Decommissioning

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1. Introduction

Oil and gas are non-renewable commodities. Every oil or gas field has its own life cycle. This begins with the commercial discovery of a field. Then a large amount of infrastructure is required for development. The production facilities involved commonly include platforms, drilling rigs and storage facilities. Once oil or gas have been extracted, they need to be raised to a pipeline or a terminal for their final destination. When production has ceased, all installations and structures must be decommissioned; they cannot not stay on site. There are two main reason for this. The first is the safety of users of the sea: derelict structures may impair safe navigation. The second is the prevention of pollution and protection of the environment.

Decommissioning therefore means disposing of any infrastructure used to explore, produce or raise oil and/or gas.[1] Decommissioning was originally referred to as 'abandonment', simply because most of the infrastructure was dumped in situ. However, the current definition of decommissioning is now deemed more suitable, even though some countries still maintain the traditional reference to abandonment.[2]

This chapter will analyse the Brazilian regulations that apply to decommissioning. It will assess on two levels whether the government has adopted the best international practice. The first level refers to the maturity of oil and gas provinces. Brazilian basins are relatively young compared to those in the United Kingdom and Norway. This comparison will illustrate the best practices from countries that currently face decommissioning challenges. The second level refers to the length of standing of the Production Sharing Agreement (PSA). The new Brazilian PSA regime is relatively young in comparison to those in Africa and Asia, which have been in place for decades. This comparison will draw on a large number of international practices so as to provide guidance on some different approaches for the Brazilian model. The international practices in either or PSA regimes are compared to the Brazilian approach below.

1 The PSA established for the JDZ in Timor Sea states that "Decommission means, in respect of the Contract Area or a part of it, as the case may be, to abandon, decommission, transfer, remove and/or dispose of structures, facilities, installations, equipment and other property, and other works, used in Petroleum Operations in the area, to clean up the area and make it good and safe, and to protect the environment."

2 For the purposes of this paper decommissioning and abandonment might be used interchangeably.

2. Petroleum title

The proprietary rights of oil and gas commonly belong to the relevant host government. (One exception is private property in the United States.) Host governments have several options for exploiting these natural resources,[3] but mainly refer to three different types of arrangements:

licence;[4]

- production sharing agreement;[5] and
- service contract.

In the first arrangement the government is relying on returns from tax, and assigns all proprietary rights of any production to the licensee. In the second arrangement part of the production is assigned to the contractor (subject to tax), with the majority usually remaining government property. In the third arrangement (a pure service agreement) no rights of oil and gas are assigned, and only a service fee is charged. However, hybrid models are possible. A hybrid regime adopts more than one of these arrangements, or a combination of features, in its jurisdiction. A good example of a hybrid model is a service contract that allows a premium in kind if certain criteria are satisfied.

Distinguishing such arrangements is relevant to decommissioning because who owns the infrastructure will vary between them. In a licence regime the infrastructure is likely to belong to the licensee, as this person is going to bear all the costs and risks involved in its implementation. In a PSA regime the infrastructure should revert to the government: the costs of its implementation are likely to be deducted as cost recovery. In a service agreement the infrastructure is likely to belong to the government as this entity, not the contractor, will be responsible for implementing it.

Host governments should be aware of these distinctions before deciding on their legal arrangement. Oil and gas companies should also be aware of them before investing in any province, as decommissioning is a critical factor in determining the economics of any projects.

3. International regulation

Decommissioning may be governed by international, regional or national legislation, but its application will vary from country to country. International treaties will only affect those parties who have signed and ratified that treaty. Regional treaties tend to exist between countries with shared maritime boundaries. National legislation on decommissioning is often not well regulated (or sometimes

3 For further information see: Bernard. G. Taverne, *Petroleum, Industry and Governments: A study of the Involvement of Industry and Government with the Production and use of Petroleum* (2nd edn, Kluwer Law International, Alphen aan den Rijn 2008); Bernard Taverne, *An introduction to the regulation of the petroleum industry: Law, Contracts and Conventions* (Graham & Trotman, London 1994); Eugene V. Rostow, *A National Policy for the Oil Industry* (Yale University Press, London 1948), 3–26; Danièle Barberis, *Negotiating Mining Agreements: Past, Present and Future Trends* (Klumer Law International, London 1998), 4–60.

4 A licence is also referred to as a concession agreement or lease. These terms are used interchangeably in the petroleum industry but have the same meaning.

