


The financial aspects of offshore decommissioning and Brazilian regulatory system in the light of the transnational legal order

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ABSTRACT

This article discusses the financial aspects of offshore decommissioning, highlighting the regulatory challenges to balance public interest protection and investment attraction. The Brazilian regulatory system for offshore decommissioning is chosen to exemplify how Brazil is tackling these issues. To detail this system, this article adopts the Transnational Legal Order approach, by Halliday and Shaffer, which offers an integrated view of the regulatory system, detailing it in three categories of rules: national, international and transnational.

1. INTRODUCTION

Offshore decommissioning operations are a challenge for all countries that produce offshore oil and gas (O&G), since it doesn't have many cases already concluded worldwide. This is a complex activity as it involves technical, environmental, social and financial issues. The costs involved are very high and the risk of default on decommissioning obligations must be taken seriously by producing countries. This article will discuss the financial aspects of offshore decommissioning, highlighting the regulatory challenges to balance public interest protection and investment attraction, and it will present how Brazil deals with this issue. The Brazilian regulatory system will be detailed according to the Transnational Legal Order approach, showing the influence of international and transnational rules on the rule-making process, interpretation and enforcement of Brazilian rules for offshore decommissioning.

The Brazilian offshore decommissioning system was chosen as a case of analysis, due to the relevance of offshore O&G production in Brazil. With the discoveries in the Campos Basin in the 1970s, Petrobras, the Brazilian Nacional Oil Company, developed a high level of expertise for offshore operations,¹ which culminated in the discovery of the Pre-salt at the end of the 2000s, a prolific area whose production currently represents more than 70 per cent the Brazilian production.²

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¹ Helder Queiroz Pinto Jr and Rosélia Piquet, 'Transformações em Curso na Indústria Petrolífera Brasileira' (Rio de Janeiro: Editora E-papers, 2018).

² According to Monthly Oil and Natural Gas Production Bulletin of April. For more information, see: <https://www.gov.br/anp/pt-br/centrais-de-conteudo/publicacoes/boletins-anp/bmp/2021/2021-04-boletim.pdf> accessed 04 June 2021.

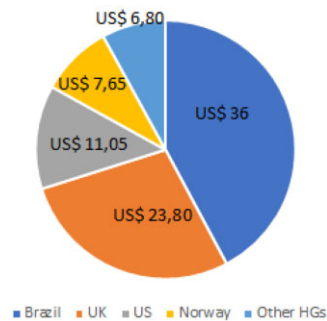


Figure 1. Forecast of global investment in decommissioning after 2025 (in billions of US\$).

Source: Adaptation of FGV.¹³

for Standardization (ISO), American Petroleum Institute (API), Standards Norway (NORSOK), International Electrotechnical Commission (IEC), International Society of Automation (ISA), American Society for Testing and Materials (ASTM) propose several industry practices.

Offshore decommissioning still poses many challenges for all producing countries that must deal with this issue since it does not have many cases already concluded worldwide. However, in the Brazilian context of deepwater and ultra-deepwater, planning decommissioning is even more challenging. Pinto Jr and Piquet⁷ also highlight the growing expansion in the amount of equipment installed in the subsea bed as the vector trend for offshore activities, making subsea units increasingly larger and more numerous. This configuration further increases the costs of offshore decommissioning in Brazil.

Thus, it is a big challenge to ensure that high-cost offshore decommissioning operations will be carried out by companies that hold the rights to the field when the financial resources from the field's production run out. According to Fundação Getúlio Vargas (FGV),⁸ Brazil must be a world leader in investment volumes concerning decommissioning. Thus, demanding measures to avoid the default of this operation without impacting investments is a regulatory challenge.

High costs and risk of default

According to Cameron,⁹ the costs involved in offshore decommissioning 'are likely to prove daunting to many foreign and domestic investors, and the risk of default on decommissioning obligations is to be taken seriously by governments and co-venturers alike.' Therefore, it is necessary for the Government to protect itself by demanding guarantees from companies. However, it is necessary to be reasonable in this requirement, so that the weight of guarantees does not make investments unfeasible.

In Brazil, there is an approximate £8.3 billion cost estimated until 2026.¹⁰ In the UK, the North Sea Transition Authority (former Oil and Gas Authority) estimates the cost of £46 billion by 2022.¹¹ Figure 1 shows the FGV estimate for the costs of decommissioning activities in the main producing countries with offshore activities after 2025¹².

In producing countries with more experience in offshore production, default cases concerning decommissioning operations have already been reported. For example, Cameron¹⁴ cites two default cases in the UK, which took place in the Ardmore fields in 2005 and Emerald in 1996. The decommissioning costs of these two fields added up to nearly £5 million. Regarding the Ardmore

⁷ Pinto and Piquet (n 1).

