Before
U.S. CUSTOMS AND BORDER PROTECTION
U.S. DEPARTMENT OF HOMELAND SECURITY
Washington, D.C.

In the Matter of

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

INTERNATIONAL CABLE PROTECTION COMMITTEE'S COMMENTS ON 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

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EXECUTIVE SUMMARY

The International Cable Protection Committee ("ICPC") represents the community of submarine cable owners and cable ship operators that have installed and maintain the submarine cable systems connecting the United States (US) to the world. The ICPC urges the Custom and Border Patrol ("CBP") to confirm the four ruling letters on cable operations cited in the captioned Notice.[1] These rulings have been relied upon and followed for decades. They are consistent with international custom and practice that has allowed the US and the world to enjoy at no cost to tax payers the international cable systems that make internet communications cheap, easy, and reliable worldwide.

The Notice on its face targets the off-shore industries that exploit natural resources on the US continental shelf. The two ruling letters attached to the Notice do not address activities performed by cable ships. Submarine cables are not even mentioned in the Notice. The only cable references are the four ruling letters cited as being under review by CBP for revocation or modification. These four ruling letters should be affirmed, or possibly modified, consistent with the separate and longstanding line of CBP rulings that cable installation and maintenance are not coastwise transport of goods or passengers.

A dispassionate review of the four ruling letters confirms that they are correct:

- The cable ship's equipment, consisting of cable, jointing kits, grapnels, linear cable engines, ploughs and other tools, are all installed and/or deployed from the cable ship directly on the seabed; they are necessary and appropriate for the cable ship's operation and sole function, the laying and repair of international cables. As such they fit directly within the 1938 definition of vessel equipment relied upon by CBP.

- The vessel equipment aboard and deployed from cable ships to lay and repair cables on the seabed existed well before 1938 and the modern versions of this vessel equipment reflects and parallels the evolution of submarine cables from telegraph cables to modern fiber optic and power cables.

- Objective review of the operation of a cable ship as it lays and repairs international cables confirms that that the laying of the cable on the seabed breaks the continuity of any cable laying voyage from a point in the United States and has little in common with a traditional voyage between two points in the United States involving the transportation of merchandise or passengers.

Revoking the four ruling letters will have a devastating policy impact:

- Cable ships laying international cables are not involved in exploitation of natural resources on the US continental shelf. Their focus instead is international fiber optic telecommunication or power cables between the United

[1] HQ 105644 (June 7, 1982); HQ 110402 (August 18, 1989); HQ 114305 (March 31, 1998); HQ 115333 (April 27, 2001).

States and other nations. While the Outer Shelf Continental Lands Act (OSCLA) may provide extended jurisdiction of the Jones Act to the legal US continental shelf for vessel activities associated with exploitation of natural resources, under applicable treaties and customary international law it provides no such extension to international telecommunications cables between nations. Recognizing the difference between international cables and cable ships on one hand and natural resource exploitation and associated vessels with natural resources on the other is critical. Unlike off-shore servicing vessels, cable ships are solely dedicated to laying and repairing international cables. These activities are intrinsically different. The CBP is urged to maintain the line of rulings that apply to the laying and repair of international cables regardless of whatever determination CBP may make with respect to the oil, gas, wind and other off-shore natural resource exploitation activities that take place on the US continental shelf. Melding the two wholly distinct activities and industries into a new or revised ruling set will generate confusion. In the case of submarine cables it will directly and negatively impact the critical international infrastructure and communication security of the United States. For these reason CBP should consider addressing submarine cables and cable ships in a separate administrative evaluation process.

- The submarine cable community has relied in good faith upon the long standing and well understood CBP rulings of the laying and repair of submarine cables to integrate the connection of the United States into the cable maintenance arrangements employed worldwide by the cable community to benefit all nations by protecting and securing this critical international infrastructure. Turning this system on its head by now requiring Jones Act coastwise cable ships-when none exist-to carry out laying and repair of international cables linking the United States to the rest of the world would be strikingly detrimental not only to the companies that have relied on them, but also to the international connectivity of the United States to its deployed military forces, diplomats, and the digital economy.

For these reasons, the four submarine cable ruling letters should not be revoked. They should instead be reaffirmed.

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Before U.S. Customs and Border Protection, Department of Homeland Security.

The International Cable Protection Committee ("ICPC") is the principal professional body of the submarine cable community. ICPC membership, presently 159 members from over 60 countries, includes representation from about 98% of the owners of various international submarine cable systems worldwide and almost all of the cable ships that maintain them. The United States is the most represented country at the ICPC with 23 members, including the US Navy and some of the largest telecommunication providers and suppliers in the US. A significant number of submarine power cable system owners are included in addition to fiber optic cable systems. Since 2010, membership has been open to national governments. The ICPC makes "Recommendations" available to the public regarding methods of protecting submarine cables. The ICPC works with national governments, organizations, regional cable protection groups, and other seabed users on a partnership basis to promote submarine cable security.[2]

These ICPC comments are respectfully submitted in response 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 dated January 10, 2017, promulgated by the United States Customs and Border Protection ("CBP") (hereinafter the "Notice").[3]

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[2] A list of ICPC members is attached as Exhibit A. Additional information on the ICPC and its "Recommendations" are available at www.iscpc.org.

[3] The ICPC also fully endorses the comments submitted by the North American Submarine Cable Association.

I. ESSENTIAL BACKGROUND FOR CBP POLICY MAKERS

A. Submarine cables are critical international infrastructure.

Each day the Society for Worldwide Interbank Financial Telecommunications (SWIFT) transmits 15 million messages over cables to over 8,300 banking organizations, securities institutions and corporate customers in 208 countries. The Continuous Linked Settlement (CLS) Bank located in the United Kingdom is just one of the critical market infrastructures that rely on SWIFT as it provides global settlement of 17 currencies with an average daily US dollar equivalent of approximately USD3.9 trillion. The U.S. Clearing House Interbank Payment System (CHIPS) is another structure that processes over USD1 trillion a day to over 22 countries for investment companies, securities and commodities exchange organizations, banks and other financial institutions.[4]

If, hypothetically, the approximately 50 or so garden-hose size cables connecting the United States to the rest of the world were cut, even using every single satellite in the sky, it is estimated that less than 7% of the total United States traffic volume could be carried by satellite.[5] Referring to the submarine cable networks, the Staff Director for Management of the Federal Reserve observed "when the communication networks go down, the financial sector does not grind to a halt, it snaps to a halt."[6] The same can be said for most industries enmeshed in the global economy through the internet including shipping companies, airlines, banks, supply chain, manufacturing businesses, and entertainment. This underscores the fact that if something were to happen to cause the loss of submarine cables, there is no "Plan B" available to replace the

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[4] Malphrus, S., "Undersea Cables and International Telecommunications Resiliency," 34th Annual Law of the Sea Conference, Center for Ocean Law and Policy, University of Virginia, 20 May 2010.

[5] The testimony of D. Burnett before the Senate Foreign Relations Committee on the United Nations Law of the Sea Convention, 4 October 2007.

[6] Malphrus, S., Board of Governors of the Federal Reserve System, First Worldwide Cyber Security Summit, East-West Institute, Dallas, Texas, 3-5 May 2010.

international capacity they carry. That said, it is important to understand that the US has a robust and resilient restoration capacity using all of its cables to back up each other, but this robustness and resiliency critically depends upon having prompt access to cable ships to repair and maintain cables.

The United States' dependence on reliable low cost and secure submarine cables continues to grow. "Every *second* they can carry 31 terabits across the Pacific and 55 terabits across the Atlantic."[7] A look at the websites of major companies like Google, Microsoft, Facebook and Amazon shows the diverse locations of the legions of computer servers in each company's data centers which are distributed worldwide and on every continent except Africa. These *cloud* data centers are seamlessly connected by international submarine fiber-optic cables. So critical to their business success are submarine cables that these companies have all become cable owners in addition to leasing capacity on other cable systems. It is not an exaggeration to say that the *cloud* would not exist but for cables under the sea.

Applications such as Skype, Facetime, Netflix, Twitter, Facebook, and YouTube remind us all in a personal way that our lives are directly affected by submarine cables. The US government, prominently including the Departments of Defense and State, relies on submarine cables for their international operations and activities. Submarine cables are critical international infrastructure and radical regulatory changes that impact how they are laid and repaired deserve the highest level of consideration and scrutiny.

There is no single global submarine cable network any more than there is a single world airline network. There are about 241 separate cable systems in service with a total 1,046,138 km of cable in the sea. The cable systems are generally owned by consortia of 4 to 30 private

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[7] "The see-through sea," *The Economist,* July 16, 2016, at p. 16.

companies or in some cases by a single company. Unlike ships, submarine cable systems are not "flagged to any nation."

Cable repair is normally considered an urgent emergency operation not only to restore service, but because each cable acts as the back-up for other cable systems.

B. Cable ships are built single purpose solely for cable laying and repair.

Cable ships are expensive, custom built ships that require specialized cable handling equipment and crews. At present, and since the Second World War, there are and have been no US built commercial cable ships that could qualify as coastwise vessels under the Jones Act. Cable ships do not carry passengers or merchandise for hire. The crew and technicians aboard a cable ship are there only to carry out cable laying and repair. Exhibit B contains helpful descriptions of the unique construction and shipboard equipment that underscore the special purpose nature of a ship whose only function is cable laying and repair.[8]

Ships that lay submarine cables are not pipe laying vessels and do not lay pipes. This distinction is important for Jones Act considerations because pipes are laid by pipe laying vessels either in drilled holes in the seabed and/or connecting directly to off-shore oil and gas structures or artificial islands. In all cases, the pipes exist for the primary purpose of exploiting natural resources on the US continental shelf. These pipelines are not connected internationally, but are limited to these connections in the United States for its development of oil and gas natural resources located on the US continental shelf. A pipe laying vessel is very distinct from a cable laying vessel for international cable installation and repair, and the two types should not be confused.

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[8] Burnett, Beckman, Davenport, *Submarine Cables, The Handbook of Law and Policy,* Martinus Nijhoff Publishers (2014), excerpts from chapters 5 [The Manufacture and Laying of Submarine Cables], pp. 129-132 and 6 [Submarine Cable Repair and Maintenance], pp. 161-169. (Exhibit B)

There are about 59 modern oceangoing cable ships in the world; they fly diverse flags, the majority of which are flags of NATO allies or nations with which the United States has significant mutual defense and security agreements (*i.e.* United Kingdom, United States,[9] France, Marshal Islands, Spain, Italy, Norway, Japan, Korea, and Singapore). About 21 of these cable ships are on stand-by pursuant to maintenance agreements and the rest are laying new cables or performing other tasks (training, maintenance, etc.).

Submarine cables are laid and repaired by private contract-not by government mandate. Worldwide cable repair is organized by regional agreements consisting of six zone agreements and four private agreements.[10] Each agreement is a contract between cable owners on the one hand and cable ship operators on the other that require cable ships to be stationed at strategic base ports, contractually obligated to sail within 24 hour of notification of a submarine cable fault. In some respects, a cable ship in these agreements is analogous to a fire engine on standby waiting for an alarm to trigger its emergency response to a fire. By pooling together in regional agreements, cable owners are able to efficiently provide the necessary number of cable ships to collectively protect their various systems. These agreements are shown schematically in Exhibit C.

Submarine telecommunication cables landing in the United States are generally repaired in US waters by cable ships under the Atlantic Cable Maintenance Agreement ("ACMA")-three cable ships[11] under contract, the North American Zone ("NAZ")-one cable ship[12] under contract,

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[9] The single commercial US flag cable ship is not a coastwise qualified vessel because it was not built in the United States.

[10] Schematic maps of the zone maintenance agreements and the private maintenance agreements are attached as Exhibit C.

[11] ACMA serves 30 cable owners with three cable ships based in Curacão (Caribbean Netherlands), Portland (United Kingdom) and Brest (France).

[12] NAZ serves 21 cable owners with one cable ship based in Victoria (Canada).

and the Atlantic Cable Maintenance Agreement ("ACMA")—three cable ships[13] under contract. Cable ships are selected based on competitive bidding by each agreement for a five- to eight-year performance term. The geographic coverage of these agreements and base ports of the ships under contract are depicted in Exhibit C.

For purposes of this Notice, the salient point is that a fault in a submarine cable anywhere along its length disrupts the communication between and among all landing points on that submarine cable. So a fault on a transatlantic cable off of New Jersey or a transpacific cable off of California has the same impact as a fault off of France or Japan or on the high seas. Any of these faults disrupt the international communications on the damaged cable and must be immediately repaired.

This point is driven home by reviewing the graphs that show worldwide repairs to international submarine telecom cables 2008-2015 contained in Exhibit D. During this period, the United States in its waters experienced on average about 4+ faults per year. Of these faults, about 25 % were in the US twelve nautical miles territorial seas and the balance in the US Exclusive Economic Zone (EEZ). But US communications is also impacted by faults in other nations. So, many of the about 14 faults per year on average for cables landing in the United Kingdom or the about 6 faults per year on average for cables landing in Japan would involve cables physically landing in the United States. There is no realistic way that US Jones Act qualified vessels, even assuming any existed, could provide worldwide security for vital US submarine critical international infrastructure.

For this reason, submarine cable security depends upon worldwide arrangement of cable maintenance agreements that provide cable ships immediately ready to respond. If every nation

[13] APMA serves 28 cable owners with three cable ships based in Calais (France), Cape Verde, and Curacão (Caribbean Netherlands).

were to limit repairs in national waters to only a cable ship built and registered in that country and crewed only by its nationals, it would be impossible to efficiently and economically protect the world's critical international submarine cable infrastructure in general and that of the United States in particular.

C. Jurisdiction considerations for oil and gas do not apply to cables.

The Notice deals primarily with rulings related to vessels used in the exploration and exploitation of natural resources related to off-shore construction and maintenance of domestic oil and gas platforms and renewable energy structures associated with off-shore wind.

