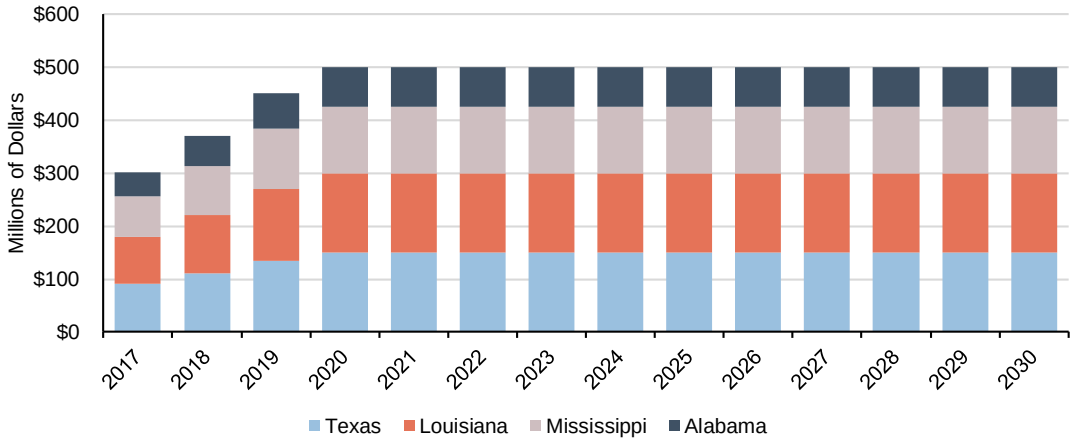


Source: Calash

Under the proposed modifications and revocations scenario, projected government revenues are projected to be around 23 percent lower, at $6.4 billion per year on average compared to $8.4 billion on average in the base case. Over the forecast period of 2017 to 2030, cumulative government revenues are projected to be around $90 billion in the proposed modifications and revocations scenario, compared to around $117 billion in the base case scenario.

State and Federal governments share in the revenue from Gulf of Mexico oil and natural gas development. Under the Gulf of Mexico Energy Security Act of 2006 (GOMESA) and implementing regulations, Gulf of Mexico offshore revenues are split between state and federal governments. The second phase of GOMESA will take effect in 2017, which includes a split of approximately 62.5% to 37.5% between state and federal governments with revenue capping provisions at $500 million for states. In the base scenario, combined state revenues are projected to reach this cap by 2020. (Figure 11)

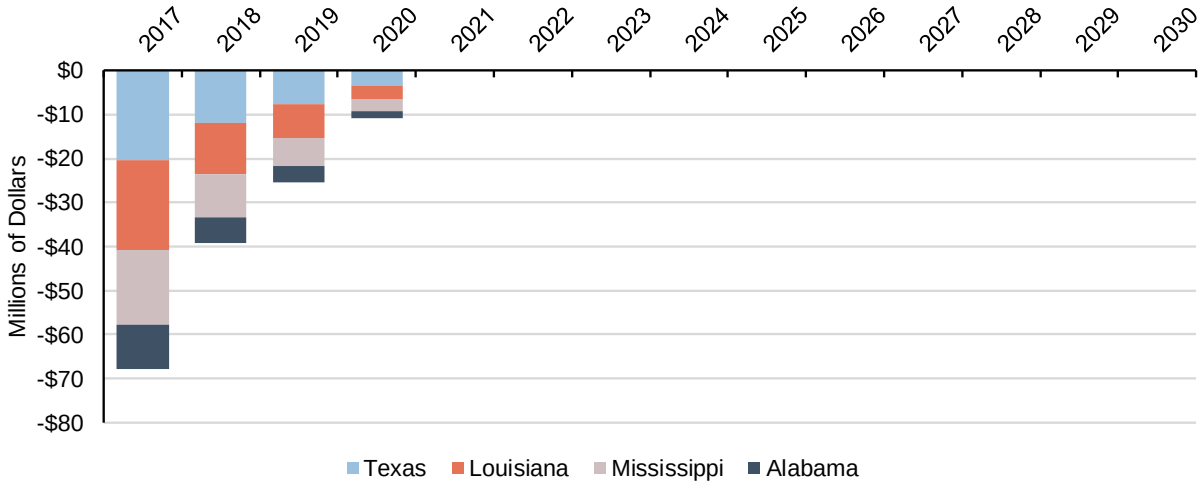
Figure 11: Projected State Revenues – Base Development Scenario