⁸ FGV Energia, *Descomissionamento Offshore no Brasil - Oportunidades, Desafios & Soluções* (FGV 2021).

⁹ Cameron (n 6).

¹⁰ ANP (n 3).

¹¹ For more information, see <<https://www.nstauthority.co.uk/decommissioning/cost-estimate/>> accessed 25 April 2022.

¹² FGV (n 8).

¹³ *ibid.*

¹⁴ Cameron (n 6).

field, the UK government arranged for the drilling company hired by the insolvent company, Tuscan Energy North Sea Ltd. (TESL), to bear all costs. Regarding the Emerald field, the UK government had to pay all costs, spending approximately £1 million.

Anderson and others¹⁵ report that after the 2014 crisis, the number of orphan wells in the USA was in the thousands and American taxpayers paid approximately US\$35 billion due to companies' default concerning decommissioning costs. The defaulting companies had been exempted from providing guarantees that would assure the decommissioning obligations. These authors also note the case of default by the Redwater Energy Corporation in Canada. Fortunately, the Canadian government held insurance that can be used for decommissioning operations. However, this was only possible after the Supreme Court of Canada decided to prefer decommissioning operations over debts to private creditors, based on the polluter pays principle and the public's interest in a safe environment over the private interest of creditors.

Producing countries will endeavour to prevent the costs from falling on the government and, consequently, on its taxpayers, in case one or more holders of the rights to the offshore field that is to be decommissioned do not comply with their decommissioning obligations. The objective is to protect producing countries and their taxpayers against unexpected and high costs resulting from companies' default when production ceases and the field needs to be deactivated.

Notwithstanding, finding a balance between protection against default and incentives to extend the productive life of the offshore field is currently the biggest challenge for countries that produce offshore oil.

Financial guarantees for decommissioning

Thus, default cases reinforce the need to demand guarantees from companies that hold Exploration and Production (E&P) rights to an offshore field early in the field's productive life. Hammerson and Antonas¹⁶ point out the following types of guarantees that producing countries usually request: cash, a bond from a bank or insurance company, parent or affiliate guarantee, letter of credit from a bank. There are also other types of guarantees, such as the pledge of O&G production and auto insurance, adopted in Brazil and trust funds, adopted in countries such as the USA, Tanzania and Belize.

Cash or provisioning funds equate to savings, whereby companies that hold E&P rights over a field provide financial resources in a bank account throughout the field's productive life, with the producing country as a beneficiary. These resources can only be used to implement an approved decommissioning plan.

According to Cameron,¹⁷ this fund provides security for both producing country and the company or consortium of companies that hold E&P rights over a field. This author points out that the amounts contributed to the fund are considered cost recoverable since they can be classified as operating expenses for the purpose of any industrial taxes. Further the amount that remains in the fund should be considered as income tax for tax purposes. If the field is under a Production Sharing Agreement (PSA), the fund's left must be divided into profit oil.

Anderson and others¹⁸ warn of the need for the bank to be a safe institution, as the fund's solidity depends on the bank's stability. These authors point out that national banks are often chosen for nationalist reasons, but they are not always safe options. It must also be ensured that the allocation of resources occurs exclusively for decommissioning operations. The choice of the beneficiary is another issue that deserves attention, according to these authors. They report the example of Angola, in which the fund must be paid to the National Oil Company (NOC). However, NOCs are often subject to the current government's decisions, which may lead to resources being

¹⁵ Owen L Anderson and others, *International Petroleum Law and Transactions* (1st edn, RMLF 2020).

¹⁶ Marc Hammerson and Nicholas Antonas, *Oil and Gas Decommissioning: Law, Policy and Comparative Practice, Second Edition* (2nd edn, Globe Law and Business 2016).

¹⁷ Cameron (n 6).

¹⁸ Anderson and others (n 15).

directed to other causes. Besides, these authors claim that corruption is endemic in most producing countries.

The letter of credit is a security issued by a bank or financial institution in the amount of the estimated costs for the decommissioning operations. The bonds are issued by a bank or insurance company, which guarantees to the producing country that the company holding the E&P rights over an offshore field will be able to afford the decommissioning costs. In the event of default, letters of credit and bonds can be executed by the producing country at the respective financial institutions to receive the estimated amount to bear the costs of decommissioning.¹⁹

A parent or affiliate guarantee, also called a corporate guarantee, is issued by another company belonging to the same group as the company that holds the E&P rights over the offshore field, considering the guarantor's greater financial capacity. This type of guarantee has a bail nature. Thus, in the guaranteed default, the guarantor company is responsible for paying the decommissioning operations costs or carrying out these operations.²⁰

Brazil also adopts two other types of guarantees for companies. One of them is the oil pledge, whereby the company holding the E&P rights over the offshore field offers oil or gas production from another field whose E&P rights it also holds as a guarantee of the decommissioning costs. The other is self-insurance, whereby the company that owns E&P rights over the offshore field submits an extrajudicial executive title to the regulatory body to ensure compliance with the decommissioning obligations.

