After 9/11, the international community adopted series of regulatory initiatives to counter security threats that exist in the maritime environment and enhance security of the maritime transport industry. Some of these international regulatory countermeasures, as well as those that already existed prior to 9/11, apply to offshore oil and gas installations. This part of the article examines how these regulatory countermeasures address the protection and security of offshore installations and highlights gaps in the international regulatory framework.

International regulatory countermeasures
The international regulatory framework for the protection and security of offshore petroleum installations consists of the following international legal instruments, all of which have already entered into force and all contain provisions pertaining to the protection of offshore oil and gas installations:

- United Nations Convention on the Law of the Sea 1982 (UNCLOS);
- International Convention for the Safety of Life at Sea 1974 (SOLAS Convention);
- International Ship and Port Facility Security Code (ISPS Code);
- Revised Seafarers' Identity Documents Convention 2003 (SID Convention);
- Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation 2005 (2005 SUA Convention); and

Resolutions and guidelines of the International Maritime Organization (IMO) pertaining to security of offshore petroleum installations, such as those that deal with safety zones and ships’ routing measures are also part of the international regulatory framework. Some aspects of the United Nations Charter such as an armed attack and the right of self-defense are also relevant to the protection of offshore installations, as demonstrated by the Oil Platforms Case, but these aspects are not discussed in this article.

Legal status of offshore petroleum installations
In examining international regulatory countermeasures, one of the key issues that arises is the legal status of offshore oil and gas installations which is one of the more difficult areas in
international law. The legal status is important because it can result in different legal and practical consequences in a particular situation. The legal status may impact on the jurisdiction that states can exercise over offshore installations and it may affect the applicability of certain maritime law principles and rules to offshore installations. For instance, if an offshore installation located in the exclusive economic zone (EEZ) is considered to be a 'ship' for legal purposes, then the flag state would have exclusive jurisdiction over it; but if it is considered to be an 'installation', the coastal state would have exclusive jurisdiction. In other words, the legal status of offshore oil and gas installations affects the rights and obligations of different states with respect to offshore installations and their activities.

One of the problematic aspects of the international regulatory framework is that there is no uniform rule for the legal treatment of offshore installations in international law. The term 'ship' can have different meanings in international conventions depending on the aims and purpose of the particular convention. Both fixed and mobile offshore oil and gas installations may be treated as ships under international law in certain contexts. Fixed offshore installations are generally not regarded as ships in international law, but there are at least two international conventions that treat both fixed and mobile offshore petroleum installations as ships. Mobile offshore installations are treated as ships in a number of international conventions, but some conventions treat them as installations.

Another approach to the legal status of offshore oil and gas installations is to treat mobile offshore installations as ships when they are in transit or moving from one offshore location to another, and to treat these as installations when they are engaged in offshore operations on location. This approach can be referred to as a ‘dual status approach’. To determine the legal status of an offshore oil and gas installation in international law it would be necessary to refer to definitions of the relevant international conventions.

The scope of UNCLOS in regulating the protection of offshore installations is relatively limited. In the territorial sea, the coastal state has the right to take several measures for the protection of offshore installations. By virtue of its sovereignty, the coastal state can establish safety or security zones around offshore oil and gas installations in the territorial sea of any breadth it deems necessary, as long as such zones do not hamper the innocent passage of foreign ships through the territorial sea and the safety of navigation is preserved. The coastal state can designate and prescribe sea lanes and traffic separation schemes in its territorial sea and require foreign ships to use such traffic separation schemes. It also can temporarily suspend the innocent passage of foreign ships in specified areas of its territorial sea if such suspension is essential for the protection of its security, or it can take 'necessary steps' in its territorial sea to prevent passage of foreign ships through the territorial sea which is found to not to be pursuing innocent passage. The coastal state can also exercise criminal jurisdiction on board the foreign
ship in its territorial sea and as necessary arrest persons on board, for example, when a ship was involved in the attack on an offshore installation.

The coastal state’s authority to protect offshore petroleum installations in its EEZ and on its continental shelf is much more limited than in the territorial sea. The principal protection measure for offshore petroleum installations available to coastal states under the UNCLOS is the right to establish safety zones around offshore petroleum installations up to a maximum distance of 500m and in those safety zones take measures necessary for the protection of offshore installations. UNCLOS does not specify the nature or scope of the protection measures that a coastal state can take within safety zones around offshore installations in the EEZ, but it provides that such zones should be reasonably related to the nature and function of an offshore installation. However, a 500m safety zone is considered too narrow to protect offshore installations from deliberate attacks particularly from intentional ramming by a large ship.