Source: Calash

In the proposed modifications and revocation scenario, state revenues are projected to reach the $500 million cap in 2021, with cumulative lost revenue to states of over $140 million. Under the proposed modifications and revocations scenario, both Texas and Louisiana are projected to lose a total of around $43 million in total revenue while Mississippi is projected to lose nearly $36 million in total revenue and Alabama is projected to lose around $21 million in total revenue.

Figure 12: Projected Lost Revenue by State – Proposed Modifications and Revocations Scenario



Source: Calash

After 2021, state revenues are projected to be $500 million per year in both scenarios due to revenue caps, however any changes to revenue sharing legislation which increases the share of potential state revenues would likely increase lost state revenues due to the proposed revocations and modifications.

Section 5 – Conclusions

The oil and natural gas industry in the Gulf of Mexico has provided longstanding contributions to the economies of the Gulf coast states and the broader U.S., supporting hundreds of thousands of American jobs, providing revenues to many levels of the U.S. government and contributing to domestic energy production. Despite currently depressed activity levels due to low oil prices, the region is currently producing near record levels of oil and natural gas. Assuming that oil prices begin to stabilize and increase, activity levels are also projected to increase leading to an upward trend in spending and employment.

While some of the proposed modifications and revocations to Jones Act rulings are projected to have minimal impacts on U.S. OCS activity, the study concludes that others will, in their current forms, seriously limit the ability of operators, installation contractors, and service providers to safely, effectively, and economically operate in U.S. offshore areas, as well as decrease the domestic U.S. content of equipment and services used in offshore oil and natural gas activities. This decrease in activity and U.S. content would further damage an important industry that is already dealing with the repercussions of a volatile and challenging commodity price environment and may seriously impact the overall U.S. economy.

After analyzing the operational and economic impacts of the proposed modifications and revocations, as currently proposed by Customs and Border Protection, this study has projected that the following effects may result from their implementation:

- Delays in projects currently under development but not installed due to an inability to utilize foreign flagged vessels.
- Decreased development activity due to increased costs and risk profiles of offshore oil and natural gas projects.
- Decreased U.S. domestic content due to offshoring of certain parts of the supply chain such as reeling of pipe, manufacturing of umbilicals and some subsea equipment and fabrication of topsides and modules.
- Between 2017 and 2030, decreased Gulf of Mexico offshore oil and natural gas spending in the range of $5.4 billion on average per year.
- An average reduction in oil and natural gas production in the range of 0.5 Million Barrels per day from 2017 to 2030.
- A loss of up to 30 thousand jobs in 2017 and average decreased employment of over 80 thousand jobs from 2017 to 2030.
- An average loss of more than $4.3 billion of GDP from 2017 to 2030.

- An average loss of more than $1.9 billion of government revenue per year from 2017 to 2030.
- The adoption of the proposed modifications and revocations to Jones Act rulings are projected to lead to reduced activity, spending, GDP, government revenue, domestic U.S. content, and employment that is due to the offshore oil and natural gas industry in the U.S.

Section 6 – Appendices

6.1 Extended Methodology Appendix

General Methodology

Calash's methodology focused on constructing a tiered "bottom-up" model that separated the complete life cycle of offshore operations and subsequent effects into four main categories – these categories are further developed into cases and presented as the base scenario and proposed modifications and revocations scenario within the paper. The four main categories are as follows;

- A "Proposed Modifications and Revocations" model that independently assesses the individual or combined effects of the proposed changes to Jones Act rulings affecting offshore oil and natural gas support activities
- An "Activity Forecast" model assessing Calash's projects and project modeling information under which the number of expected projects is developed
- A "Spending" model based on the requirements of developing projects within the "Activity Forecast"
- An "Economic" model focusing on the economic impact on employment and government revenue from the "Spending" model.