According to Hammerson and Antonas,²¹ the financial institutions that issue insurance must have a ranking that proves their financial capacity to protect the producing country. It is recommended that even companies that give other types of guarantees also have their economic power certified.

Another alternative to protecting against company default is the creation of special funds to cover decommissioning costs. Anderson and others²² report that after the problems observed in the North Sea and the Gulf of Mexico, countries with more recent oil production created such funds in their national regulation. For example, we can mention the Tanzania Fund, which is financed by oil companies operating in the country. These are expected to contribute to the fund two years after the start of commercial production. Another example is the Texas Oilfield Cleanup Fund, created in 1991 to clean up contamination and properly abandon wells. This fund is financed by mandatory fees charged to companies in the oil industry. Before banning oil operations in 2018 to protect its coral reef, Belize also demanded the payment of 1 per cent of the total value of oil production to feed two funds. One fund was intended to compensate for the loss resulting from oil operations, and the other was dedicated to financing conservation and environmental education activities.

The creation of a compulsory contribution fund to be fed by all E&P companies operating in Brazil is proposed by FGV²³ as an alternative to the traditional regulatory command and control mechanism. Thus, this fund could cover possible bankruptcy cases and facilitate the transfer of rights to new small and medium-sized companies interested in continuing operations in marginal fields.

Still, concerning the types of guarantees, it is worth making a brief comment on the Decommissioning Security Agreement (DSA), a model contract developed by Offshore Energies UK (OEUK former Oil & Gas UK—OGUK) in 2009. DSA is a private agreement between members of a Joint Operating Agreement (JOA); therefore, it is not subject to national regulation. From the DSA, the companies participating in a JOA present guarantees for the costs of decommissioning in order to prevent the default of one of the parts of the consortium, since the most

¹⁹ ANP Resolution n 854/2021 about Decommissioning Financial Guarantees.

²⁰ *ibid.*

²¹ Hammerson and Antonas (n 16).

²² Anderson and others (n 15).

²³ FGV (n 8).

current versions of the JOAs establish joint and several liabilities between the consortium's members.²⁴

The DSA is also adopted in the case of transfer of rights. The company entering the consortium needs to sign a DSA and guarantee the costs of decommissioning. UK regulation also allows the regulator to be part of a DSA. This possibility facilitates the transfer of rights when a smaller company acquires a larger company's participation, mainly concerning mature fields. Thus, the incoming company will not have to present two guarantees for the decommissioning costs: one for the regulator, another for the consortium. The guarantee offered under the DAS will be valid between the parts of the JOA and before the regulator.²⁵

Balancing costs and investments

The high costs of financial guarantees are a factor to be considered, according to Hammerson and Antonas.²⁶ Banks and financial institutions will charge fees and require proof of equity to grant guarantees or will even require collateral insurance depending on the company's ranking that will be guaranteed. These authors also note that the letter of credit can cost up to 3.5 per cent of the insured amount. The funds also immobilize a part of the resources that could be invested in the operations.

Thus, guarantees and contributions to the funds represent an additional cost and can substantially impact investment capacity, especially for smaller companies interested in operating mature fields. Companies tend to defend the submission of guarantees close to the end of production, while for the producing country, they tend to demand their submission when the O&G project begins.²⁷ Continuously, the industry pleads for financial guarantees not to overburden companies.²⁸

Hammerson and Antonas²⁹ state that the decommissioning activities are related to the Maximizing Economic Recovery (MER) policy, as it must seek to maximize the revenues from oil exploitation with the minimization of costs. Finding the balance between the guarantees requirement to mitigate the default risk of companies and the maintenance of the flow of investments in a period in which the field's production will be in decline is a significant challenge for the producing countries, especially those with offshore operations.

To achieve this balance, it is important to find solutions that minimize guarantor's costs. According to Cameron,³⁰ the cost estimate for the decommissioning operations must be carried out well in advance and must provide a margin of error. Thus, it is possible to develop strategies to raise sufficient funds when the flow of financial resources from offshore field production is declining. However, factors such as oil prices, technological developments for enhanced oil recovery (EOR), and environmental policy can impact the cost estimate over the field's life. Anderson and others³¹ also point out that the industry's lack of offshore decommissioning experience can also make it difficult to estimate costs.