The Jones Act applies for the transportation of merchandise or passengers between two points in the United States three nautical mile territorial sea, but it has been expanded to include points on the US continental Shelf by the Outer Continental Shelf Lands Act ("OCSLA"). There is no question that OSCLA covers the application of structures and artificial islands used to explore or exploit natural resources on the US continental shelf. But this jurisdiction does not extend to international submarine cables outside US territorial seas.

A recent example makes this point with respect to an attempt by the U.S. Army Corps of Engineers ("USACE") to regulate the laying of an international submarine cable outside of the US territorial sea but within the Exclusive Economic Zone of the United States. Following a diplomatic protest by France, the USACE withdrew its objection to the laying without a permit of the "AMX-1," international submarine cable 135 nautical miles off the coast of Puerto Rico in the United States EEZ. ("*I have been asked to advise you that a decision has been reached concerning the US Army Corps of Engineering regulatory responsibility over cable laying activities on the seabed, specifically with the Exclusive economic Zone (EEZ) under the Outer Continental Shelf Act (43 U.S.C. 1333(e)). We have concluded that we will limit our regulatory authority up to but not exceeding 12 nautical miles seaward*" and "*If a similar factual situation*

develops . . . within the jurisdiction of other Corps districts and divisions, I would expect a similar outcome."), email dated 24 October 2013 from Mr. Noel Méndez (USACE), Assistant District Counsel of USACE, confirmed by email dated 2 March 2015 from Mr. Lance Wood (USACE), Assistant Chief Counsel, Environmental Law and Regulatory Programs of USACE[14] This admission underscores the fact that USACE, unlike with off-shore structures or islands, recognizes that it has no jurisdiction over international cables outside of territorial seas. By the same token, CBP lacks jurisdiction to act on regulation of cable ships laying or repairing international submarine cables.

The point to be made is that the current treatment of submarine cable as vessel equipment is consistent with the fact that CBP, similar to USACE, has no jurisdiction over cable laying or repair by cable ships of international cables on the continental shelf.

The basis for the difference in treatment between laying pipes and laying cables has been codified under two treaties to which the United States is a party[15] and one which the US has taken the position that it is customary international law to which it adheres.[16] In recognition of the interdependence of sovereign nations and the mutual desire not to restrict cables that foster vital international trade links, these treaties underscore that a coastal State, unlike in the case of a pipeline, may not delineate the route of an international submarine cable or impede the freedom to lay and maintain or repair such cables. Underlying this rationale is the international nature of

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[14] Correspondence is attached as Exhibit E.

[15] The Convention for the Protection of Submarine Telegraph Cables, 14 March 1884, TS 380 (Entered into force 1 May 1888);1958 Convention on the High Seas, 29 April 1958, 450 U.N.T.S. 13 (Entered into force 30 September 1962) and 1958 Convention on the Continental Shelf, 29 April 1958, 499 U.N.T.S. 311 (Entered into Force 10 June 1964).

[16] 1982 United Nations Convention on the Law of the Sea, 10 December 1982, 1833 U.N.T.S 3 (Entered into force 16 November 1994) ("UNCLOS"). Although UNCLOS has not been ratified by the Senate, the United States, a signatory, has long taken the position that UNCLOS reflects customary international law to which the United States adheres. *See* Pres. Ronald Regan, *Statement on United States Ocean Policy,* 19 Weekly Comp. Pres. Doc. 383 (March 10, 1983).

submarine cables linking different nations for communications and power and the facts that cable breaks cause no pollution of the marine environment and that the exploitation of natural resources on the continental shelf is a sovereign right of each coastal State.[17] While CBP may consider coastwise vessel restrictions involved in natural resource exploitation on the US continental shelf based on OSCLA, it lacks a sound legal basis to do so for cable ships employed to lay and maintain international submarine cables on the same seabed.

If CBP were to abandon precedent that has been so relied upon by companies engaged in laying and repairing submarine cables, it would not only disrupt US communication reliability and resilience, but potentially trigger a tidal wave of similar "copycat" actions or other unintended consequences by other coastal nations that would erode worldwide communication security. This result is avoided by simply confirming the four letter rulings cited that deal with submarine cables. As demonstrated below, the CBP rulings as they pertain to cable ships are correct and consistent.

II. SCOPE OF PROPOSED MODIFICATION

A. The Notice focuses on the oil and gas industry.

A review of the Notice and the rulings cited therein reveals a clear focus on the oil and gas activities carried out by vessels on the continental shelf. The Notice's two rulings included in Attachments A and B both deal with vessels involved in pipe laying and construction activities necessary to build off-shore oil and gas facilities on the US Continental shelf. Of the twenty-five CBP rulings listed explicitly for revocation or modification, only four deal with cable ships. As described above, there are major functional and jurisdictional differences between pipe laying and construction related to rigs for exploitation of natural resources on the US continental shelf

[17] Burnett, Beckman, Davenport, *Submarine Cables, The Handbook of Law and Policy,* Martinus Nijhoff Publishers (2014), chapter 3 [International Law on Submarine Cables].

and the laying and repair of international cables. It is respectfully urged that CBP recognize these significant differences when considering the major changes proposed in the Notice to the extent they may impact cable ships involved in cable laying and repair.

B. The Notice could have unintended consequences on cables.

The Notice proposes to revoke or modify two distinct lines of rulings: First, "rulings that, based on the facts provided, cite HQ 101925 (T.D. 78–387) as authority and are less consistent with proposed ruling HQ H082215," including but not limited to HQ 108223 (Mar. 13, 1986), HQ 108442 (Aug. 13, 1986), HQ 113838 (Feb. 25, 1997), HQ 115185 (Nov. 20, 2000), HQ 115218 (Nov. 30, 2000), HQ 115311 (May 10, 2001), HQ 115522 (Dec. 3, 2001), and HQ 115771 (Aug. 19, 2002); second, rulings that are "less consistent with the more narrow meaning of 'vessel equipment' contemplated by T.D. 49815(4)," including but not limited to HQ 105644 (June 7, 1982), HQ 110402 (Aug. 18, 1989), HQ 111889 (Feb. 11, 1992), HQ 112218 (July 22, 1992), HQ 113841 (Feb. 28, 1997), HQ 114305 (Mar. 31, 1998), HQ 114435 (Aug. 6, 1998), HQ 115333 (Apr. 27, 2001), HQ 115487 (Nov. 20, 2001), HQ 115938 (Apr. 1, 2003) and HQ H004242 (Dec. 22, 2006), HQ 111892 (Sept. 16, 1991), HQ 115381 (June 15, 2001), HQ 116078 (Feb. 11, 2004), HQ H029417 (June 5, 2008), HQ H032757 (July 28, 2008).

The Notice specifies that "CBP also intends to revoke and/or modify all other previously issued ruling letters with findings that are inconsistent with this notice." The scope of the proposed modification is thus extremely broad. Despite the clear focus on the oil and gas industry, the submarine cable community is also affected. Of concern is the absence of express recognition of the particular status and distinctive difference of cable repair and cable laying operation in the Notice. For the sake of legal certainty, CBP should specify that such operations do not constitute transportation of merchandise within the meaning of 46 USC 55102. As consistently held in customs rulings, a coastwise-qualified vessel is required only to transport or

recover old cables between US points, but not to lay new cables on the seabed or repair existing cables. This long line of CPB rulings from at least 1988 to the present has led to a consistent business practice and reliance that is the bedrock of modern submarine cable laying and repair worldwide and that has underpinned the economic success of the United States for decades.

C. Cable repair operations should remain exempt.

The first line of rulings that CBP proposes to revoke involves a very specific type of transactions: the conduct of repair operations on offshore oil and gas platforms. So far, CBP has held that pipe repair materials do not constitute merchandise within the meaning of 46 USC 55102 "provided that such materials are of *de minimis* value or necessary to accomplish unforeseen repairs or adjustments and are usually carried aboard the work barge as supplies."[18] However, CBP now considers expanding the definition of merchandise in two ways. First, CBP proposes to abandon the condition of value because "[t]he 1988 amendment included valueless material in its definition of merchandise." Second, CBP proposes to abandon the condition of foreseeability because "[t]he statute does not condition the transportation of merchandise upon whether the merchandise is a 'preventative substance' or whether the merchandise being installed is an 'intrinsically foreseeable' operation." [19] Although CBP questions the present elements of the definition of "merchandise," CBP does not provide any alternative definition. The Notice thus conflicts with the self-recognized "interest of CBP to issue rulings that will provide guidance not only to the ruling requesters regarding their specific transactions, but to the individuals in the field that have to enforce these rulings."

In particular, the cable community is left without guidance as to the classification of cable repair operations under the newly proposed case-law. Importantly, *none* of the rulings

[18] HQ CBP 101925 (October 7, 1976).

[19] HQ CBP 082215 (proposed).

cited in the first part of the Notice involves submarine cables. This suggests that cable repair operations are unaffected by the proposed modification of the definition of merchandise. CBP held as early as 1979 that "[a] foreign vessel which transports cable to be used by the vessel to repair or replace existing cable is not engaged in the coastwise trade of the United States for the purposes of section 883." [20] Admittedly, this ruling was issued before the adoption of the 1988 amendment that included "valueless material" into the definition of merchandise. However, cable repair kits and cable spares, while consumable items aboard the ship expended in a repair, have always had value. Unlike pipe repair materials, cable repair kits known as Universal Joint Kits ("UJ Kits") are also made to a universal standards used by all cable ships worldwide to match spare cable carried aboard the ship to exactly the type of the damaged section that needs to be replaced. They are considered routine ship stores or equipment like grapnels, splicing machines[21] or linear cable engines and other specialized cable laying and repair equipment. In that sense, conceptually, they are no different from other shipboard spares, tackle, a marlinspike,[22] or bunkers. Cable repair kits and spare cable may satisfy the conditions of value and foreseeability, but CBP has always distinguished them from merchandise bought and sold, presumably because of their unique consumable use on a cable ship incident to the deposit of the cable on the seabed. Splicing wire rope for repair with a marlinspike aboard ship is functionally the same as splicing cable on a cable ship with the UJ Kits and tools on the specialized ship. Both repairs take place aboard the ship and involve ship tools and spares. The proposed ruling change would thus most likely not have any impact on this legal qualification; CBP, to avoid confusion, should confirm this point.

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[20] HQ CBP 103651 (January 30, 1979).

[21] *See* Exhibit B (Images 6.4, 6.9, and 6.10-photographs of grapnel and splicing used in cable laying and repair).

[22] "A multipurpose pointed steel tool used to splice strands of wire rope when splicing." COMDTINST. M16500.21A. March 2016 (U.S. Coast Guard *Aids to Navigation Manuel-Seamanship).*

Any different interpretation could have dangerous, unintended consequences. Characterizing cable repair kits, spare cable, tools, and other cable equipment as merchandise would greatly impede the conduct of cable repair operations in US territorial waters. This new legal qualification would make the repair of any cable break in US territorial waters dependent upon the availability of a coastwise-qualified cable ship. As explained in section I.B of these comments, no such commercial cable ship exists today, and none has existed for over 50 years. Multiple cable ships would be necessary to ensure the speed of repairs and the continuity of US telecommunications in the Atlantic and Pacific Oceans. Clearly, the rare cases of cable faults in US territorial waters would not justify the investment.

In contrast, the use of coastwise-qualified vessels to repair oil and gas platforms is perhaps more justified in terms of numbers, continuous shuttle activities from shore to rigs, and the sovereign natural resource focus of this activity entirely on the continental shelf. In the majority of cases, pipe repair materials are installed at coastwise points, sunk into the seabed for drilling and natural resource recovery or transportation of oil and gas between facilities and offshore platforms built on the US continental shelf by virtue of the Outer Continental Shelf Lands Act. CBP rightly emphasizes that "[a] coastwise point embodies the entire [offshore oil and gas] structure, not just part of it." In contrast, a cable installed outside US territorial waters cannot be considered a coastwise point. If anything, the laying of the cable on the seabed is a break in the continuity of the voyage.

Therefore, the ICPC calls on CBP to clarify the new definition of merchandise, and to exclude cable repair kits, spare cables, appurtenances like grapnels and tools deployed from the cable ship and cable that is laid or used to replace damaged cable sections within or without US territorial waters.

D. Cable laying operations should remain exempt.

The second line of rulings that CBP considers revoking or modifying involves much more diverse situations. What connects them all is that they cite Treasury Decision 49815(4) to define vessel equipment. CBP now proposes to revoke these rulings on the ground that they have expanded the scope of the definition beyond its original meaning, as formulated in 1938:

> 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.[23]

CBP deplores that numerous of its rulings are "less consistent with the more narrow meaning of 'vessel equipment' contemplated by T.D. 49815(4)." This does not make any sense when applied to cable laying and repair. The terms "consumable supplies" and "appurtenances" include cable, UJ Kits, grapnels and tools deployed from the cable ship to lay and repair cables. Strikingly, the definition formulated in 1938 is clearly outdated as highlighted by references in the document to the use of coal and sails for vessel propulsion and the use of china in the style of pre-World War II custom and practice for onboard dining by ship's officers and crew. Many of the articles cited are no longer normally used by modern vessels. Moreover, the expressions "includes" and "for instance" affirm that the list is non-exhaustive. The drafters of T.D. 49815(4) did not intend to restrict the definition of equipment to these exact terms-frozen in time in a 1930's context. And while before World War II off-shore oil and gas platforms were largely unknown, international submarine telegraph cables connecting the United States to the rest of the world were being routinely laid and repaired as they had continuously been since 1866.[24] Thus

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[23] Treasury Decision 49815(4).

[24] In 1866, the vessel *Great Eastern* successfully installed a new transatlantic telegraph cable across the Atlantic.

cable ships and the vessel equipment used to lay and repair cables were already in existence when the 1938 definition was established and are already exempted by its terms. Alternatively, the CBP is urged to actualize the definition of vessel equipment for current times. Such an approach would allow vessel equipment that has evolved from the bygone submarine telegraph era (1850-1950) to the modern equipment and tools used to lay and repair modern international fiber optic and HVDC power cables.