A coastal state’s jurisdiction and enforcement powers for responding to attacks on offshore petroleum installations in the EEZ and on the continental shelf (including interdiction and boarding of foreign ships involved in an attack on an offshore installation) are not clear. UNCLOS does not expressly allow coastal states and other states to take enforcement action against foreign ships involved in the attacks on or unlawful interferences with offshore petroleum installations in the EEZ or the high seas, which is a significant limitation in the international regulatory framework. The navigational rights of other states and the principle of the exclusive flag state jurisdiction appear to be well protected and respected under the UNCLOS framework, which makes it more difficult for coastal states to take enforcement actions against foreign ships involved in attacks on and unlawful interferences with offshore installations outside of the territorial sea.

Out of all types of threats faced by offshore petroleum installations, UNLCOS deals explicitly only with piracy. Other types of offshore security threats are not specifically addressed. However, even with regard to piracy, the key issue is whether an act of piracy can be committed against an offshore oil and gas installation in the legal sense. In short, the law of piracy can apply to offshore installations in very limited circumstances: only in circumstances where the offshore installations is regarded as ship for legal purposes at the time of the attack against it.

**1988 Suppression of Unlawful Acts (SUA) framework**

Violent unlawful acts committed against offshore petroleum installations are specifically addressed in the 1988 SUA Convention and the 1988 SUA Protocol, deal with jurisdictional and enforcement aspects relating to unlawful violent acts involving ships and offshore petroleum installations and operate on the basis that state parties are required to pass legislation making
the unlawful acts described in these treaties serious criminal offenses in their domestic law. State parties to the 1988 SUA framework have an obligation to establish jurisdiction to prosecute in certain situations despite the fact that the alleged offenses were committed outside their territory.

The 1988 SUA framework applies to fixed offshore installations and mobile offshore installations that are in transit, navigating or scheduled to navigate, but it does not apply to mobile offshore installations that are on location engaged in offshore operations. In other words, all mobile offshore installations that are on location engaged in offshore drilling or production are not covered by the 1988 SUA framework which is a major gap. The 1988 SUA framework has other limitations and weaknesses such as those relating to enforcement actions that coastal states are authorized to take against foreign flagged ships that were used to carry out attacks or interferences with offshore petroleum installations. The 1988 SUA Convention and the 1988 SUA Protocol give no additional powers to states to interdict and board foreign ships involved in violence against offshore petroleum installations and arrest perpetrators on board. Nevertheless, the 1988 SUA framework is an important part of the international regulatory framework.

**2005 SUA framework**

The 1988 SUA Convention and 1988 SUA Protocol were amended in 2005 and the amended treaties became known as the 2005 SUA Convention and the 2005 SUA Protocol. The 2005 SUA Convention contains three categories of new offenses. These new offenses relate to using a ship as a weapon or as a means for committing terrorist acts, non-proliferation of weapons of mass destruction (WMD) on the high seas, and the prohibition on transporting a person alleged to have committed an offense under other UN anti-terrorism conventions. The scope of the 2005 SUA Convention and the 2005 SUA Protocol has generally expanded, but the focus of the amendments was not so much on offshore petroleum installations. The limitations and gaps in the 1988 SUA Convention and 1988 SUA Protocol have not been addressed and were carried on into the 2005 SUA Convention and the 2005 SUA Protocol. There still remain some important limitations particularly with respect to enforcement and arrest powers especially when nonnationals or foreign flagged ships are involved.

Under both the 1988 and 2005 SUA frameworks, motivation of the offenders or the purpose for which the acts are undertaken is irrelevant, which makes it possible to use the SUA framework to punish violent acts committed by perpetrators belonging to any category of offshore security threats discussed in the first part of this article including piracy, terrorism, insurgency, organized crime, vandalism, civil protest (provided that civil protest involves violence or threat of violence), as well as internal sabotage including the supply of sensitive or confidential information to perpetrators. Acts that are considered offenses under the SUA framework would cover most attack scenarios and tactics that can be used by perpetrators including bomb threats,
detonation of explosives or bombs, underwater attacks, use of stand-off weapons, armed intrusion and seizure of an offshore installation, hostage taking and kidnapping of offshore workers, use of transport infrastructure as a weapon against an offshore installation, disclosure of confidential information which may assist perpetrators in carrying out or planning an attack, and even attempted and unsuccessful attacks.

Safety of Life at Sea (SOLAS) convention
A series of security-related amendments were made to the SOLAS Convention in 2002. These amendments included requirements for companies and ships, ship security alert systems, master’s discretion for ship safety and security, control and compliance measures, and the requirement to fit an Automatic Identification System (AIS) on board ships. The AIS is capable of automatically providing information about the ship’s identity, type, position, course, speed, and navigational status to other ships and to coastal authorities and can be used by coastal states to monitor the movement of ships in their waters for security purposes. However, there is no requirement in the SOLAS Convention to fit AIS on offshore petroleum installations.