The UK and Colombia present a model of progressive contribution of financial guarantees characterized by requiring lower guarantee values at the beginning of production and higher values close to the end of the contract. However, for this model to be effective, the calculation in decommissioning activities must be as close to reality as possible.³²

Another calculation method, pointed out by Anderson and others³³ is the Unit of Production (UoP), used for annual payments. Adopting this method, one should start from the most recent

²⁴ Hammerson and Antonas (n 16).

²⁵ *ibid.*

²⁶ *ibid.*

²⁷ Cameron (n 6).

²⁸ FGV (n 8).

²⁹ Hammerson and Antonas (n 16).

³⁰ Cameron (n 6).

³¹ Anderson and others (n 15).

³² Hugo Candiá Saad and others, 'Regulamentação das garantias financeiras referentes ao descomissionamento de campos de petróleo e gás natural', Rio Oil & Gas Conference (2020).

³³ Anderson and others (n 15).

estimated decommissioning cost, subtract it from the amount already provided and multiply the result by the proportion of production in the current year, considering the remaining recoverable reserves. Using this calculation method, the entire amount related to the decommissioning costs is paid until the final production year.

Companies holding E&P rights over offshore fields will likely reduce decommissioning costs to reduce the costs of guarantees. These companies can use tax reliefs for the calculation, which is not recommended since, at any time, the producing country can suspend these tax reliefs. Hammerson and Antonas³⁴ maintain the importance of a detailed methodology to calculate the costs of decommissioning and the valuation of reserves. For these authors, clarity in the calculation reduces the potential for conflicts around the operator's estimate and minimizes the operator's discretion.

It is also important that producing countries have their regulators trained to analyse the estimated costs to verify their accuracy or that they require the analysis of a third party, an independent expert, to correctly assess the costs and help avoid misunderstandings, as suggested by Anderson and others.³⁵

The UK regulation provides for hiring an independent expert to perform the calculations of the decommissioning costs in the event of a dispute and when the regulator is part of the DSA. At least once a year, or up to three times, the independent expert must be hired to calculate changes in the value of reserves and the cost estimate, considering technological developments, regulatory changes, etc.

In summary, to calculate the guarantee effectively, it is necessary that this calculation is based on a decommissioning project that is as close as possible to what will be carried out. Therefore, the importance of thinking about decommissioning is already at the time of elaboration of the development plan. Install the equipment, already predicting how they will be uninstalled. And present a project, at least conceptual, at the beginning of the production phase.

Transfer of rights

The problem of financing offshore decommissioning becomes even more critical when a large company holds the offshore field's rights and, when production becomes marginally profitable, these holders decide to assign the rights to a smaller company with less financial capacity and, therefore, greater risk of default. In this case, it is necessary to protect the entire security system for decommissioning set so far. It may be required for the transferor company to continue maintaining principal or subsidiary responsibility for the decommissioning obligations. Also, the assignment contract may be allowed to retransfer the asset to the transferor after approval by the regulator.³⁶

The greatest challenge is to find a balanced formula between the guarantee requirement and the incentive for new investments in the field. Especially when the field reaches its maturity and requires new capital contributions to increase its recovery rate and the extension of its life cycle.³⁷

Mature field operators suggest a triple balance between the interests of the company that sells the field rights, the company that buys and the regulator that wants to maintain an acceptable security level concerning decommissioning costs so that the requirement for guarantees does not overburden the business to the point of making it infeasible. Thus, especially for the company interested in buying the field, it is necessary to clearly understand the decommissioning liability that it will acquire and the possible alternatives for decommissioning. The regulator should allow the new entrant to review costs as well.

The financing of decommissioning operations and the various ways producing countries can protect themselves from possible defaults are still under discussion, especially in producing countries with offshore operations, where decommissioning costs are much higher.

³⁴ Hammerson and Antonas (n 16).

³⁵ Anderson and others (n 15).

³⁶ Hammerson and Antonas (n 16).

³⁷ Cameron (n 6).

3. THE OFFSHORE DECOMMISSIONING REGULATORY SYSTEM AND THE BRAZILIAN REGULATION

To understand the Brazilian regulatory system for the upstream sector in an integrated way as a system formed by national, international and transnational rules, this article adopts the methodological approach of Halliday and Shaffer.³⁸ These authors propose the existence of a new legal order, which they call the Transnational Legal Order (TLO).³⁹

The TLO, as proposed, would be formed by the rules that make up the national legal order, the rules that make up the international legal order and the transnational rules. Halliday and Shaffer⁴⁰ characterize this third order, differentiating the TLO from the then consolidated national legal order and international legal order.