The Notice does not only fail to justify the abandonment of the current practical definition of equipment, but it also fails to provide an alternative definition. The resulting legal uncertainty is particularly alarming for the cable community. Indeed, four of the rulings that CBP proposes to revoke deal directly with submarine cables. Each of them recognizes the separate treatment of cable laying operations under the Jones Act. This principle is at the very origin of the expansion of US fiber optic connectivity since the first submarine fiber optic cable was laid in in the ocean in 1986.

Telecommunications, internet, and power companies have relied on the Jones Act exemption to fund and plan numerous cable projects. Abandoning this principle could have repercussions on the entire US economy. CBP cannot take such a grave decision without considering all the issues at stake. An analysis of the four customs rulings on cables cited in the Notice shows that the underlying reasoning remains fully applicable and consistent with both the historic and evolving definitions of vessel equipment.

E. The four rulings on cable cited in the Notice should be confirmed.[25]

The first ruling on cables that CBP proposes to revoke dates back to 1982.[26] It defines both the rule and the exception that are still relied upon by the cable community. The rule is clear: "A foreign-built vessel which transports cables used by the vessel in a cable-laying operation is not engaged in the coastwise trade of the United States." The justification is twofold: "Such cable is not only laid, and not 'transported,' between points in the United States, but is also being used in furtherance of the primary mission of the cable-laying vessel and is therefore similar to vessel equipment." The exception applies "if up to 5% of the cable laden on a vessel and intended for use in a cable-laying operation is not used." The practical utility of the 5% or less qualification recognized the fact that cable laying ships prudently carry a little extra cable over the required length of the lay because problems can occur that require replacement of cable damaged during the lay or a course change to avoid a seabed hazard and the small amount left over serves as spare cable for repairs that may occur over the 20 to 25 year commercial design life of a submarine cable. Ultimately, any spare cable carried on board likely will end up on the seabed.

The second ruling on cables cited in the Notice was issued in 1989.[27] It repeats the exact same rule and exception, *i.e.*, that "the sole use of a non-coastwise-qualified vessel to lay cable between points in the United States or in international waters does not violate the coastwise laws" and that "[t]his rule applies to any small amount of similar equipment that was laden for

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[25] The Notice requests that members of the public who have received ruling letters that have not been identified in this Notice to advise CBP during this comment period. Accordingly CBP is advised of the additional rulings not mentioned in the Notice: HQ 103212 (October 16, 1978); HQ 103651 (January 30, 1979); HQ 109690 (August 25, 1988); HQ 110392 (September 27, 1989); HQ 110756 (January 26, 1990); HQ 111591 (May 18, 1992); HQ 112866 (August 31, 1993); HQ 112901 (October 20, 1993); HQ 113223 (September 29, 1994); HQ 113437 (May 10, 1995); HQ 113927 (May 9, 1997); HQ 114637 (March 18, 1999); HQ 114692 (May 12, 1999); HQ 115322 (April 16, 2001).

[26] HQ 105644 (June 7, 1982).

[27] HQ 110402 (August 18, 1989).

use but was not in fact needed during the operation of the vessel." However, the application of these principles led CBP to reach an opposite conclusion in the second ruling. Indeed, the proposed operation involved "the transportation and landing of cable that was not placed on the vessel to be used in a cable-laying operation." The applicant intended to use a non-coastwise-qualified vessel to carry a cable between two US points, and not to lay it. CBP rightly held that this "constitutes a violation of 46 U.S.C. App. 883," the former version of 46 U.S.C. § 55102. This shows that the exemption is limited to cable laying and repair operations. Cable constitutes merchandise when it is merely being transported as cargo between two ports. This qualification is not only legally justified, but also commercially reasonable. Whereas specialized cable ships are necessary to lay and repair cable, many coastwise-qualified vessels can be used to carry cable cargo between US ports.

The third ruling on cables that CBP considers revoking is a decision from 1998.[28] This ruling re-asserts the same fundamental principles and adds some precisions as to their application, for instance, that "[d]ecisions as to whether a given article comes within the definition of 'vessel equipment' are made on a case-by-case basis." In the case at hand, the applicant sought to "load cable-loading equipment and tools necessary for the loading of cable" in the extreme conditions of Alaska. The special impact of cable laying in Arctic conditions requires special vessel equipment to allow the cable ship to lay or repair the cable in ice berg conditions. CBP held that such equipment could be transported on a non-coastwise-qualified cable ship for two reasons: "Such equipment is not only 'vessel equipment' as defined above [based on the language of T.D. 49815(4)], its use aboard the vessel between United States points is considered to break the continuity of the transportation between coastwise points." Even if

[28] HQ 114305 (March 31, 1998).

cable-laying equipment was to be considered merchandise, its transportation would thus not violate 46 U.S.C. § 55102. This reasoning is particularly significant in view of the proposed modification of the definitions of merchandise and equipment. Regardless of those definitions, cable ships do not need to be coastwise-qualified to deploy their burial tools, ploughs and other highly technical shipboard tools that are absolutely necessary to lay and repair modern cables in existing weather and seabed conditions.

The fourth ruling on cables cited in the Notice was issued in 2001.[29] It is the most recent decision addressing these issues. As such, it reflects the current state of the law. Interestingly, the general rule stated in 1982 remains fully applicable: "The use of a foreign-flagged vessel to lay cable between coastwise points does not constitute a violation of 46 U.S.C. App. §883." CBP thus authorized the use of a Norwegian-flag vessel to lay power cables loaded in Norway and laid on the seabed in Puerto Rico and in Washington State. The brevity of the decision shows the clarity of the law and the ease of its application. This explains that CBP has issued no other ruling with regard to cable operations since 2001, while telecommunication companies have continued to maintain and expand the underwater network connecting the US to the world. The case-law is so clear that its application does not trigger any legal difficulty and is readily understood by professionals in the business. However, the Notice could shake up this well-functioning system by abolishing its foundational principles. In this sense, the adage "If it's not broke, don't fix it" comes to mind in the case of international submarine cables used for telecommunications and power and the cable ships that lay and maintain them.

To avoid such a dangerous outcome, the ICPC calls CBP to remove the four rulings analyzed in this section from the Notice coverage, and to confirm that cable laying and repair

[29] HQ 115333 (April 27, 2001).

operations by cable ships do not constitute transportation of merchandise within the meaning of 46 U.S.C. § 55102.

F. The other rulings cited in the Notice are distinguishable.

The reasons why cable laying and repair operations do not constitute coastwise trade are unique to this particular context. CBP has made that clear:

> The characteristic of cable laying, the absence of a landing of merchandise, which places the activity outside the coastwise laws, provides the basis for our ruling that the transportation of cable and repair materials by a vessel, to be used by the crew of the vessel, in the repair of the cable, is not prohibited by the coastwise laws.[30]

Although CBP has also held that various other transactions did not violate 46 U.S.C. § 55102, the underlying reasoning was always different. CBP could thus very well revoke its other rulings without revoking its rulings on cables. As explained, CBP has applied one simple criterion to determine whether any cable operation requires the use of a coastwise-qualified vessel: whether the cable is laid on the seabed, either as new cable system or as replacement of the damaged section of a preexisting cable, or whether it is simply transported as cargo from one US port to another. The test is simple, self-evident, and already widely understood and followed. In contrast, CBP has developed complex, heterogeneous criteria to determine whether any specific operation proposed by the oil and gas industry requires the use of a coastwise-qualified vessel.

In several of the rulings cited in the Notice, CBP starts the analysis by determining whether the offshore platform and the servicing vessel itself constitute coastwise points within the meaning of 46 U.S.C. § 55102, and whether this status will change during the course of the proposed operation. In one exemplary case, CBP held that "no coastwise laws will be violated in the course of the proposed vessel movement" but that "the production vessel will itself become a

[30] HQ 103651 (January 30, 1979).

coastwise point once attached to the seabed, and any further movements of equipment and personnel from a coastwise point to the production site must be accomplished by use of a coastwise qualified vessel."[31] Such considerations would obviously not apply to cable operations which are dynamic. Unlike platforms and production vessels attached to the seabed, cables and cable ships cannot become coastwise points.

Another question frequently raised in the rulings cited is whether the work will be done from the offshore platform or from the servicing vessel. The rationale is that a transaction "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 tools to the drilling platform or subsea wellhead and the connection operation was not performed on or from that vessel." [32] Likewise, this reasoning is inapplicable to cable operations, the latter being necessarily conducted virtually 100% from the cable ship with its crew using its deployed tools, seamanship, and the unique features of the cable ship that allow a cable to be paid out under constant tension over the ship's bow or stern.

Moreover, CBP often considers whether the servicing vessel will be stationary or in movement during the proposed transaction. Indeed, CBP "has long held that the use of a non-coastwise qualified vessel as a stationary facility, whether for lodging, processing, storage, etc., is not a transportation activity which would be prohibited under section 883."[33] CBP has thus exempted stationary operations from the requirement of a coastwise-qualified vessel. Once again, this rule does not apply to the special exempted treatment granted to cable operations, which are not stationary. In fact, cable-laying requires that the ship be under way as the cable is

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[31] HQ 111889 (February 11, 1992).

[32] HQ 115218 (November 30, 2001).

[33] HQ 116078 (February 11, 2004).

paid out from the vessel, and CBP has long held that cable installation and use "break the continuity of its transportation between coastwise points." [34]

Ultimately, only one of the various principles developed in these rulings may arguably affect cables: the holding that the transportation of "flexible flowlines and umbilical lines" does not violate 46 U.S.C. § 55102 when they are "paid out, not unladen" on the deep seabed.[35] Although originally based on the similarities between cables and lines or pipes, this principle has evolved separately to become an independent, somewhat unfettered exemption. Whereas the cable community has continued to use the same specialized cable ships to lay fiber optic cables of growing length and shrinking diameter, the oil and gas industry has relied on the exemption to use multipurpose vessels to install bigger infrastructure. In one of the rulings cited in the Notice, the applicant sought to install "three 4.5-inch inside diameter lines and one 5.3-inch inside diameter line with varying lengths of 0.9 to 2.3 miles."[36] Such lines directly connected to rigs have nothing in common with garden hose diameter modern fiber optic cables - except for their elongated shape, which is obviously not what makes them equipment. More to the point, risers and similar lines affixed to oil and gas platforms are exclusively dedicated to the exploitation of natural resources on the US continental shelf – an activity regulated by OSCLA. This is very different than international telecommunication and power cables between nations which OSCLA does not regulate.

To conclude, the non-cable rulings involve a great diversity of situations that cannot be governed by one single set of rules. This is largely due to the growing diversity of both vessels and tools used by the oil and gas industry. In contrast, the cable community always uses the

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[34] HQ 103217 (October 16, 1978).

[35] HQ 115311 (May 10, 2001).

[36] HQ 115311 (May 10, 2001).

same types of cable ships to lay very similar cables. Despite CBP's efforts to follow its own precedents, case-law is thus much more fragmented with regard to the Jones Act's treatment of vessels servicing off-shore platforms. In this context, the Notice corresponds to an understood attempt to restore legal certainty. However, revoking the bright line rulings on cables would contradict this goal. Instead of overruling them, CBP should start from there. The rulings on cable laying and repair operations provide useful guidance as to the elements of the modern definition of merchandise and equipment.

G. The definition of equipment should be based on necessity and appropriateness.

The Notice emphasizes that a growing diversity of articles have been considered equipment, on the mere ground that they were "used in the activity in which the vessel was about to engage, *e.g.*, 'in furtherance of the mission', 'fundamental to the operation of the vessel', etc." Admittedly, CBP has faced challenges in its application of 46 U.S.C. § 55102. Two recent rulings go as far as to recognize an "exhibit hall structure" and a "mobile exhibition center" as equipment:

> In the present case, the subject barge's function, for the period of the charter, is to operate as an exhibit hall. In order to accomplish this purpose, it is necessary to modify the structure of the barge's deck. The exhibit hall structure, essentially the bolted or welded customized shipping containers, is integral to the operation of the vessel as an exhibit hall. Consequently, the structure, which is transported aboard the vessel on which it is used, constitutes vessel equipment as defined in T.D. 49815(4), not merchandise as defined in 19 U.S.C. § 1401(c). As a result, no violation of 46 U.S.C. § 55102 exists if the structure is unladen at a different coastwise point than the point of lading.[37]

As deplored in the Notice, this reasoning expands the meaning of equipment beyond the definition of Treasury Decision 49815(4). Although the latter provides outdated examples, it also includes words that reflect the natural and ordinary meaning of the term "equipment."

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[37] HQ H029417 (June 5, 2008); HQ H032757 (July 28, 2008).

Importantly, CBP always adds emphasis to these particular words, both in its rulings and in the Notice: "*portable articles necessary and appropriate for the navigation, operation or maintenance of the vessel and for the comfort and safety of persons on board.*" Based on this extract from the definition, the test should be one of necessity and appropriateness, and not one of use in the primary mission of the vessel. Clearly, an "exhibit hall structure" and a "mobile exhibition center" do not satisfy this higher standard. Likewise, many of the offshore tools used in the oil and gas industry may arguably lack necessity and appropriateness.

However, cables do not. As explained in Section I.B of these comments, cables are absolutely necessary and appropriate for and integral to the operation of cable laying and repair ships. Cables are worthless without cable ships to lay and maintain them, and cable ships are worthless without cables to lay or maintain. This binary exclusive interdependency is absent in the case of most off-shore servicing vessels. Whereas cable ships are custom-built for the unique purpose of laying and repairing cables, offshore servicing vessels tend to be built for multiple purposes. The two rulings attached to the Notice illustrate this flexibility of use. Both involve barges "used primarily in support of diving operations in the construction, performance, repair and inspection of offshore petroleum-related facilities."[38] The long list of activities described in each ruling is not even exhaustive. This explains CBP's concern for an ever-expanding definition of equipment. But what really matters is that none of the tools will be connected to the barge in the same way that a cable and cable laying equipment aboard ship is connected to a cable ship. This connection is at the core of the notion of vessel equipment, because it shows both necessity and appropriateness.