In 2006, the long-range identification and tracking (LRIT) provisions were included in the SOLAS Convention as a mandatory requirement for ships and mobile offshore drilling units (MODUs) engaged on international voyages. MODUs that are engaged in drilling operations on location and other types of mobile offshore installations such as a floating production offloading and storage units (FPSOs), unless an FPSO is regarded as a ship when it is engaged on an international voyage.

International Ship and Port Security (ISPS) code
The ISPS Code establishes a comprehensive international security framework for maritime shipping and is intended to be a risk management tool whereby security levels and appropriate security measures are determined by the severity of assessed risks to which a port or a ship is exposed. Apart from ships and ports, the ISPS Code applies to MODUs engaged on international voyages.

The ISPS Code does not apply to fixed platforms and floating installations such as FPSOs, floating storage and offloading units (FSOs), and MODUs on location, which is a major limitation in the scope of its application to offshore installations. As its name seems to suggest, the ISPS Code was not intended to apply to offshore petroleum installations. In this regard, the ISPS Code provides that contracting states ‘should consider establishing appropriate security measures’ for fixed and floating installations and MODUs on location to allow interaction with ships and port facilities which are required to comply with the SOLAS Convention and the ISPS Code. However, the meaning of ‘appropriate measures’ is not clear and there are no specific
guidelines to assist states in implementing the appropriate security measures for offshore installations not covered by the ISPS Code.

Seafarers’ Identity Documents (SID) convention
The SID Convention framework is designed to prevent and deter the infiltration of the maritime workforce by terrorists and other adversaries thereby enhancing the security of the maritime industry. Although the SID Convention does not apply to identity documents for the offshore oil and gas industry, offshore petroleum installations do interact with ships such as tankers and offshore supply vessels. Therefore, these seafarer identity measures should still benefit the protection and security of offshore petroleum installations, for instance, by potentially reducing the likelihood of a commercial ship being hijacked and used in an attack against an offshore installation.

International Maritime Organization (IMO)’s countervailing measures
To address the risk of collisions between ships and offshore installations the IMO, in the 1970s and 1980s, adopted several resolutions related to offshore installations and safety of navigation. Among those, was Resolution A.671(16) that contains recommendations on various measures to prevent the infringement of safety zones around offshore oil and gas installations. However, Resolution A.671(16) does not give any powers to coastal states to take enforcement action against foreign ships for infringement of safety zones around offshore installations.

In the absence of an international regulatory body directly concerned with offshore oil and gas activities, the IMO is considered to be the competent international organization authorized under UNCLOS to make recommendations on the extension of breadth of safety zones around offshore installations in the EEZ beyond 500m. The extension of safety zones beyond 500m was considered by the IMO between 2008-2010, but the IMO ultimately concluded that there was no demonstrated need to establish safety zones larger than 500m.

Ships’ routing measures, which include traffic separation schemes, recommended routes and precautionary areas that establish 'areas to be avoided', can be used for the protection of offshore petroleum installations. The processes adopted by the IMO in assessing applications for ships’ routing are set out in General Provisions on Ships’ Routing. However, the legal basis for and the main objectives of these mechanisms are the safety of navigation and the protection of the environment. Therefore, any proposal to introduce such measures solely for security purposes is unlikely to receive the approval of the IMO.
Offshore petroleum operations often take place in areas frequented by small vessels such as fishing vessels, offshore support vessels and recreational boats. Such smaller ships pose a threat to offshore installations, but they are not covered by the security requirements the SOLAS Convention and the ISPS Code. Recognizing this gap in the regulatory framework for maritime security, in 2008 the IMO adopted Non-Mandatory Guidelines on Security Aspects of the Operation of Vessels Which Do Not Fall Within the Scope of SOLAS Chapter XI-2 and the ISPS Code, but it was stressed that they should not be interpreted as the basis for regulation of non-SOLAS vessels and related facilities.

Conclusion
This analysis highlights a number of limitations and gaps in international countervailing measures and identifies some problematic legal areas such as enforcement powers of coastal states against foreign flagged ships that may be used to carry out an attack. There is certainly scope for improvement in the international regulatory framework. It appears that the onus is on individual states to implement appropriate measures for the protection and security of offshore oil and gas installations in the territorial sea and continental shelf areas. Governments and industry have responded to the changed security environment and have adopted measures for the protection of offshore oil and gas installations.

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