According to Halliday and Shaffer,⁴¹ the TLO's objective is to influence the national legal order of the nation-states directly or indirectly. Thus, for these authors, the transnational rules orbit around the national and international order and are valid because they interact, influence and affect the national and international legal orders.

The international community was the first to draw up rules on this issue, having published some international conventions before the producing countries organized themselves to regulate this operation. Thus, it is possible to say that the regulatory system for offshore decommissioning emerged in the international legal order through international conventions aiming to protect the freedom of the seas and seagoing commerce to the global community.⁴²

However, currently, offshore decommissioning is largely regulated by producing countries. Fiatikoski⁴³ reports that the IHS Markit PEPS legal and contractual database points out that there are 136 regulations on decommissioning.

This system is also made up of transnational rules developed by private actors, such as professional associations Baltic and International Maritime Council (BIMCO), Leading Oil & Gas Industry Competitiveness (LOGIC), Offshore Energy UK (OEUK), API, Association of International Energy Negotiators (AIEN) and companies such as DNV-GL.

The Brazilian regulatory system for offshore decommissioning is influenced by international and transnational rules. The national rules were drawn up with reference to international conventions and incorporated in their text some transnational rules.

Within this system, the relevant transnational rules are model contracts, industry practices, codes of conduct, risk allocation models and foreign regulations.⁴⁴ Transnational rules can contribute to a more updated, adequate and swift regulation, which can unlock a series of investments related to decommissioning and encourage the development of activities related to this operation in Brazil.⁴⁵ In addition, transnational rules can contribute to carrying out offshore decommissioning operations in compliance with the most up-to-date environmental, social and safety requirements.

The following sections will detail the international and transnational rules that are relevant to the Brazilian regulatory system for offshore decommissioning, present the Brazilian rules and identify the influence of international and transnational rules in this system.

International rules

In the context of the offshore decommissioning regulatory system, the international legal order assumes a prominent role since international conventions were the first rules to integrate this

³⁸ Halliday and Shaffer (n 5).

³⁹ For more information about TLO, see Halliday and Shaffer (n 5) and Luciana Palmeira Braga, *The Brazilian Regulatory Systems for Unitization and Offshore Decommissioning: An Analysis of the Transnational Legal Order* (Economics and Finance, Université Grenoble Alpes 2021).

⁴⁰ Halliday and Shaffer (n 5).

⁴¹ *ibid.*

⁴² Anderson and others (n 15).

⁴³ Rodrigo M Fiatikoski, 'Decommissioning Regulation Around the World' Interview (2021).

⁴⁴ Despite being created by sovereign countries, foreign regulations cannot be considered international rules within the Brazilian regulatory system for the upstream sector. This is because foreign regulations are prepared within the national legal order of a given producing country, without the participation of the Brazilian State, that is, without the consent of that country. Thus, under the light of the Brazilian national legal order, foreign regulations will be treated in this article as transnational rules.

⁴⁵ FGV (n 8).

system. Higgins⁴⁶ states that '(t)he legal regulation of the offshore abandonment of structures and installation on the continental shelf is in the first place determined by international law.'

Higgins⁴⁷ explains the importance of the international legal order for the offshore decommissioning regulatory system based on two arguments:

First, states will want, both as a matter of general policy and to protect themselves against any litigation, to ensure that their abandonment and reclamation policy is consistent with international law. Second, their rights on the continental shelf are, in any event not rights of full sovereignty. They are sovereign rights for the purpose of exploring and exploiting shelf resources.

Anderson and others comment that the first international convention on this topic—the 1958 Geneva Convention on the Continental Shelf—came into effect (in 1964) even before giant fixed platforms were installed in the North Sea. According to Martin,⁴⁸ international legal order related to decommissioning has developed over the past 60 years and is comprised of three major international conventions—the 1958 Geneva Convention on the Continental Shelf; the 1972 London Dumping Convention; the 1982 UN Law of the Sea Convention (UNCLOS)—and by one set of non-binding guidelines issued by International Maritime Organization (IMO). In the following lines, each of these international standards will be detailed.

The 1958 Geneva Convention on the Continental Shelf (Geneva Convention)

The Geneva Convention resulted from the United Nations Conferences on the Law of the Sea held at Geneva in 1958. It was the first international Convention that dealt with decommissioning offshore structures, aiming to ensure safety in navigation. This norm requires that the construction of any offshore installation is announced, permanently flagged and that, in the end, the structure be entirely removed.⁴⁹ However, this norm was published without any practice regarding the decommissioning of offshore petroleum fields. This is because, it was not until the 1960s, the first fixed platforms were installed in the North Sea, and operations in the Gulf of Mexico gained strength.⁵⁰

According to Martin,⁵¹ this Convention does not refer to the removal of pipelines and deals briefly with living marine resources without explicitly requiring the protection of the offshore environment. This author maintains that this text has been overcome by a more flexible approach adopted by UNCLOS.