Three (Activity Forecast, Spending, and Economic models) of the four individual subsections were further split into five additional criteria that create an individual "Project" model. These categories include seismic, leasing activity, drilling, infrastructure & project development, and production & operation.

In order to estimate the economic effects and project activity losses through the "Project" model, additional analysis was undertaken to understand which projects would be disrupted due to delays and changes to project economics and risk profiles. This was presented through additional analysis of the Base Development scenario and is provided as the Proposed Modifications and Revocations scenario.

Project Development Methodology

In order to account for both currently active projects within the Gulf of Mexico and longer-term prospects that will be developed towards the end of the forecast period into the study's project development activity, Calash incorporated two models into the project development forecast. The near-term activity was developed on known projects or prospects currently under consideration for development, while a longer-term forecast was developed on top of the near-

term forecast through the analysis of reserves, oil prices, leasing trends, development trends, historic project sizes and other relevant factors.

Longer term projects were developed by applying historical and current trends within the region to future developments based on undiscovered oil and natural gas resources in order to apply the proper costs and timelines to the expected activity. Projects were still delineated by individual timelines and the development scenarios that may be expected of future activity within the region, but were calculated using assumptions on industry trends in production methods instead of on confirmed aspects of the specific projects.

With regards to the Proposed Modifications and Revocations scenario, projects were examined for potential hurdles that would be encountered under the proposed changes through several criteria identified from Calash's research. These were focused on how changes to the regulations affected specific vessels and how these changes would affect specific aspects of project development. These identified factors drove the forecasted possibility of delays or lost activity due to contracting and operational issues, project economics and changing risk profiles.

Project Spending Methodology

This spending analysis accounts for all capital investment and operational spending through the entire "life cycle" of operations. Every offshore oil or natural gas project must go through a series of steps in order to be developed. Initial expenditures necessary to identify targets and estimate the potential recoverable resources in place include seismic surveys (G&G) and the drilling and evaluation of exploration & appraisal (E&A) wells. For projects that are commercially viable, the full range of above-surface and below-water (subsea) equipment must be designed and purchased. Offshore equipment includes production platforms and on-site processing facilities, as well as below-water equipment generally referred to as SURF (Subsea, Umbilicals, Risers and Flowlines). Finally, the equipment must be installed and additional development wells must be drilled. Once under production, further operational expenditures (OPEX) are required to perform ongoing maintenance, production operations and other life extension activities as necessary for continued field production and optimization.

Spending for individual projects was subdivided into sixteen categories covering the complete life cycle of a single offshore project, as well as two additional groups for natural gas processing and operation. Timing and cost for individual categories were assigned based on the previously mentioned project types where prices are scaled according to the complexity and size of the project.

Additional spending due to increased vessel construction activity as a result of the proposed modifications and revocations was also included, based on a standalone analysis of likely new buildings of offshore construction vessels as a result of the proposed changes.

Upon compiling the scenario of overall spending estimates, Calash deconstructed the "local content" of oil and natural gas operations within the studied region. Individual tasks were analyzed on a component-by-component basis to provide an estimate of the percentage of regional, national, and international construction required by offshore operations. Additionally, delineations were made at the regional level in order to project spending for individual states. Considerations were based on current oil and natural gas development, the proximity to reserves and production, strategic locations such as shore bases and ports, as well as Bureau of Economic Analysis (BEA) data pertaining to each state's present economic distribution. For the Proposed Modifications and Revocations Scenario, these distributions were modified to account for likely changes to the offshore oil and natural gas supply chain as a result of the proposed changes including offshoring of work to other countries and increased U.S. domestic installation content.

Economic Methodology

The study's GDP and job data were calculated using the BEA's RIMs II Model providing an input-output multiplier on spending at the industry and state levels for each defined category. Model outputs considered from spending effects include number of jobs and GDP multiplier effects. Further delineation is presented in the form of direct and indirect and induced job numbers, which encompass the number of jobs relating to the spending in that category versus indirect and induced jobs that are created from pass-through spending. For states considered within the study that contained no RIMs II multipliers for specific sectors, state multipliers from economies that most closely paralleled those in question were replicated.