[38] HQ H082215 (proposed).

III. CONSTITUTIONAL, ADMINISTRATIVE AND PUBLIC POLICY ANALYSIS

A. The lack of notice and justification runs afoul of constitutional and administrative law guarantees.

The silence of the Notice on the longstanding exemption of cable laying and maintenance vessels would justify a challenge for Due Process and Administrative Procedural Act (APA) violations. As currently worded, the Notice proposes to modify the Jones Act's treatment of cable operations without respecting essential safeguards of constitutional and administrative law.

Under constitutional law, the proposed modification would be vulnerable to a Due Process challenge because subjecting cable ships to Jones Act's requirements is inconsistent with the foreseeable policy that underlies and predates the statute. Indeed, the Supreme Court held in *Central Vermont Co. v. Durning*, 294 U.S. 33 (1935) that the Jones Act did not violate Due Process because it was consistent with "a long established national policy to restrict . . . foreign control of coastwise shipping" established in "a series of statutes, beginning with the first year of the government, which have imposed restrictions of steadily increasing rigor on the transportation of freight in coastwise traffic by vessels not owned by citizens of the United States." 294 U.S. at 38, 41.

However, the modification at issue here departs abruptly from this historic policy that CBP had so far respected. Indeed, the Notice now proposes to subject cable ships to Jones Act's requirements notwithstanding the fact that these specialized vessels do not engage in any of the traditional transportation activities protected by the Jones Act. CBP thus proposes to expand the scope of the statute far beyond what was intended by its drafters and the founding fathers of the United States. This abrupt change is all the more unconstitutional when CBP fails to satisfy the notice requirements of Due Process. The Notice does not only provide insufficient justification

for the proposed modification of the Jones Act's status of cable ships, but it also provides insufficient time for the cable community to adjust to the new legal regime.

In addition, the proposed modification would also be vulnerable to a challenge under the APA. The latter authorizes courts to "hold unlawful and set aside agency action, finds and conclusions" that are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." [39] The Supreme Court has held that this arbitrary-and-capricious standard requires "more than the minimum rationality a statute must bear in order to withstand analysis under the Due Process Clause." *Motor Vehicle Mfrs. Assn. v. State Farm Mut. Auto. Insurance Co.*, 463 U.S. 29, 43 n.9 (1983). The substantive protections of the APA are thus far greater than those of Due Process.

To survive judicial review under the APA's arbitrary-and-capricious standard, an administrative decision must satisfy several requirements. Most importantly, it must be based on "relevant data" and provide "a satisfactory explanation for [the agency's] action including a rational connection between the facts found and the choice made." *Encino Motorcars, LLC v. Navarro*, 579 U.S. __ (2016) (quotation omitted). The analysis must take into account all "relevant factors" and every "important aspect of the problem." *Motor Vehicle Mfrs. Assn. v. State Farm Mut. Auto. Insurance Co.*, 463 U.S. 43 (1983). Essentially, the agency must show that the benefits expected from its action outweigh the potential costs. *See Michigan v. EPA*, 135 S. Ct. 2699, 2707 (2015). The agency must also show that all options were considered and provide "an adequate explanation when … alternatives are rejected." *Int'l Ladies' Garment Workers' Union v. Donovan*, 722 F.2d 795, 817 (D.C. Cir. 1983).

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[39] 5 U.S. Code § 706(2)(A).

The standard is even higher when the decision departs from the agency's own precedents, because reliance interests are then at stake. The Supreme Court has consistently held that "the APA requires an agency to provide more substantial justification 'when its new policy rests upon factual findings that contradict those which underlay its prior policy; or when its prior policy has engendered serious reliance interests that must be taken into account'." *Perez v. Mortg. Bankers Ass'n*, 135 S. Ct. 1199, 1209 (2015) (*citing Fox Television Stations, Inc.*, 556 U. S., at 515, 129 S. Ct. 1800, 173 L. Ed. 2d 738). This corresponds exactly to the present situation.

The Notice utterly fails to satisfy this heightened standard with regard to the proposed modification of the Jones Act's treatment of cable ships. CBP does provide some justifications and examples in the Notice, but none of them applies to cable laying and repair operations. As explained in these comments, cable ships have unique characteristics that affect both the underlying reasoning and the potential consequences of the proposed policy change. The silence of the Notice in this regard is incompatible with the APA requirements, especially in view of the substantial reliance interests at stake. The historic exemption of cable ships has supported the development of the submarine cable industry from its very beginning. "Yet the relevant consideration today is that economic development has occurred and substantial investments made in reliance on this exemption." *Am. Mar. Asso. v. Blumenthal*, 192 U.S. App. D.C. 40 n.55, 590 F.2d 1156, 1166 (1978). In this context, the proposed modification of the Jones Act's treatment of cable ships is arbitrary and capricious.

B. The application of the proposed modification to cable operations would threaten several public policy interests of the US.

The reversal of the long line of rulings on cable repair and laying operations threatens several fundamental interests of the United States.

First and foremost, the adoption of the Notice as currently worded would greatly endanger cable connectivity, which is an essential element of US national security and economic success. Requiring coastwise-qualified cable ships would have one direct and immediate effect: the complete *de facto* blockage of laying and repair operations. The ICPC cannot emphasize enough the fact that no commercial coastwise-qualified cable ship is available as of today. Not only would it cost hundreds of millions of dollars and take approximately five years to build one, but having only one coastwise-qualified cable ship would be far from sufficient to cover the full length of US coasts, as well at its remote states and territories such as Alaska, Hawaii, Puerto Rico, Guam, etc. The capacity of cable owners to raise sufficient funds is uncertain in the current economic context and could divert from more efficient uses of funds in the US economy. Even if cable owners and cable ship operators were able to invest collectively in the construction of coastwise-qualified cable ships, they would still need to find alternative solutions for the five coming years.

In the short term, cable ships would be constrained to stop at non-US ports before conducting any operation in US territorial waters to break the continuity of the voyage. This would undermine significantly the speed of both installations and repairs. The continuity of US telecommunications would be at great risk in case of cable breaks in US territorial waters, whether such breaks are accidental or intentional. Cables have been recognized as a target for terrorist attacks.[40] They would become an even more strategic target if the cable maintenance system was delayed by regulatory impediments.

In the long term, the adoption of the Notice would likely also have adverse effects. Cable owners would probably store repair kits and spare cables at locations close to the border, for

[40] Burnett, Beckman, Davenport, *Submarine Cables, The Handbook of Law and Policy*, Martinus Nijhoff Publishers (2014), chapter 12 [Protecting Submarine Cables from Intentional Damages].

instance in Canada or Mexico, to allow non-coastwise-qualified vessels to intervene directly from there in case of fault in US territorial waters. Although constrained by the customs policy change, this shift may well become a long-term trend if neighboring countries offer competitive advantages. This indirect consequence would clearly conflict with the US interest and with the Jones Act's purposes.

C. CBP should thus exclude cable operations from the scope of the modification.

To avoid a Due Process and APA violation, and to protect the public policy interests of the United States, CBP should maintain the four rulings on cables mentioned in the Notice, i.e., HQ CBP 105644 (June 7, 1982), HQ CBP 110402 (August 18, 1989), HQ CBP 114305 (March 31, 1998) and HQ CBP 115333 (April 27, 2001). CBP could either completely withdraw the Notice or simply delete the references to these four rulings, while expressly confirming their continued validity. As explained in these comments, the confirmation of the special treatment of cable ships is not inconsistent with the proposed re-interpretation of the terms "merchandise" and "equipment." Indeed, cables and spares are at the very core of the historic notion of "equipment" to which ICPC intends to return, and their use aboard cable ships also breaks the continuity of any "transportation."

Although such confirmation is the course of action recommended by the ICPC and its members, some alternatives could also be considered. The objective would be to mitigate the costs of the proposed modification, if the latter was to apply to cable operations despite the Due Process, APA and public policy implications described above.

The first alternative would be to grant a *de minimis* exception to cable operations, in accordance with the administrative law doctrine of *de minimis non curat lex.* The latter authorizes an agency to "exempt de minimis situations" when "the literal terms of a statute . . . mandate pointless expenditures of effort" and "the burdens of regulation yield a gain of trivial or

no value." *Alabama Power Co. v. Costle*, 636 F.2d 323, 360–361 (D.C. Cir. 1979). CBP could thus exempt cable ships on the ground that their narrow scope of operations does not justify the multi-million dollar investment that would be required to comply with the Jones Act. This would not be contrary to the purpose of the Jones Act since cable ships in no way compete with the transportation vessels protected by the statute.

The second alternative would be to "grandfather" the use of non-coastwise-qualified cable ships to complete the installation and maintenance of cable systems that have already started, and to maintain cable systems that have already been installed pursuant to contracts that were entered into before the effective date of any CBP policy change. Indeed, those US cable projects were undertaken in reliance on the special treatment of cable operations under the Jones Act. Some of the cable projects provide long term US based manufacturing jobs far in excess of the short term jobs from a cable ship build.

The third alternative would be to issue a national defense waiver for cable ships in accordance with 46 USCS § 501(b)(1):

> When the head of an agency responsible for the administration of the navigation or vessel-inspection laws considers it necessary in the interest of national defense, the individual, following a determination by the Maritime Administrator, acting in the Administrator's capacity as Director, National Shipping Authority, of the non-availability of qualified United States flag capacity to meet national defense requirements, may waive compliance with those laws to the extent, in the manner, and on the terms the individual, in consultation with the Administrator, acting in that capacity, prescribes.

Although exceptional, waivers are justified when no coastwise-qualified vessel is available, and when the use of non-coastwise-qualified vessels is necessary in the interest of national defense. These two conditions would clearly be satisfied in the present case. The continuity of US telecommunications is as crucial to US security as the availability of petroleum,

which warranted a Jones Act's national defense waiver in 2011.[41] Given the critical infrastructure character of submarine cables to US defense and economic survival, such waivers would be rational here. Such waivers would be impractical, inefficient and ineffective on an emergency repair voyage basis and would necessarily require an annual or multiyear waiver period.

However, these three alternatives are mere fallbacks. They would still have significant impacts on the ability to install and maintain critical US telecommunication infrastructure. The main request of the ICPC is that CBP confirms the validity of all ruling letters exempting cable ships on the basis that cable laying and repair is not coastwise trade.

IV. CONCLUSION

The CBP should adhere to its prior rulings on submarine cables that the laying and repair of a submarine cable for telecommunications and power does not require the use of a coastwise vessel under the Jones Act, and that the submarine cable is properly considered to be vessel equipment if it is laid on the seabed. This characterization applies to all international submarine telecommunication and power cables laid or repaired in US waters and beyond.

The CBP should confirm the validity of the following rulings cited in the Notice instead of revoking them:

HQ CBP 105644 (June 7, 1982);

HQ CBP 110402 (August 18, 1989);

HQ CBP 114305 (March 31, 1998);

HQ CBP 115333 (April 27, 2001).

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[41] US Department of Homeland Security, Letter to Shell (July 8, 2011), *available at*: https://www.dhs.gov/sites/default/files/publications/jones-act-1.pdf.

EXHIBIT A

LIST OF ICPC MEMBERS

International Cable Protection Committee
Member List
Thursday, 19 January 2017

No.	Country	Member Organsiation
1.	Angola	Angola Cables
2.	Anguilla	Subsea Environmental Services Ltd
3.	Aruba	Setar N.V.
4.	Australia	Australia Japan Cable Ltd
5.	Australia	Australian Government - Attorney-General's Department
6.	Australia	Basslink Pty Ltd
7.	Australia	Southern Cross Cables Limited
8.	Australia	Telstra International
9.	Benin	Benin ACE
10.	Bermuda	Australia Singapore Cable (International) Limited
11.	Bermuda	Bermuda Cable Co Ltd
12.	Canada	IT International Telecom Canada Inc.
13.	Canada	Ocean Networks Canada
14.	China	China Telecommunications Corporation
15.	China	Huawei Marine Networks Co., Ltd
16.	China	Jiangsu Hengtong HV Power Cable System Co.,Ltd
17.	China	S. B. Submarine Systems Co., Ltd
18.	China	ZTT International Limited
19.	Chinese Taipei	Chunghwa Telecom Co.
20.	Colombia	Energía Integral Andina S.A.
21.	Cyprus	Cyprus Telecommunications Authority (CYTA)
22.	Denmark	TDC A/S
23.	Denmark	TeliaSonera International Carrier AB
24.	Djibouti	Djibouti Telecom
25.	Egypt	Middle East & North Africa (MENA) Submarine Cable Systems
26.	Egypt	Telecom Egypt
27.	Faroe Islands	Faroese Telecom
28.	France	Orange Marine
29.	France	Orange S.A.
30.	French Polynesia	OPT - Polynésie Française
31.	Gambia	Gambia Submarine Cable Company (GSC)
32.	Germany	Deutsche Telekom AG
33.	Germany	Fugro OSAE GmbH