The 1972 Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter (London Dumping Convention)

While the Geneva Convention focuses on navigation safety, the London Dumping Convention aims to protect the marine environment from human activities, control all marine pollution sources and prevent pollution of the sea by dumping wastes and other matter.⁵²

In the opinion of Martin,⁵³ this is the second main Convention concerning the disposal of offshore installations. It must be adopted in all marine areas of the 87 signatory countries, except for inland waters of a coastal state. Anderson and others⁵⁴ highlight this Convention's importance because it deals with the destination of offshore installations removed parts, which is not mentioned in the Geneva Convention or the IMO Guidelines and Standards.

⁴⁶ Rosalyn Higgins, 'Abandonment of Energy Sites and Structures: Relevant International Law' (1993) 11(1) *Journal of Energy & Natural Resources Law* 6–16 <<https://doi.org/10.1080/02646811.1993.11432944>>

⁴⁷ *ibid.*

⁴⁸ A Timothy Martin, 'Decommissioning of International Petroleum Facilities evolving Standards and Key Issues' (2003) *Oil, Gas & Energy Law* 1(5) <<https://www.ogel.org/article.asp?key=765>>

⁴⁹ Anderson and others (n 15).

⁵⁰ Hammerson and Antonas (n 16).

⁵¹ Martin (n 48).

⁵² IMO, 'Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter' (2021) <<https://www.imo.org/en/OurWork/Environment/Pages/LondonConvention-Protocol.asp>>

⁵³ Martin (n 48).

⁵⁴ Anderson and others (n 15).

This Convention defines dumping as ‘the deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures, as well as the deliberate disposal of these vessels or platforms themselves.’⁵⁵ Under this definition, platforms that are totally or partially left in the sea are considered dumping, including those converted into artificial reefs. Martin⁵⁶ reports that this understanding was confirmed by a new protocol adopted in 1996, which went into effect in 2006.

This convention establishes a blacklist in Annex I and a grey list in Annex II. Dumping is prohibited for materials listed on the blacklist. For the materials on the grey list, dumping is allowed if there is a special permit. A general permit is required for the dumping of other substances, as provided for in Annex III. General and special permits must be granted by an appropriate authority appointed by the signatory country according to Annex III criteria.⁵⁷

If a producing country, signatory to this Convention, decides to authorize a platform permanence at sea, totally or partially, it must make the case assessment. This Convention does not deal with pipelines; that is, it does not define whether these structures’ permanence on the seabed is considered dumping or not.⁵⁸

Anderson and others⁵⁹ report that the start of decommissioning activities in the Brent field in the North Sea motivated some producing countries to demand changes in the London Dumping Convention, aiming to prohibit all ‘offshore dumping’. Thus, the Convention was amended by the 1996 Protocol to make its rules more rigorous. The Convention started treating any structure, including pipelines, left on the seabed as dumping. The 1996 protocol adopted the ‘polluter pays principle’. Thus, even if there is still no conclusive evidence between dumping and its potentially harmful effects, the operator must adopt preventive measures when putting waste into the marine environment. The operator must also prove that the environmental option chosen is the most appropriate, and there is no better option.

The 1982 UN Convention on the Law of the Sea Convention (UNCLOS)

The UNCLOS establishes the legal regime for the world’s oceans, regulating all oceans’ uses and resources. According to the IMO,⁶⁰ this convention ‘embodies in one instrument traditional rules for the uses of the oceans and at the same time introduces new legal concepts and regimes and addresses new concerns.’

Regarding decommissioning, the UNCLOS is more flexible than the Geneva Convention by allowing partial removal of offshore structures. However, it requires attention concerning fishing, protecting the marine environment, and other states’ rights and duties.

For installations left on the seabed, it requires that it be adequately signalled with information on depth, position and dimensions.⁶¹ Like the Geneva Convention, the UNCLOS does not explicitly require the removal of pipelines, despite establishing general marine pollution principles.⁶²

The dichotomy between the rules that deal with removing offshore installations established by the Geneva Convention and UNCLOS has not yet been resolved. Martin⁶³ reports that a majority adopts the textual approach, maintaining that there is only the option of total removal for the signatory countries of the Geneva Convention, as it is the strictest rule. The minority adopts the teleological approach, which defends, in the case of conflicting devices, the application of the general rule of treaty interpretation found in the Vienna Convention on the Law of Treaties. Thus, good faith must be used to interpret treaties according to their ordinary contextual meaning and

⁵⁵ IMO (n 52).