Rims Categories used:

- Architectural, Engineering, and Related Services
- Construction
- Drilling Oil and Gas Wells
- Fabricated Metal Product Manufacturing
- Mining and Oil and Gas Field Machinery Manufacturing
- Oil and Gas Extraction
- Steel Product Manufacturing from Purchased Steel
- Support Activities for Oil and Gas Operations

Governmental Revenue Development

Governmental revenue data is presented in three categories bonus bids from lease sales, rents from purchased but not yet developed leases, and royalty payments from producing leases. The projected revenue was calculated under the assumption that the current operating structure of the Gulf of Mexico would remain in place where applicable. Lease sales and rental rates were calculated through the simulation of yearly lease sales within each individual area, while the number of leases acquired was modeled on oil price forecasts, historical rates, and on the estimated amount of reserves in the western and central OCS regions.

The federal / state government revenue split of leases, rents and royalties were modeled under the application of GOMESA (Gulf of Mexico Energy Security Act). As Calash understands the rule and phase II beginning in 2017, GOMESA regulations would effectively split 37.5 percent of OCS bonus bid, rent, and royalty income between the appropriate states. GOMESA has an annual revenue cap of $500 million for the Gulf States.

Production pricing were calculated using the EIA estimates for both West Texas Intermediate (WTI) spot and Henry Hub natural gas prices[7]. Additional governmental revenues such as income and corporate taxes were considered outside of the scope of this study, and are likely to provide additional government revenues throughout the studied period.

6.2 Glossary of Terms

Coastwise vessel – A vessel permitted to engage in Jones Act protected domestic trade between two or more coastwise points in the United States. Coastwise vessels are required to be U.S. built, crewed by U.S. Citizen mariners, U.S. owned, and issued a Coastwise Endorsement by the Coast Guard on the vessel's Certificate of Documentation

Gross Domestic Product (GDP) – The total dollar value of all goods and services produced over a specific time period

Gulf of Mexico Energy Security Act (GOMESA) – Act signed into law in 2006 which enhances OCS oil and natural gas leasing activities and revenue sharing in the Gulf of Mexico (GOM)

Lease Sales – Periodic sales of leases by the federal government to offshore areas for the purpose of developing oil, natural gas, and sulfur

Mobile Offshore Drilling Rig – A mobile vessel typically either a drillship or semi-submersible used for drilling offshore oil and natural gas wells

[7] Annual Energy Outlook 2017, Energy Information Administration

Module – A part of a topside structure which can typically be lifted independently before being integrated into a topside

Outer Continental Shelf (OCS) – the submerged lands, subsoil, and seabed, lying between the seaward extent of the States' jurisdiction and the seaward extent of Federal jurisdiction

Pipeline – A conduit of steel or flexible pipes used to transport oil, natural gas, or other fluids between a well and a production platform or to shore

Reel – A vertical or horizontal cylinder used to transport and install pipelines, cables and umbilicals

Rents – Ongoing rental income paid by leaseholders to the federal government to maintain offshore oil and natural gas leases

Riser – A pipeline used to convey fluids between a subsea and a surface facility

Royalties – Ongoing payments to the federal government by leaseholders based on the value of produced oil and natural gas

Spool Base – A facility on the coast used to weld and reel steel pipelines onto offshore construction vessels

Subsea Equipment – Seabed placed equipment used in the production of oil and natural gas

Topsides – The upper part of a fixed or floating platform used to process oil, natural gas, water and other fluids, control production, and house workers

Umbilical – A collection of cables, tubes, and hoses used to control, monitor and provide communications, chemicals, hydraulic and electrical power to subsea oil and natural gas wells

Warm Stacked – A mobile drilling unit that has been taken out of service or put into storage with a reduction in usage of onboard systems and reduced manning to maintain the unit

Plug and Abandonment – The placement of cement plugs in a depleted well along with other steps required by law required to abandon and remediate a well

CONTACT

SEAN SHAFER
281-491-5900
s.shafer@calash.com

CAMERON LYNCH
212-392-4809
c.lynch@calash.com

www.calashamericas.com

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