International Cable Protection Committee

Member List

Thursday, 19 January 2017

34.	Germany	Norddeutsche Seekabelwerke GmbH
35.	Germany	Siem Offshore Contractors GmbH
36.	Germany	Tennet Offshore GmbH
37.	Germany	Vattenfall Europe Windkraft GmbH
38.	Ghana	ETG Integrated Services Limited (Dolphin)
39.	Gibraltar	Gibtelecom
40.	Greece	Hellenic Telecommunications Organization S.A. / OTE S.A.
41.	Greenland	TELE Greenland A/S
42.	Guam	NTT Docomo
43.	Guinea	GUILAB S.A.
44.	Hong Kong SAR	EGS Survey Group
45.	Hong Kong SAR	Microsoft Corporation
46.	Hong Kong SAR	NTT Com Asia Limited
47.	Hong Kong SAR	PCCW Global Limited
48.	Iceland	Farice ehf
49.	India	TATA Communications Ltd
50.	Indonesia	PT. Telekomunikasi Indonesia International (Telin)
51.	Ireland	Edge Network Services Limited
52.	Ireland	ESB Telecoms Ltd
53.	Ireland	Hibernia Atlantic UK Ltd
54.	Italy	Elettra Tlc S.p.A.
55.	Italy	INFN Istituto Nazionale Fisica Nucleare Laboratory
56.	Italy	Telecom Italia Sparkle
57.	Jamaica	Digicel Group Ltd
58.	Japan	Earthquake Research Institute
59.	Japan	Japan Agency for Marine-Earth Science and Technology
60.	Japan	KDDI
61.	Japan	Kokusai Cable Ship Co. Ltd
62.	Japan	National Research Institute for Earth Science and Disaster Resilience (NIED)
63.	Japan	NEC Corporation
64.	Japan	NTT Communications Corporation
65.	Japan	SoftBank Telecom Corp.
66.	Jersey	Channel Islands Electricity Grid Limited
67.	Kenya	The East African Marine System Ltd

International Cable Protection Committee

Member List

Thursday, 19 January 2017

68.	Korea	KT Submarine Company Ltd
69.	Madagascar	TELMA
70.	Malaysia	Global Transit Limited
71.	Malaysia	Optic Marine Services International Limited
72.	Malaysia	TM Berhad
73.	Malta	Malta Communications Authority
74.	Mauritius	Liquid Telecom
75.	Mauritius	Mauritius Telecom
76.	Mauritius	Seacom Ltd
77.	Namibia	Telecom Namibia
78.	Netherlands Antilles	SMITCOMS
79.	Netherlands Antilles	UTS-NV (United Telecommunication Services)
80.	New Caledonia	OPT - Nouvelle Caledonie
81.	New Zealand	Spark New Zealand Limited
82.	New Zealand	Transpower New Zealand Ltd
83.	Nigeria	Main One Cable Company
84.	Norway	Nexans Norway AS
85.	Norway	Statnett SF
86.	Oman	Oman Telecommunications Company
87.	Papua New Guinea	Telikom PNG Ltd
88.	Philippines	Philippine Long Distance Telephone Company
89.	Poland	Orange Polska S.A.
90.	Portugal	PT Comunicações, S.A.
91.	Republic of South Africa	Mertech Marine (Pty) Ltd
92.	Republic of South Africa	Telkom SA Limited
93.	Russia	CJSC Perspective Technologies Agency
94.	Russia	OJSC Rostelecom
95.	Senegal	Sonatel
96.	Singapore	ASEAN Cableship Pte. Ltd
97.	Singapore	Infinera Corporation
98.	Singapore	Infocomm Development Authority of Singapore
99.	Singapore	PT Limin Marine & Offshore
100.	Singapore	Reliance Jio Infocomm PTE. Ltd.

International Cable Protection Committee

Member List

Thursday, 19 January 2017

101.	Singapore	Singapore Telecommunications Limited
102.	Singapore	StarHub Ltd
103.	Somalia	Dalkom Somalia DMCC
104.	Spain	Telefonica de España, S.A.U.
105.	Spain	TEMASA
106.	Sri Lanka	Sri Lanka Telecom PLC
107.	Sweden	Hexatronic Cables & Interconnect Systems AB
108.	The Netherlands	ABB b.v.
109.	The Netherlands	CRS Holland B.V.
110.	The Netherlands	KPN Telecom International
111.	The Netherlands	Van Oord Dredging and Marine Contractors bv
112.	The Netherlands	VBMS
113.	Trinidad & Tobago	Telecommunications Services of Trinidad & Tobago Ltd
114.	United Arab Emirates	E-marine PJSC
115.	United Arab Emirates	Emirates Integrated Telecommunications Company DU
116.	United Arab Emirates	Gulf Bridge International Inc.
117.	United Kingdom	Alcatel Lucent Submarine Networks Ltd
118.	United Kingdom	British Telecommunications plc
119.	United Kingdom	BritNed Development Limited
120.	United Kingdom	Cable Consulting International Ltd
121.	United Kingdom	Ciena Corporation
122.	United Kingdom	Department for Business, Innovation and Skills (UK Government)
123.	United Kingdom	Global Cloud Xchange
124.	United Kingdom	Global Marine Systems Ltd
125.	United Kingdom	Google UK Ltd
126.	United Kingdom	Level (3) Communications Ltd
127.	United Kingdom	Offshore Marine Management
128.	United Kingdom	Pelagian Ltd
129.	United Kingdom	Red Penguin Associates Ltd
130.	United Kingdom	Verizon Ltd
131.	United Kingdom	Vodafone Limited
132.	United Kingdom	Xtera Communications Ltd
133.	United States of America	ACS Cable Systems

International Cable Protection Committee

Member List

Thursday, 19 January 2017

134.	United States of America	AT&T
135.	United States of America	Cable & Wireless
136.	United States of America	CSnet International Inc.
137.	United States of America	David Ross Group Inc.
138.	United States of America	GCI (General Communication Incorporated)
139.	United States of America	GlobeNet
140.	United States of America	Harris, Wiltshire & Grannis LLP
141.	United States of America	JP Morgan Chase
142.	United States of America	Leidos Corporation
143.	United States of America	PC Landing Corp.
144.	United States of America	Pioneer Consulting Holdings LLC
145.	United States of America	Quintillion Subsea Operations
146.	United States of America	R.T. Casey LLC
147.	United States of America	Radius Oceanic Communications, Inc.
148.	United States of America	RAM Telecom International, Inc.
149.	United States of America	Sea Risk Solutions LLC
150.	United States of America	Sound & Sea Technology, Inc.
151.	United States of America	Sprint & PSI
152.	United States of America	TE SubCom
153.	United States of America	Truestone, LLC
154.	United States of America	United States Navy

International Cable Protection Committee

Member List

Thursday, 19 January 2017

155.	United States of America	University of Hawaii
156.	United States of America	WFN Strategies
157.	Uruguay	Antel
158.	Uruguay	TelXius
159.	Vanuatu	Interchange Ltd

EXHIBIT B

CABLE SHIP PASSAGES FROM SUBMARINE CABLES, THE HANDBOOK ON LAW AND POLICY (2014)

The Handbook of Law and Policy

Edited By

Douglas R. Burnett
Robert C. Beckman
Tara M. Davenport

MARTINUS NIJHOFF PUBLISHERS

LEIDEN • BOSTON
2014

Cableships

Most cable installation is carried out by cableships that have been specifically built or converted to carry and install the long lengths of cable required to connect countries and continents. Their crews are highly trained and specialized.

There are a limited number of specialized cableships available worldwide and they are required to be able to safely install cable and withstand the severe weather encountered across the world's oceans and seas.

The laying of trans-oceanic or festoon systems may require the cableship to remain at sea for extended periods. Most cableships are capable of carrying sufficient fuel, food and provisions, water and personnel to work 24 hours a day for two months.

Typically the vessels are 100–140 m in length, over 20 m beam[5] and are able to transit at a speed of at least 12 knots. Vessels of this size are capable of carrying

[5] The beam is the width of the vessel at its widest point.

Figure 5.2 Surface laying in rough weather.
(Photograph courtesy of Keith Ford-Ramsden)

4000–6000 tonnes of cable, which may be sufficient for a single trans-Atlantic lay, depending on cable types.

The ships are fitted out with cable tanks to store many thousands of kilometers of cable. (Figure 9.3.) The internal cone of the cable tanks must have a radius that is greater than the minimum bending[6] diameter of the cables being loaded (typically 3 m) and the outside diameter is dependent on the vessel's beam. The cables exit from the top of the cable-tanks and are guided via trackways of rollers known as cable highways to the Linear Cable Engine that controls (holds back) the pay out speed and/or tension of the cable over the ship's stern.

During the laying of the cable it is necessary to confirm that no damage has taken place during the installation process. In order to do this the cable is powered up from the ship and the fibers are monitored to ensure there are no faults. The powering of the cable creates a potentially lethal hazard to those working close to the cable onboard the ship. Power Safety Officers control and restrict access around the system whilst it is powered, as well as monitoring the system for faults. The cable system is depowered during any operations that require the cable, repeaters or any other bodies, such as equalizers, to be handled.

The laser light carrying the data in the fiber optic cable needs to be amplified every 60–80 km by repeaters. These repeaters are designed to operate on the seabed, and specialized temperature controlled repeater storage stacks are required to ensure they do not overheat during the period they are onboard prior to deployment.

[6] The Minimum Bending Diameter is the minimum diameter the cable should have without the probability of damage to the optical fibers.

Cableships use two methods for installing cable:

i. plow burial, where the cable is simultaneously laid and buried at slow speed with the cable pay out being controlled so as to lay the cable on the seabed in front of the plow with minimal residual tension; and
ii. surface lay, where the cable is directly laid from the cableship onto the seabed.

The cables have to be laid at a speed that can exactly match the required pay out speed (slow speed for plow burial and surface laying of armored cable, i.e. 1–4 km/hour or ½–2 knots, and up to 11–15 km/hour or 6–8 knots for lightweight cable surface laying). The cable handling machinery used to lay and repair cable consists of a combination of a Linear Cable Engine (LCE) and one or two powered cable drums. The LCE, which is normally used for laying operations, uses up to 21 pairs of wheels mounted above and below the cable that can grip cable of varying diameters. The wheels rotate in the direction required to lay or recover the cable and have the ability to lay cable at up to 8 knots.

The tires fitted to the LCE have a limited holding power for higher tensions experienced during cable recovery and a cable drum is the alternative method for laying and/or recovery of cable. The cable drums are in the order of 4 m in diameter and have the capability of exerting 30–40 tonnes lifting tension. The cable laying machinery has to be able to react rapidly and accurately to changes in speed and tension requirements when installing a cable.

In order for a cableship to install the cable on the permitted and surveyed route they are fitted with Dynamic Positioning (DP) systems that automatically control the vessel's position, speed and heading by using the ship's rudder and powerful propellers and thrusters. The ship's position is accurately determined by Differential Global Position Systems and, together with inputs from sensors that measure the vessel's pitch and roll, wind speed/direction and the ship's heading, the DP enables the cableship to operate in various modes in order to 'hover' in one position, pull a plow with a tow force of up to 100 tonnes or move at speeds up to 11–15 km/hr (6–8 knots); all of these modes are required during a typical cable installation. The accuracy of this position keeping is in the order of a few meters and ensures that the cable is laid accurately on the planned route, with the correct amount of slack and residual tension. Note, however, that other factors, such as ocean surface and sub-surface currents, will influence how accurately the cable can be placed on the seabed.

The cable may, at various stages in an installation, need to be jointed to other sections of cable. This is a highly specialized discipline that requires exacting standards in order to prepare the cable ends, fusion splice the fibers together, terminate the elements of the cable and mechanically assemble the cable joint in a clean environment. The joint is then encapsulated in polyethylene by using specialized molding equipment to complete the lightweight joint and, if the cable is armored, an armored protection kit is fitted to ensure that 90 per cent of

the tensile strength of the parent cable is maintained and to protect from crush forces in the area of the joint. At 6000 m the hydrostatic pressure is 600 times the atmospheric pressure that is experienced at the surface. Joints are x-rayed to detect any imperfections in the polyethylene mold.

V. Repair Operations

The Repair Plan is specific to each fault and depends on the location of the fault and the original protection afforded to the cable.

Lightweight Cable Faults

Lightweight cable is laid on ocean floors at depths ranging from 1000–8000 m in areas where there is minimal risk of external aggression or damage to the cable from strong seabed currents that may cause damage by abrasion. Protected versions of lightweight cable, such as LWS (lightweight screened), LWP (lightweight protected) and SPA (single protection armored), are available and afford greater protection from abrasion and damage from fish bites or fishing hooks over the same range of depths. (Figure 1.4.)

The lightweight cable is laid with sufficient slack to allow the cable to conform to the contours of the seabed and the normal slack allowance is in the order of 1–2 per cent, which is not sufficient to allow it to be recovered from the seabed to the surface. Even if the fibers are all broken, there is no way of determining for certain whether the cable has been severed by the fault. The first task of the cableship when it arrives on the repair site is to cut the cable close to the calculated cable fault position. This is achieved by deploying a cutting grapnel about two to three times water depth away from the cable route and then dragging it along the seabed, perpendicular to the line of the cable, until it engages the cable. Once the cable is engaged there will be a steady rise in tension and this continues to rise until the steel knife-edge in the grapnel cuts through the cable and a rapid drop in tension is noted on the grapnel rope that is trailing approximately twice the depth of water behind the cableship.

After the cable has been cut the grapnel is recovered to the cableship and changed for a holding grapnel in order to begin the process of cable recovery. The method for recovering the cable has changed little since the first cables were laid and repaired in the 1860s. The cableship then repositions to conduct the first *holding drive* at a distance roughly 1–1.5 times water depth from the position where the cable was cut. This ensures that when the cable is recovered to the surface, there is sufficient weight on the free side so that the end does not slide off the grapnel.

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[1] International Cable Protection Committee Recommendation No 4—Recommended Co-ordination Procedures for Repair Operations near In-Service Cable Systems. See http://www.iscpc.org/ via the 'Publications' link.

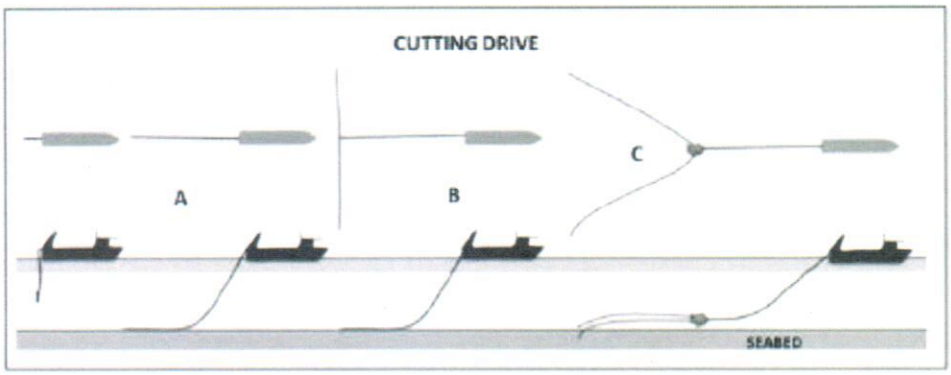


Figure 6.3 The process of the cutting drive.