5 Production Sharing Agreements are also referred to as Petroleum Sharing Contracts.

does not exist) in new or young oil and gas provinces as these issues arise towards the end of a field's production, which may last up to 40 years.[6]

The United Kingdom is a good example of the above matrix. It is a signatory party to international[7] and regional treaties,[8] and has also implemented national legislation regarding decommissioning.[9] Brazil does not have the same matrix, as no regional treaty affects Brazil with respect to decommissioning obligations. Nevertheless, Brazil is a signatory party to international treaties, which are the basis for the country's own decommissioning regulations. As a result, it is important to understand the international obligations that affect Brazil before analysing its national regulation.

3.1 Geneva Convention

The first international law to govern the laws of the sea was the Convention for the Continental Shelf, signed in Geneva in 1958. As its title suggests, this convention aimed to establish a basis for an international law of the sea that paid particular attention to maritime boundaries. However, it also addressed decommissioning issues, as may be seen in its Article 5.5:

Due notice must be given of the construction of any such installations, and permanent means for giving warning of their presence must be maintained. Any installations which are abandoned or disused must be entirely removed.

At first sight this appears a radical and somewhat draconian article for host governments and oil and gas companies to follow. It clearly requires that all and any installation must ultimately be removed from the seabed. Although this nowadays seems unrealistic, it was quite feasible at that time. Most offshore operations when the Convention was drawn up did not exceed shallow waters (in particular in the Gulf of Mexico).

As technology improved, oil and gas companies began to operate in deeper waters. This was not only a real technical challenge but also proved incompatible with Article 5.5. Completely removing an offshore platform that was 300 kilometres (km) away from the coast and in waters 3,000 metres (m) deep was not only a technical challenge but also a very expensive operation. Consequently, a new international approach to decommissioning was called for.

3.2 United Nations Law of the Sea

Although a new international regime was necessary to make regulation adequate to the practical reality it took nearly three decades for this to be achieved. The United Nations Law of the Sea (UNCLOS) of 1982 provided more flexibility for its signatory parties. Article 60 (3) sets out the following standards for removing installations or structures:

Due notice must be given of the construction of such artificial islands,

6 Charez Golvala, 'Upstream joint ventures – bidding and operating agreements', in Geoffrey Picton-Turbervill (ed.), *Oil and Gas: A practical handbook* (Globe Law and Business, London 2009), 45–6.
7 Eg United Nations Law of the Sea (1982).
8 Eg Oslo and Paris Convention for the Protection of the Marine Environment of the North East Atlantic (1992).
9 Petroleum Act 1998.

> installations or structures, and permanent means for giving warning of their presence must be maintained. Any installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organization. Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other States. Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed.

The "competent international organization" created for maintaining these standards is the International Maritime Organization (IMO), established under the umbrella of the United Nations. It issued its guidelines in 1989. In short, these required the following:

- the complete removal of all structures in water depths of less than 75 m and weighing less than 4,000 tonnes;
- the partial removal of all structures in a water depths above 100 m and weighing more than 4,000 tonnes, leaving a minimum depth of 55 m of clear water for safe navigation;
- the determination of position, depth and dimensions of any installation or structure not entirely removed;
- an indication on nautical charts of any remaining structures; and
- an indication of liabilities for future claims.

It was clear that the safety of navigation was a critical concern for the international authority. It must always be secured even if some flexibility might be allowed with regard to the removal of installations.[10]

After 1998 the allowances were restricted further. The depth at which complete removal was required was increased from 75 m to 100 m. More significantly difference, any installation was now required to be designed and constructed in a way that allowed for its complete removal.

Although the IMO guidelines have further reduced in flexibility in the last few years, a less draconian approach exist in practice as not all installations have been required to be removed. This new approach became far more acceptable internationally. But it is important to stress that the IMO's guidelines are just that; they are not obligatory. Their implementation and effectiveness is more an act of the goodwill of each signatory than a compulsory obligation.

Regional conventions might add further restrictions on decommissioning to the IMO's guidelines. The Oslo and Paris Convention for the Protection of the Marine Environment of the North East Atlantic (OSPAR) is a good example. This requires the removal of all installations of less than 10,000 tonnes rather than the 4,000 tonnes noted in the IMO guidelines.[11] However, this chapter will not cover any regional treaties as Brazil is not a signatory party to any of these.

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10 See also UNCLOS sections 60 (1), (2), (4), (5), (6), (7) and (8).
11 For more information about OSPAR see: http://www.ospar.org/.