⁵⁶ Martin (n 48).

⁵⁷ IMO (n 52).

⁵⁸ Martin (n 48).

⁵⁹ Anderson and others (n 15).

⁶⁰ IMO, ‘United Nations Convention on the Law of the Sea’ (2021) <<https://www.imo.org/en/OurWork/Legal/Pages/UnitedNationsConventionOnTheLawOfTheSea.asp>>

⁶¹ Anderson and others (n 15).

⁶² Martin (n 48).

⁶³ *ibid.*

considering their object and purpose. This current would allow partial removal of petroleum facilities for the signatory countries to the two conventions.

The UNCLOS also determines that the removal should consider ‘any generally accepted international standards established in this regard by the competent international organization.’ Anderson and others⁶⁴ sustain that the competent international organization is the IMO concerning decommissioning. IMO was created in 1948 by a UN conference in Geneva as a specialized agency. Its purpose is to coordinate the regulation of international maritime transport, ensure maritime safety, efficiency in shipbuilding and prevent and control marine pollution from ships.

IMO Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone – Resolution A.672(16)—(IMO Guidelines)

In 1989, the IMO published guidelines and standards to guide the process of total and partial removal, and *in situ* maintenance of offshore structures. The organization made no mention of the issue of financing operations.

According to the Guidelines, the structures that must be removed entirely are: (i) located on primary navigation routes; (ii) located in less than 75 meters of water depth and with less than 4000 tons; (iii) installed after 01 January 1998, in less than 100 meters and below 4000 tons. In the latter case, the structures installed offshore must be designed and built already with the provision for complete removal. Thus, operations in deep waters must be made possible by using floating structures and with tensioned legs. For other cases, the removal can be partial, as long as 55 meters of water are above the remaining part, and only structures that receive new use can be left *in situ*.⁶⁵

In the case of partial removal, the IMO Guidelines establish some criteria to assess this possibility, which deals with the ‘effects on navigation, costs, technical feasibility, risks of injury to marine contractors, and possible use for other purposes if the structure remains in place.’⁶⁶ Producing countries must evaluate case by case, weighing the criteria to approve or not partial removal.

The IMO Guidelines also state that decommissioning activities cannot significantly disturb living resources in the marine environment, nor can they threaten endangered species. This brings limitations to the use of explosives, for example. Regarding the structures authorized to remain *in situ*, the guidelines require a specific monitoring plan that allows the observation of deterioration of materials, such as drill cuttings, and that protects fishing and endangered species.⁶⁷

According to Martin,⁶⁸ the IMO Guidelines have the legal status of recommendations and cannot be considered international rules, as they do not bind producing countries. According to this author, they establish only general principles. Therefore, these Guidelines could be viewed as a transnational rule.

Otherwise, Higgins⁶⁹ understands that the IMO represents a reference for state practice. According to Higgins, with the IMO guidelines and standards adopted by the producing countries aiming to conduct decommissioning operations, this state practice will become customary international law. If the IMO Guidelines and Standards achieve this status through widespread practice among producing countries, they will apply to all producing countries regardless of the ratification of the treaties mentioned above. However, Anderson and others⁷⁰ point out that it cannot yet be said that the IMO Guidelines and Standards have achieved the status of customary international law.

Regional conventions

In 1974, the Regional Seas Program was established within the United Nations Environmental Program (UNEP) as a regional mechanism for conserving the marine and coastal environment.

⁶⁴ Anderson and others (n 15).

⁶⁵ Ibid.

⁶⁶ Ibid.

⁶⁷ Ibid.

⁶⁸ Martin (n 48).

⁶⁹ Higgins (n 46).

⁷⁰ Anderson and others (n 15).

Under this program, eighteen Regional Seas Conventions and Action Plans have already been published. These conventions and plans establish inter-governmental frameworks to address the degradation of the oceans and seas at a regional level. These conventions and plans focus on preventing pollution at seas, such as oil spills and the movement of hazardous waste and land-based sources of pollution, for example, plastics, wastewater and excess nutrients.⁷¹

According to Martin,⁷² 'there are a variety of regional conventions around the world that superimpose themselves on the above international conventions.' This author cites as examples of these conventions: the 1972 Oslo Convention; the 1991 OSCOM Guidelines, the 1992 OSPAR Convention, which apply to the North Sea; the Barcelona Convention for the Mediterranean; the Kuwait Convention, for the Persian Gulf; the Jeddah Convention for the Red Sea and the Gulf of Aden; the Black Sea Convention for the Black Sea and the Abidjan Convention for West Africa.