A. The grapnels are lowered as the cableship moves slowly towards the cable until they are on the seabed. The cableship continues to move slowly ahead until the appropriate amount of grapnel rope is paid out and continues towards the cable line.
B. The cutting grapnel hooks the cable and the cableship sees a gradual rise in tension.
C. The grapnel cuts the cable, a rapid drop in tension is noted and the two ends fall to the seabed.

Figure 6.4 Armored cable recovered by Rennie grapnels during a holding drive. (Photograph courtesy of Keith Ford-Ramsden)

When the cable is brought on to the deck of the cableship the cable on both sides of the grapnel is stoppered off and the cable is cut. The stray end that leads to the cut end of the cable is recovered to the cableship for later disposal. The other cable end is recovered and placed in position for testing.

The onboard testing personnel prepare the cable end, and testing of the fibers and electrical conductor is commenced. If the fibers or electrical continuity do not test satisfactorily more cable is recovered, cut and re-tested until the tests show there is no further damage in the cable. When the cableship testers are satisfied that the cable is good, the cable end is sealed and lowered onto the seabed.

The cable seal is secured to a ground rope and anchor that are lowered to the seabed by the riser ropes followed by an orange or yellow cable repair buoy which is attached on the surface for recovery at a later stage of the repair operation.

After the cable buoy has been released the cableship moves to conduct a second *holding grapnel drive* to recover the other end of the cable in a similar manner to the first end. Once the cable has been recovered, cut and tested to the satisfaction of the onboard testers, a suitable section of replacement cable is selected and jointed on to the cable end. The type of cable used for the repair may require additional protection and therefore a more robust cable type may be selected. The insertion of more cable, especially in deeper waters, will affect the optical characteristic of the system and this may require correction with specialized types of fiber being inserted into the repair section of cable.

The jointers may take up to 24 hours to complete the initial joint between the installed cable and the new cable section. The initial joint is then deployed onto the seabed as the cableship moves towards the cable buoy whilst paying out the repair cable. The cable buoy, buoy rope and first cable end are recovered onto the cableship and both ends of the cable are placed in the cableship's jointing area. The cableship is manoeuvered into the correct position, whilst adjusting the cable so as to have the correct catenaries. Once in position the cables are cut to length and the final joint, that joins the two cable ends together, is started. On completion of the final splice the cableship moves perpendicular to the cable route and pays out the final joint and cable bight over the ship's cable sheaves. At a suitable height above the seabed the final bight is released and the cable sinks and comes to rest on the seabed. The cable station personnel carry out a final set of tests before restoring the customer's traffic back on to the repaired cable.

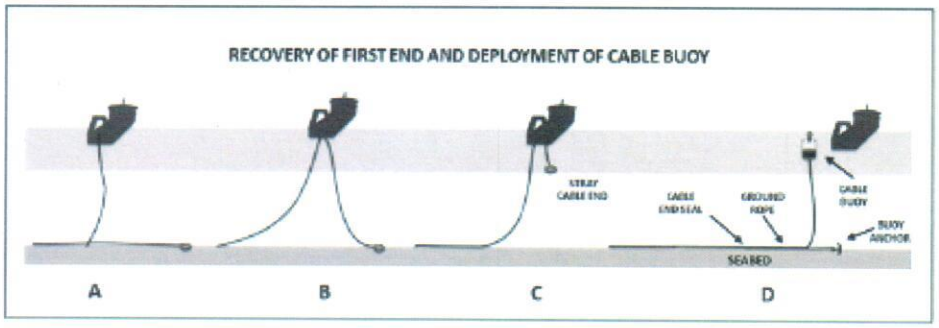


Figure 6.5 The cable recovery process.

A. The holding grapnels are dragged perpendicular to the cut cable at a distance of approximately one and a half times water depth from the cut end.
B. The grapnels are recovered to the deck of the cableship without the cut cable end sliding off.
C. The cable is secured onboard and cut and tested. If the test is successful the good end is sealed and the stray end is recovered.
D. The sealed cable end is attached to the ground rope. The ground rope, anchor, buoy moorings and buoy are deployed.

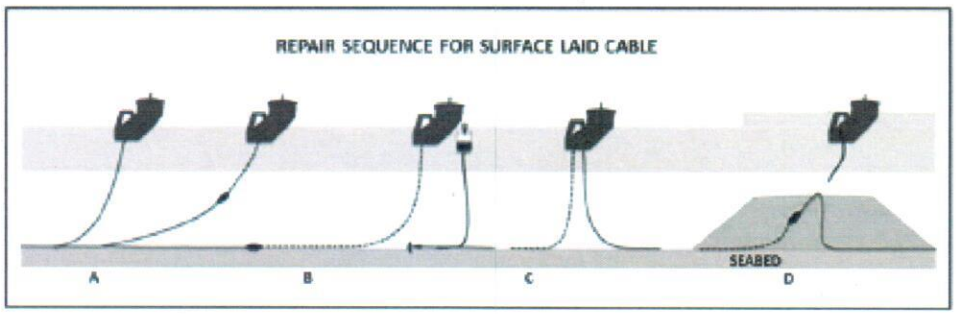


Figure 6.6 The repair sequence for a surface laid cable.

A. The second end is recovered and the initial joint connects the repair section of cable to the original good cable.
B. The new repair cable section is paid out as the cableship moves towards the cable buoy and the initial joint is lowered on to the seabed.
C. The cable buoy, moorings and first end are recovered back to the cableship and the repair section on the cable is paid out whilst the first cable end is recovered to the jointing area.
D. The final splice is completed in the jointing area on the cableship and the vessel is manoeuvered so as to lower the final splice bight of the cable onto the seabed without causing any non-conforming bends in the cable. It is then released to complete the repair to the surface laid section of cable.

Cable Faults in Armored Cable

Armored cable is used in water depths of less than 2000 m where there is a greater need to protect the cable from damage caused by human or natural external aggression. Single Armor (SA) consists of a single layer of galvanized steel wire wrapped around the lightweight cable core and is used down to water depths of 2000 m. A further layer of wire armoring is wrapped around the SA cable to produce Double Armor (DA) cable that can provide far greater protection. DA cable can be used to depths of 500 m, however it is normally only used to water depths of 200 m.

Both DA and SA can be surface laid when it has been determined that there is minimal risk to the cable from external aggression. In areas where additional protection is required the cables can be buried below the seabed. SA cable is normally selected either for simultaneous lay and burial (by plow or injector) or for surface lay and post lay burial. Where there is a specific need for increased armoring DA is selected, with post lay burial being undertaken by an ROV.

When a fault occurs in armored cable the cable stations employ the same process used for locating faults in lightweight cable. Further refinements are available to the maintenance provider to localize the fault to a greater degree of accuracy.

The CLSs are able to inject a low frequency alternating current (AC) signal, known as a 25 hertz electroding tone into the cable. This tone may be detected hundreds of kilometers from the cable station along the cable by electrodes that

are trailed behind a cableship or by a detecting system fitted to a tethered ROV. The trailed electrodes will detect the electroding tone on the cable line, prior to the fault, at positions 1, 2 and 3 in Figure 6.7 below, but the tone will not be detected when the electrodes cross beyond the fault at position 4, because the electroding tone will have gone to earth at the fault. At this time the cableship will turn back towards the CLS and cross the cable again, but will still find no signal at position 5. The electroding tone will be detected at the next two crossings, these being positions 6 and 7. This indicates that the location of the fault can be narrowed to a point between positions 5 and 7.

An alternative method for determining the fault location, which may be used independently of or in conjunction with the trailed electrodes, is to deploy a tethered ROV with tone detectors onto the seabed to determine the fault location both electronically and visually.

ROV's are fitted with active and passive systems used to detect the cable. The cable can be detected at a far greater range if the 25 hertz tone is detected by the active system rather than by the passive system which relies on detection of an anomaly in the Earth's magnetic field.

The ROV is also fitted with a sonar that can detect a cable protruding from the seabed or an object, such as an anchor scar, where the cable has been fouled. The tethered ROV is capable of being used to depths in excess of 2000 m and can be fitted with tracks to enable it to manoeuver along the seabed or with skids so that it can fly above the seabed. Decisions regarding configuration depend on prevailing currents and seabed conditions.

The ROV is deployed from and attached to the cableship by a tether. The tether carries the power and telemetry to enable the ROV to move, operate manipulators and high pressure water swords and to power the high pressure water pumps. The position of the ROV is determined through the use of *hydroacoustic position reference* beacons that are attached to the vehicle and are monitored from the cableship. These beacons allow the cableship to track the ROV and to follow and accurately identify its position. With this information and the images and data transmitted by the ROV, the fault location is determined.

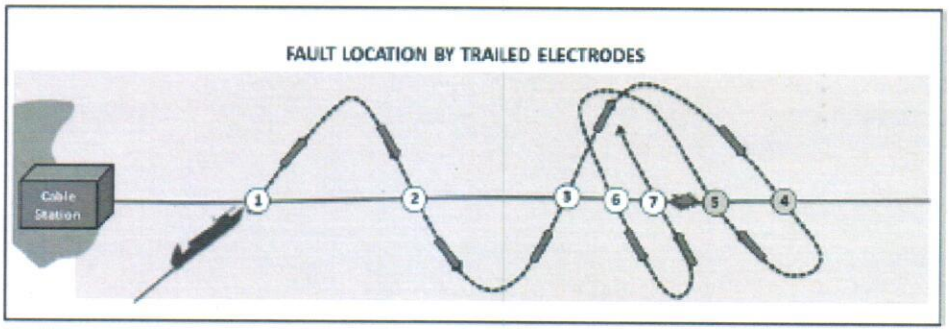


Figure 6.7 How trailed electrodes can be used to detect a cable fault.

After the fault location has been determined the cable repair can be carried out in a similar manner used for lightweight cable and surface laid armored cable.

Where possible, it is prudent to utilize the ROV to cut and recover the cable ends in shallow water, as this minimizes cable damage during recovery and reduces the amount of cable to be inserted during the repair.

After the cable is cut the ROV is recovered and a cable gripper and recovery line will be attached to one end of the cable for recovery to the cableship. The other end of the cable will be recovered in a similar manner.

In areas of strong currents the use of the ROV may not be possible and the armored cable will be cut and recovered through the use of a set of grapnels.

To recover cables from buried sections where the cable is not exposed on the surface of the seabed, specialized de-trenching grapnels will be used to bring the cable to the surface. The de-trenching grapnels are specifically designed to penetrate the seabed to engage and recover the cable from buried depths of 0.8 to 2.0 m. Alternatively an ROV may be used to de-bury the cable, with the ROV or grapnels being used to cut and recover the cable.

From the time that the cable ends have been recovered onboard the cableship through to the deployment and laying down of the final bight of cable on to the seabed, the process is the same for both lightweight and armored cable. The repair plan will specify whether reburial of the repaired section of cable is required. Reburial is a standard requirement for repaired sections of cable buried during installation. The cable owners may also require burial in areas previously surface laid so as to provide additional protection for cables.

After the final bight of the repaired cable has been lowered to the seabed the ROV is deployed from the cableship to conduct a survey of the cable, using either the passive or active tracking system. The survey is conducted to identify the route of the newly inserted cable and the positions of the initial and final joints.

After the survey has been completed the ROV positions to the cable and deploys the burial swords, with one sword on either side of the cable. The onboard ROV high pressure water pumps are started and the swords are gradually lowered into the seabed. High pressure water is injected through the jet nozzles on the ROV burial swords and the water cuts a trench and/or fluidizes the seabed underneath the cable so that it falls into the trench created by the ROV. It may take a number of passes along the cable to ensure that it is buried to the required depth or to the maximum achievable depth given the local soil conditions. The minimal environmental impact of cable burial is described in Chapter 7. After burial of the initial and final joints, the inserted cable and final bight, the ROV conducts a final survey.

Prior to commencing the cable repair it may also be necessary to remove the object or objects that caused the fault, for example, the stow net fishing anchor that damaged a cable off China in 1999 shown in Figure 6.8. The anchors used for stow net fishing can penetrate to depths of over 2 m into soft seabeds. Another repair off Hong Kong required the removal of a 20 foot container that had fallen

Figure 6.8 Stow net fishing anchor recovered during a repair operation. (Photograph courtesy of Keith Ford-Ramsden)

off a ship and had been swept along the seabed by strong currents until it caught on and damaged a communications cable. These impacts and other human impacts on cables are described in more detail in Chapter 11.

Power Safety

Throughout the duration of the repair operation the cableship designates a Power Safety Officer (PSO) who is responsible for ensuring that in circumstances where repeatered system repairs are involved the correct electrical power configurations are applied at the correct phases of the operation. For unrepeatered systems, the PSO need only address optical power safety. The repair may take place in a system whereby a number of cable stations provide the electrical power and the laser signals that enable the cable to carry the data traffic. The laser light and electrical power must be rigidly controlled to protect the personnel onboard the ship from electrical shock or damage to their eyes from high powered laser light in the fibers. This is especially important with respect to the jointers and testers who spend a great deal of time handling and manipulating the bare cable ends during the testing and jointing phases of the repair.

All written instructions sent by the PSO must receive written confirmation from the relevant cable stations that his or her instructions have been carried out. These cable stations may be located hundreds or thousands of kilometers from the repair.

Only after the PSO has confirmed that he or she is satisfied that the cable is safe to handle will repair operations commence. It is also the responsibility of the PSO to ensure that personnel are clear of the cable when any testing of the cable or joints is carried out onboard the cableship.