It is important to distinguish between the removal of an installation and its disposal. As John Paterson suggests, "It is one thing to remove an installation or structure, whether wholly or partly; what happens to it thereafter is quite another."[12] It is therefore important to consider the London (Dumping) Convention, which sets out the international basis for disposing of waste.

3.3 London (Dumping) Convention[13]

The Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter 1972 (the London Dumping Convention) has been described as:

> one of the first global conventions to protect the marine environment from human activities and has been in force since 1975. Its objective is to promote the effective control of all sources of marine pollution and to take all practicable steps to prevent pollution of the sea by dumping of wastes and other matter.[14]

More than 80 states are currently parties to this convention.[15] Brazil became a signatory on July 26 1982 and became an effective member to its jurisdiction on August 25 1982.[16] According to Article III of the convention, dumping is defined as follows:

- Any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea; and
- Any deliberate disposal at sea of vessels, aircraft, platforms or other manmade structures at sea.

However, it is also relevant to note that the same provision also provides for the exclusion of certain issues from its definition of dumping, as follows:

- The disposal at sea of wastes or other matter incidental to, or derived from the normal operations of vessels, aircraft, platforms or other man-made structures at sea and their equipment, other than wastes or other matter transported by or to vessels, aircraft, platforms or other man-made structures at sea, operating for the purpose of disposal of such matter or derived from the treatment of such wastes or other matter on such vessels, aircraft, platforms or structures;
- The placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this Convention; and
- The disposal of wastes or other matter directly arising from, or related to the

12 For further information see: John Paterson, ´Decommissioning of Offshore Oil and Gas Installations` in Greg Gordon, John Paterson, Emre Usenmez (eds), *Oil and Gas Law: Current Practice and Emerging Trends* (2nd edn, Dundee University Press, Dundee 2011), 292–301.

13 http://www.imo.org/OurWork/Environment/SpecialProgrammesAndInitiatives/Pages/London-Convention-and-Protocol.aspx

14 http://www.imo.org/OurWork/Environment/SpecialProgrammesAndInitiatives/Pages/London-Convention-and-Protocol.aspx.

15 http://www.imo.org/OurWork/Environment/SpecialProgrammesAndInitiatives/Pages/London-Convention-and-Protocol.aspx.

16 http://www.imo.org/OurWork/Environment/SpecialProgrammesAndInitiatives/Pages/London-Convention-and-Protocol.aspx.

> exploration, exploitation and associated off-shore processing of sea-bed mineral resources will not be covered by the provisions of this Convention.

Oil and gas infrastructure is clearly included under the definition of dumping. However, some flexibility is provided within the exclusions clause otherwise it would not be feasible to operate offshore.

But the most relevant part of this convention is the categorisation of waste. Three categories are used:

- waste whose disposal is forbidden;
- waste whose disposal requires a special consent; and
- waste whose disposal requires a general consent.

Consequently, offshore installations might be disposed of at sea, but only to the extent that this does not fall foul of the legislation. Nevertheless, prior consent will always be required, and this must be carefully considered before it is given.

A 1996 protocol aimed to "further modernize the [London Dumping] Convention and, eventually, replace it".[17] This has been signed by 40 countries, although not all have ratified it. Under this protocol all dumping is prohibited, except for specific situations known as the "reverse list". However Brazil, like most other nations, is not a signatory party.[18] Consequently, this chapter will not cover the 1996 protocol.

4. Brazilian law and regulation

The concepts and international regulations mentioned above need to be considered, but it is more important to verify Brazilian regulations and practice for decommissioning.

4.1 Concession agreements

As previously described, oil and gas are natural resources that commonly belong to the host government. Brazil is no exception; under its Constitution oil and gas belong to the government.[19] However, Article 177 of the Constitution authorises private parties to search for and exploit natural oil and gas.[20] Law 9,478/97 determined the licensing regime for exploring and exploiting these resources in Brazil.

Until 2010, when the new PSA regime was implemented, this was the only legal recourse available for searching for and exploiting oil and gas. The concession agreement has seen minor changes since its first inception in the late 1990s. The latest agreement, which originates from the 10th licence round, regulates decommissioning in the following terms:[21]

17 http://www.imo.org/OurWork/Environment/SpecialProgrammesAndInitiatives/Pages/London-Convention-and-Protocol.aspx.
18 http://www.imo.org/OurWork/Environment/SpecialProgrammesAndInitiatives/Pages/London-Convention-and-Protocol.aspx.
19 See Article 176 of the Constitution.
20 See Article 177 of the Constitution.
21 http://www.anp.gov.br/brasil-rounds/round10/index_e.asp