Jointing

It is not only the fiber optic cable that has to withstand the extreme pressures exerted when they are laid on the ocean floor at depths of up to 8000 m. Other components, such as repeaters, equalizers and branching units that are connected to the cable, must also be able to resist the ingress of water. The manufacturers will have developed their own jointing technologies, joint kits and methodologies to join the various types of cable and components in order to produce the owner's system.

Cable owners may own or be partners in a large number of cable systems and therefore have the option to have the cable supplier(s) provide the jointing kits, piece parts and equipment needed to assemble the kits for the systems. This may require the purchase of specific equipment for each cable system and require the maintenance provider to retain a large amount of equipment in order to maintain all of their cable systems. The alternative is to have a set of common components capable of being used on all cables, with interchangeable piece parts that specifically fit the owner's cable irrespective of the manufacturer or cable type. It is for the cable owner to decide upon the preferred option.

Each cableship has a dedicated dry and clean area where the various processes required for the jointing of the cables and components can take place; this area is known as the Jointing Space. The specialized personnel who undertake the jointing of subsea fiber optic cables are known as jointers and they undergo rigorous training and testing at regular intervals to ensure they have the skill set and aptitude to successfully complete the construction of a cable joint.

After the two cable ends have been placed in the jointing space the jointers prepare the ends of the lightweight portion of the cable. After the ends have been prepared the assembly of the joint commences. The colored coating of the fibers is removed and the ends of the fiber are cleanly cut. The fibers are then placed in a fusion splicer that automatically lines up the two fibers and fuses them together with an arc to prevent reflections or distortions in the splice. The splice is protected with a sleeve and the spliced fibers are placed into the main body of the joint. The mechanical construction of the joint is completed and the fibers are tested.

For repeatered systems the joint is then placed into a mold so that the joint is encapsulated in polyethylene. The encapsulated joint is then x-rayed to ensure that there are no metallic inclusions or void spaces in the molded section that could cause electrical breakdown or implode under hydrostatic pressure on the seabed. For unrepeatered systems high voltage performance is not necessary so molding is replaced by a heat shrink system that makes the joint watertight.

Figure 6.9 Fibers being prepared for fusion splicing.
(Photograph courtesy of Global Marine Systems Ltd)

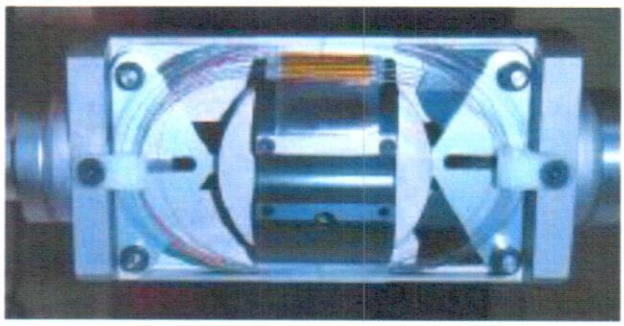


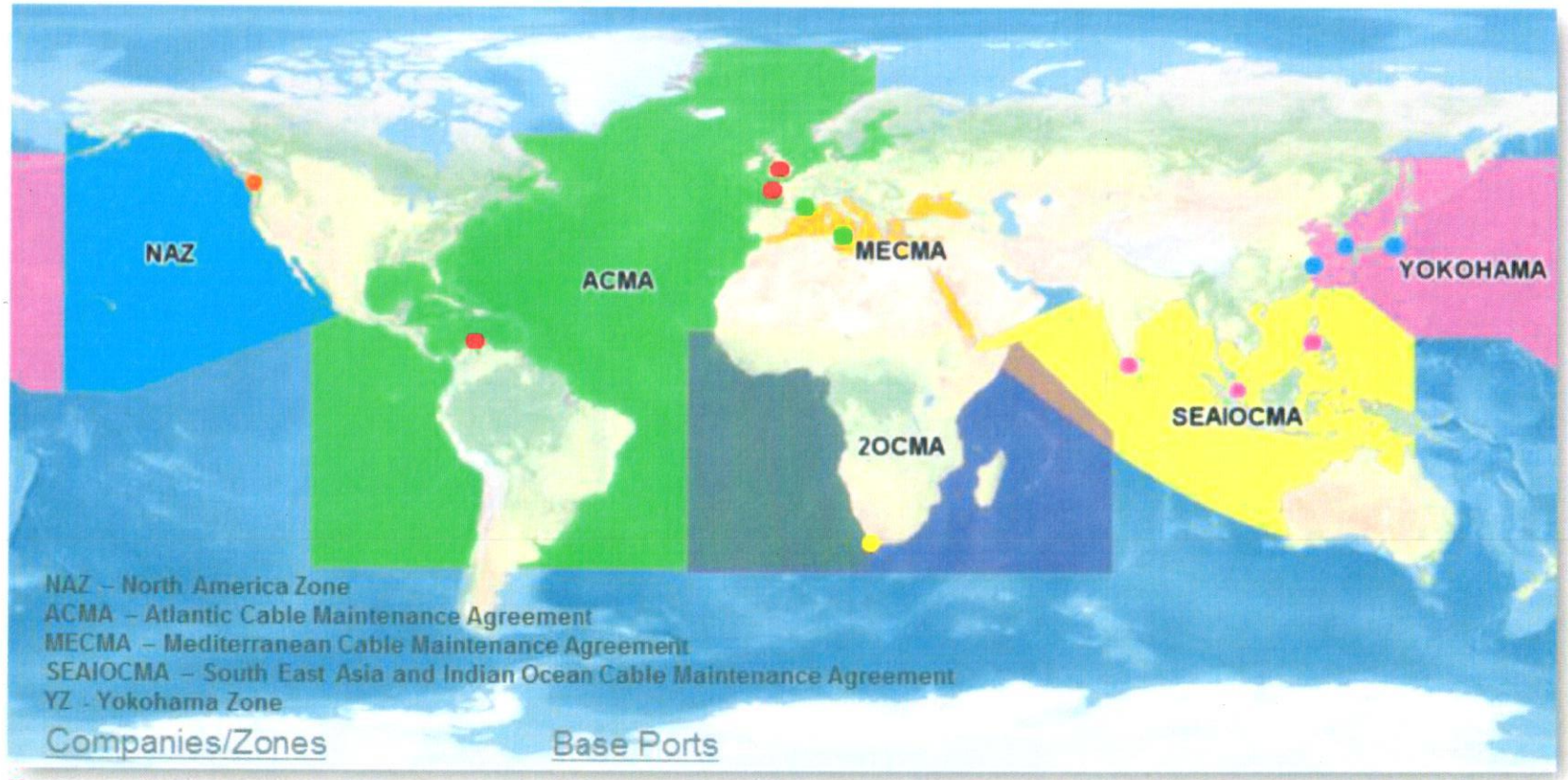
Figure 6.10 A subsea joint with fibers spliced and ready for assembly.
(Photograph courtesy of Keith Ford-Ramsden)

A rigid outer protection shell and bend restrictors are secured to the joint to ensure the minimum bend radius of the cable is not compromised. In the case of an armored cable repair the armored wires are keyed into the outer protection shell to ensure the joint has a similar tensile strength to the parent cable prior to the damage.

EXHIBIT C

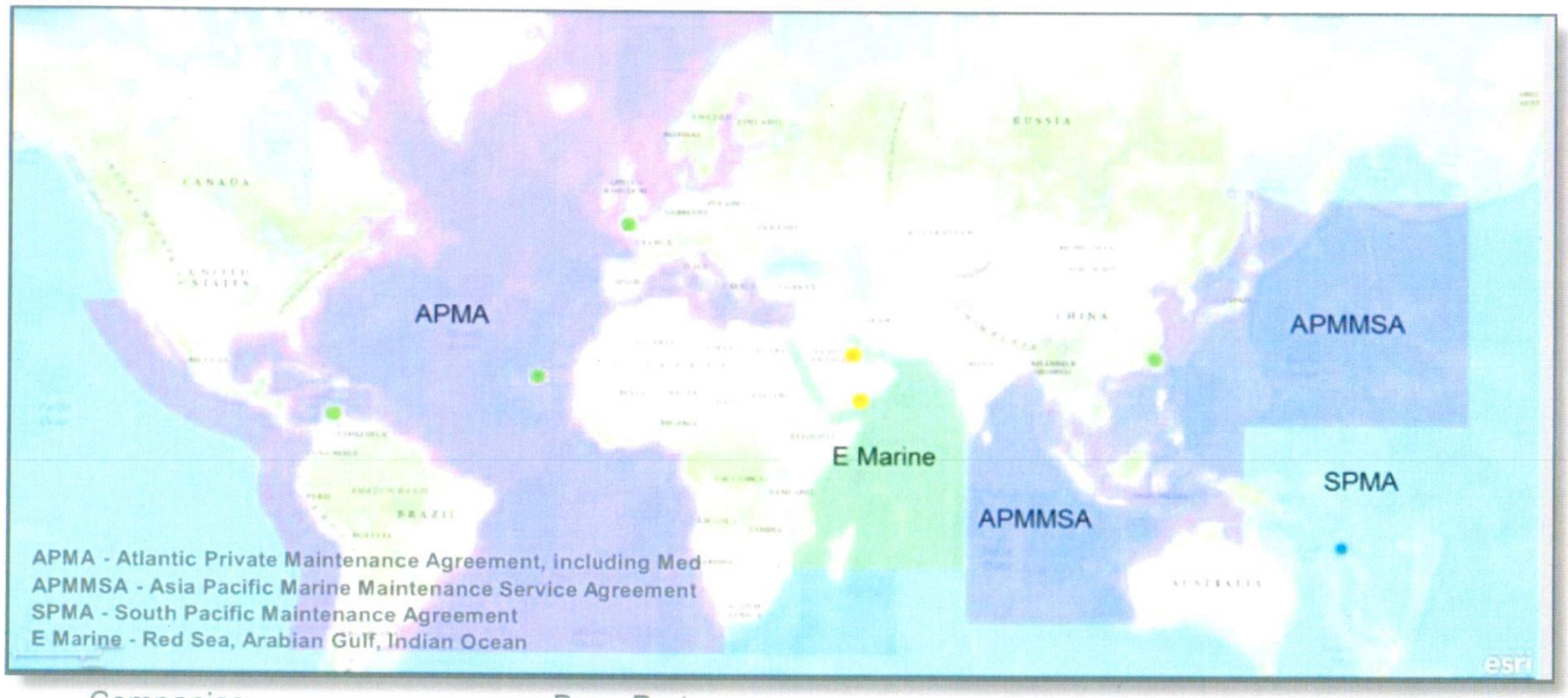
SCHEMATIC OF ZONE AGREEMENTS, SCHEMATIC OF PRIVATE MAINTENANCE AGREEMENTS

Zone Cable Maintenance Agreements



Companies/Zones	Base Ports
= Orange/GMSL *(ACMA)*	Brest, France; Portland, UK; Curacao
= Orange/Elettra *(MECMA)*	La Seyne Sur Mer, France; Catania, Italy
= Orange *(2OCMA)*	Cape Town, South Africa
= GMSL *(NAZ)*	Victoria, Canada
= KCS/KTS/SBSS (YZ)	Yokohama, Japan; Keoje, Korea; Wujing, China
= ACPL/IOCPL/GMSL *(SEAIOCMA)*	Singapore; Colombo, Sri Lanka; Manila, Phillipines

Private Cable Maintenance Agreements



Companies

- = ASN / TE SubCom
- = SubCom
- = eMarine

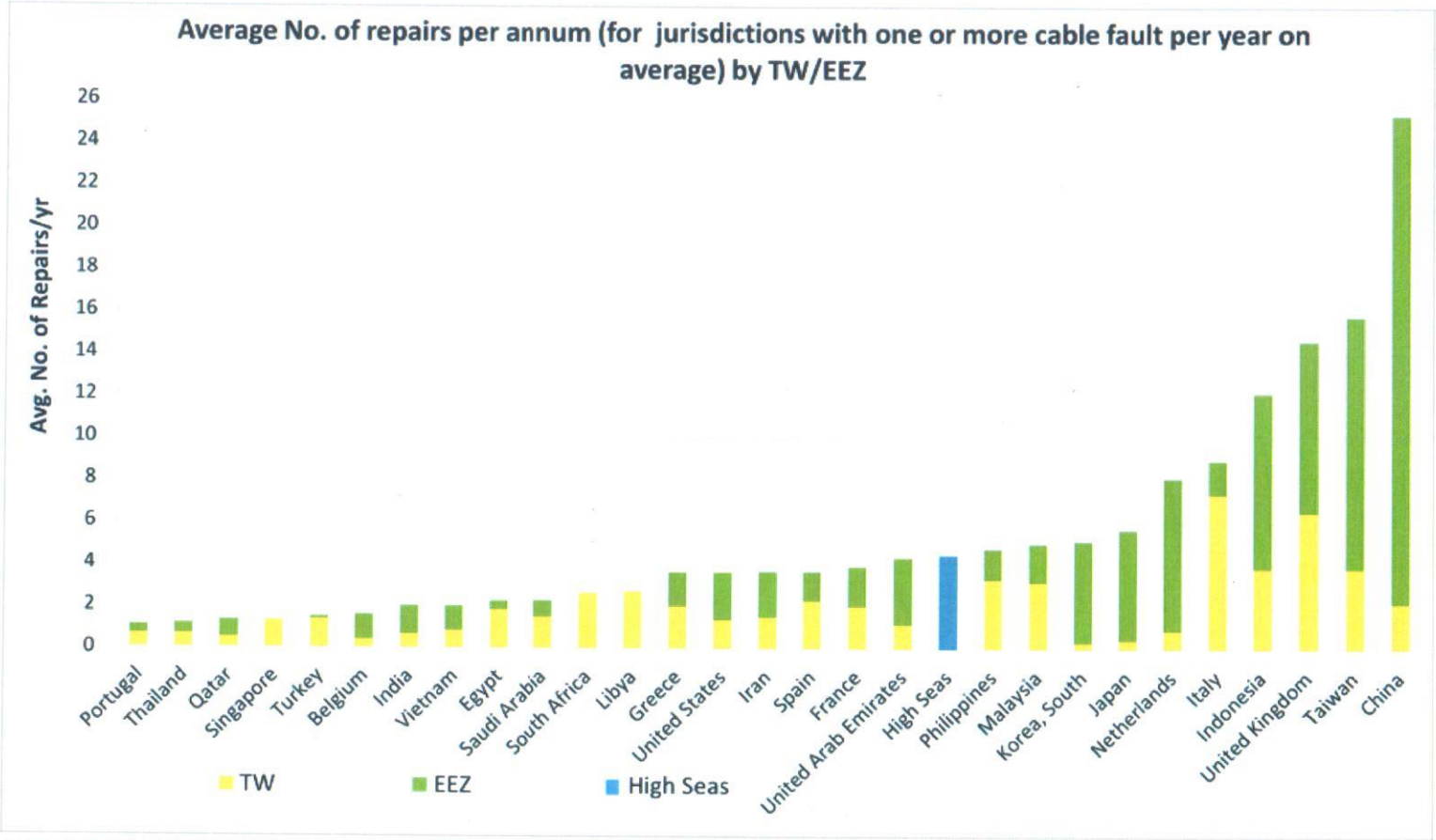
Base Ports

Calais, France; Cape Verde; Curacao *(APMA)*
Taichung,Taiwan *(APMMSA)*
Noumea, New Caledonia *(SPMA)*
Hamriya, UAE; Salalah, Oman

EXHIBIT D

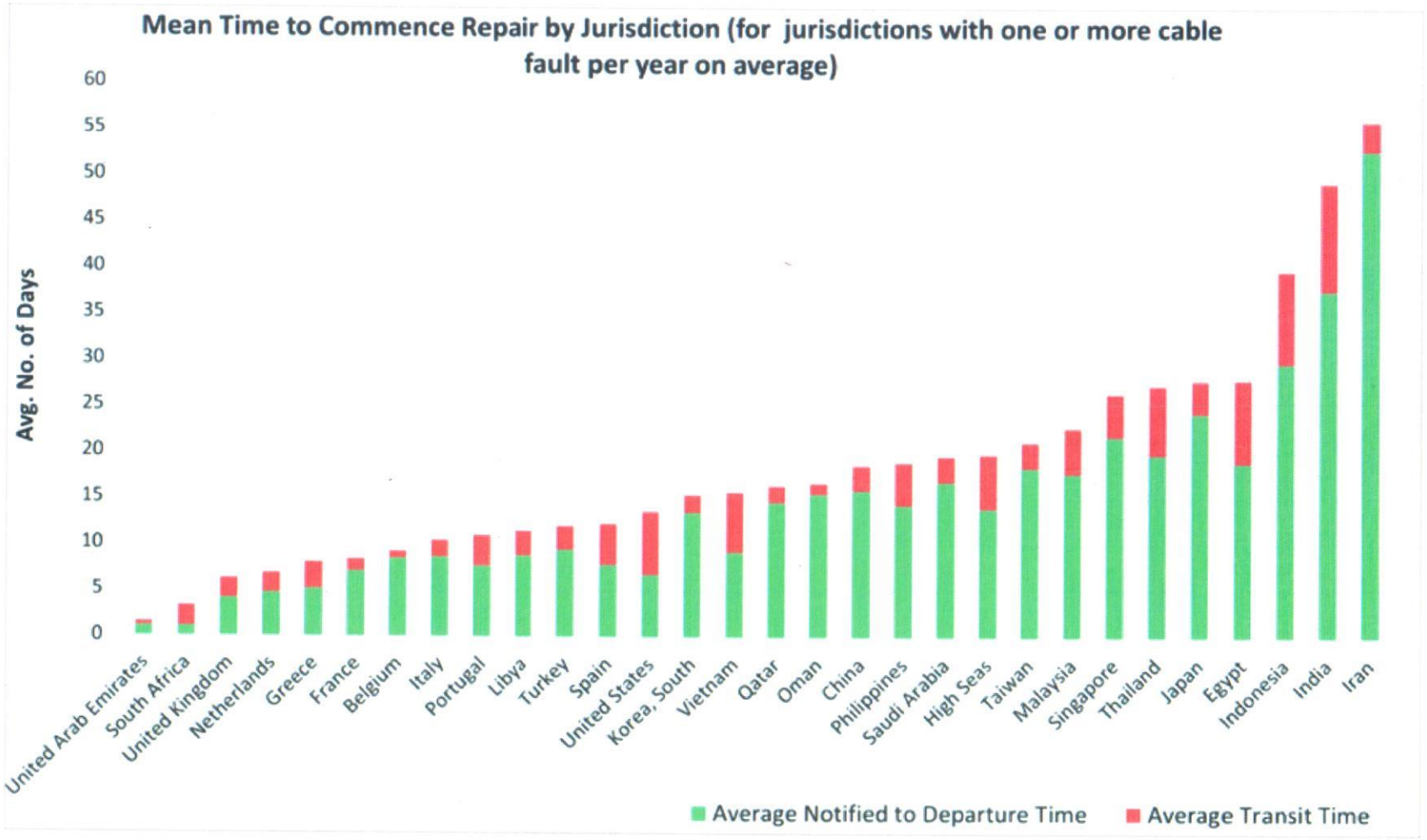
SUBMARINE CABLE REPAIR 2008-2015 WORLDWIDE-AVERAGE REPAIRS/YEAR

Submarine Cable Repair - 2008-2015
Worldwide Average Repairs/year



(Note that data for the United States includes repairs not only in the TW and EEZ of mainland USA but in its 'Unincorporated Territories' of the Territory of Guam and the Commonwealth of the Northern Mariana Islands (CNMI))

Submarine Cable Repair - 2008-2015
Average Time to Begin Repair



Submarine Cable Repair - 2008-2015
Causes for Repair Delay

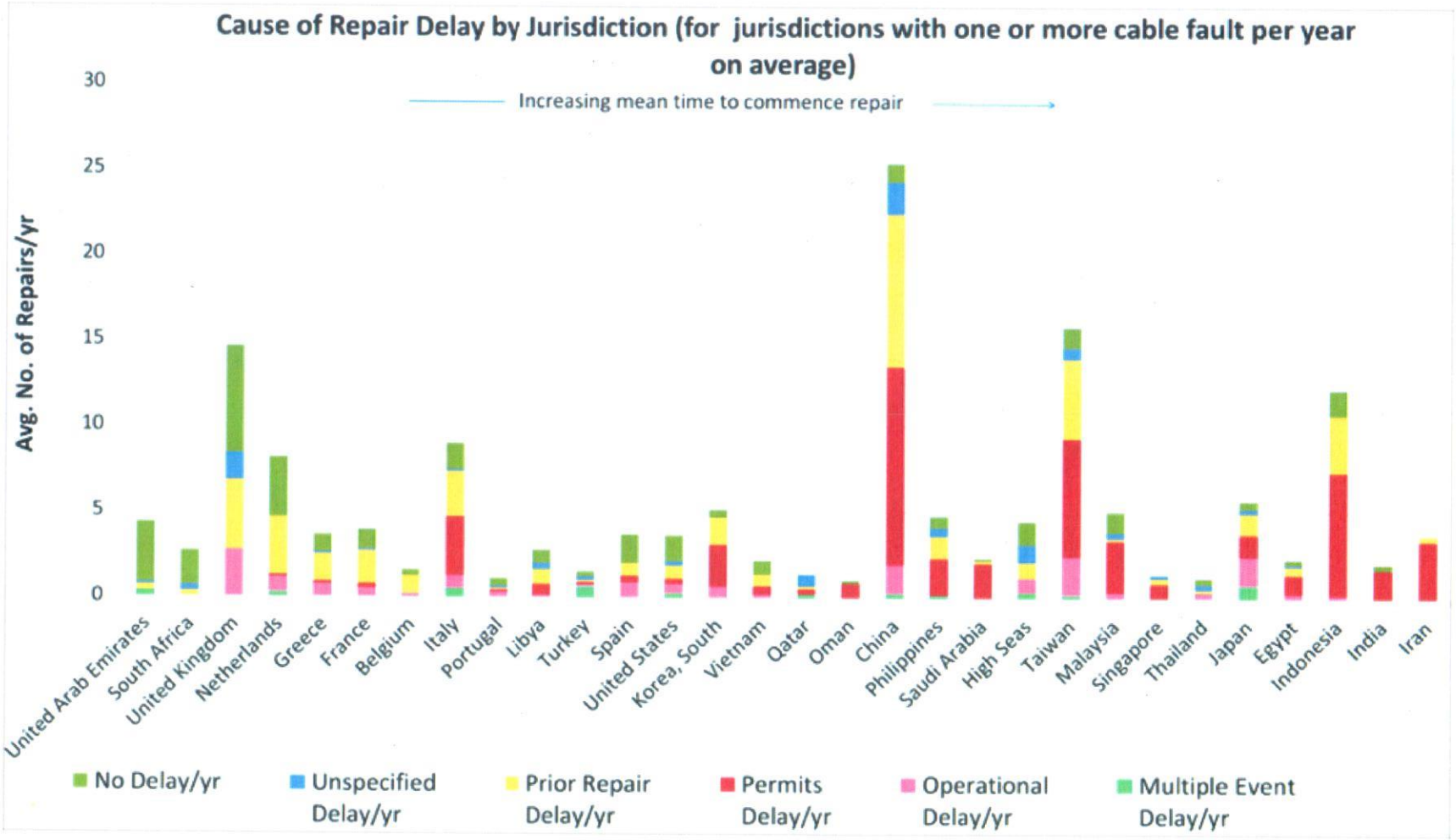


EXHIBIT E

CORRESPONDENCE BETWEEN ALCATEL-LUCENT AND UNITED STATES ARMY CORPS OF ENGINEERS (2013-2015)

De : Acevedo, Noel SAJ [mailto:Noel.Acevedo@usace.army.mil]
Envoyé : jeudi 24 octobre 2013 21:52
À : DANJOU, EMMANUEL (EMMANUEL)
Cc : Castillo, Sindulfo SAJ
Objet: Submarine Cables located on the seabed waterward of 12 Nautical Miles (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Mr. Emmanuel Danjou
Alcatel-Lucent

Sir:

Reference letter dated September 24, 2013 addressed to Mr. Sindulfo Castillo, Chief Regulatory Section, Antilles Office, USACE and signed by Mr. Leigh Frame, Chief Operating Officer, Alcatel-Lucent concerning America Movil Submarine Cable system (AMX-1).

I have been asked to advise you that a decision has been reached concerning the US Army Corps of Engineers regulatory responsibility over cable laying activities on the seabed, specifically within the Exclusive Economic Zone (EEZ) under the Outer Continental Shelf Act (43 U.S.C 1333(e)). We have concluded that we will limit our regulatory authority up to but not exceeding 12 nautical miles seaward.

I will appreciate you advise Mr. Frame of the above at your soonest convenience. Any questions on this matter may be addressed to Mr. Castillo at above email address.

Very respectfully,

NOEL ACEVEDO MÉNDEZ
ASSISTANT DISTRICT COUNSEL
ANTILLES OFFICE
USACE
(787) 729-6876/6877
(787) 289-7030 - FAX

Classification: UNCLASSIFIED
Caveats: NONE

From: Wood, Lance D HQ02 [mailto:Lance.D.Wood@usace.army.mil]
Sent: 22 January 2014 20:51
To: Carryer, Roy (Roy)
Cc: Wood, Lance D HQ02
Subject: RE: USACE regulatory authority over submarine cables (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thank you for your email, Mr. Carryer. I was involved along with Corps counsel from the Jacksonville District and the South Atlantic Division in making the the Corps of Engineers' decision regarding regulation of submarine fiber-optic cables proposed by your company within the jurisdiction of the Jacksonville District. That decision properly reflects the national legal and policy positions of the Corps.

If a similar factual situation develops regarding your company's proposal to law submarine cables within the jurisdiction of other Corps districts and divisions, I would expect a similar outcome.

My suggestion is that your company work with the appropriate Corps district offices to ensure that they understand what your company proposes to do within their jurisdictional areas, and what regulatory authorities (if any) you believe to be relevant. If you do not reach agreement with the Corps district staff in a timely way, please contact me directly so that I and the Corps Headquarters regulatory program staff can seek a resolution of any disagreement that might arise.

V/R,

Lance D. Wood
Assistant Chief Counsel
Environmental Law and Regulatory Programs U.S. Army Corps of Engineers
(202)761-8556

From: Carryer, Roy (Roy)
Sent: 02 March 2015 16:28
To: 'Wood, Lance D HQ02'
Cc: BARCLAY, MIKE (MIKE)
Subject: RE: USACE regulatory authority over submarine cables (UNCLASSIFIED)

Dear Mr Wood,

Thank you very much for your prompt and clear reply. I am also unaware of any new developments that would have changed the regulatory position as summarized in your January 2014 email.

Regards,

Roy Carryer

---Original Message-----
From: Wood, Lance D HQ02 [mailto:Lance.D.Wood@usace.army.mil]
Sent: 02 March 2015 16:20
To: Carryer, Roy (Roy)
Cc: BARCLAY, MIKE (MIKE)
Subject: RE: USACE regulatory authority over submarine cables (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thank you for your email, Mr. Carryer.

So far as I know, the advice that we provided to you in 2014 still reflects the current legal position of the Corps. I am not aware of any new development that would change that position. If you know of any such new development in the law relating to submarine cables, please let me know. I know of no reason why the views and practices of the Corps relating to this subject should not be known to any and all interested parties.

V/R,

Lance D. Wood
Assistant Chief Counsel
Environmental Law and Regulatory Programs U.S. Army Corps of Engineers
(202)761-8556

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