*The Convention for the Protection of the Marine Environment of the North-East Atlantic
(the 'OSPAR Convention')*

The 1992 OSPAR Convention, signed by the North Sea countries, is worth mentioning among the regional conventions since it is used as a reference by some producing countries in the decommissioning rule-making process. UNEP has not established this Convention, but the OSPAR Commission cooperates with the Regional Seas Program and attends regular meetings. The OSPAR Convention derives from the Oslo and Paris Commission. It aims to promote the prevention and elimination of pollution from land-based sources, by dumping or incineration, from offshore sources; the assessment of the quality of the marine environment; and the protection and conservation of the ecosystems and biological diversity of the maritime area.

According to Anderson and others,⁷³ the OSPAR 'reflects the lessons learned from the Brent Spar⁷⁴ episode about the need for independent reviews and consultation with a wider range of parties.' As the IMO Guidelines and Standards, the OSPAR Convention requires, initially, the total removal of structures located offshore. However, as an exception to complete removal, this Convention provides for the possibility of derogation, provided that the conditions listed in this standard are met. This Convention also provides a 'Consultation Procedure', which requires a 32-week consultation period before a member state can grant a derogation permit. During this period, any producing country signatory to this Convention may object to partial removal. If this objection is not resolved, a meeting of the OSPAR convention members must be convened to decide the issue, and the decision must be made by the country that requested the derogation. If the commission decides to approve the derogation, the conditions set out in Annex 4 of the Convention must be established. Among these conditions, according to Anderson and others,⁷⁵ it should be provided 'an independent verification of the information that was provided to secure the permit, the allocation of responsibility for monitoring the installation's condition over time, and identification of the owner (s) of the parts that remain in place so that any future claims for damages can be brought against them.' The full participation of Non-Governmental Organizations (NGOs) in the OSPAR Commission's work is encouraged in this Convention.

International Conventions Ratified by Brazil

International conventions, signed and ratified by Brazil, are incorporated into the national legal order. Among the international conventions detailed in the previous section, only the Geneva Convention was not signed by the Brazilian government. Fiatikoski⁷⁶ reports that although the Brazilian congress expressly authorized Brazil's accession to the Geneva Convention through

⁷¹ UN UNEP, 'Why Does UN Environment Programme Matter?' (UNEP - UN Environment Programme 2021) <<http://www.unep.org/about-un-environment/why-does-unenvironment-matter>>

⁷² Martin (n 48).

⁷³ Anderson and others (n 15),

⁷⁴ Brent Spar was a North Sea oil storage and tanker loading buoy in the Brent oilfield, operated by Shell UK, whose decommissioning operations began in 2006.

⁷⁵ *ibid.*

⁷⁶ Fiatikoski (n 43).

Legislative Decree no 45 of 1968,⁷⁷ Brazil has neither signed nor ratified this Convention, as provided for in the UN proceedings.

A London Dumping Convention was internalized by Brazil through Decree no 87.566/1982 and its amendments through Decree No 6.511/2008.⁷⁸ More⁷⁹ reports that Brazil signed UNCLOS in 1982, ratified it in 1988, and internalized it in the national order by Decree no 1530 of 1994. Kowarski and others⁸⁰ sustain that the IMO Guidelines apply to Brazil, 'since it is a member of that organization, internalizing the Convention on the International Maritime Consultative Organization, signed in Geneva, on 6 March 1948, through Decree no 52.493, dated 23 September 1963.' Moreover, these authors say that Brazil actively participates in the IMO, having integrated its councils twice. Concerning regional conventions, there are none that deal with decommissioning issues affecting Brazil.⁸¹

As can be observed, the decrees that ratified the London Dumping Convention and UNCLOS established rules for decommissioning even before the publication of Petroleum Law. Thus, it is possible to affirm that these conventions were the first norms of the Brazilian regulatory system for offshore decommissioning.

Transnational rules

As already mentioned, private actors also participate in the regulatory system of offshore decommissioning. Professional associations such as the BIMCO, the API, the AIEN, the OEUK and companies such as DNV-GL launch model contracts, industry practices and codes of conduct. National regulators, such as the North Sea Transition Authority of the UK, develop risk allocation models replicated in several other producing countries. The following lines will detail each of these categories of transnational rules.

Model contracts

Martin and Park⁸² assert that over the last several decades, the industry has worked on a cooperative basis to develop and use various types of petroleum model contracts to gain the benefits of standardization. Considering the complexity and high values involved in the decommissioning operation, model contracts can reduce negotiation costs and increase efficiency.

The most recent contractual models of the JOA contain specific clauses on decommissioning. Anderson and others⁸³ report that the 2009 Oil and Gas UK (now Offshore Energy UK) Model JOA (OGUK JOA) and the 2012 AIEN Model International Joint Operating Agreement (2012 AIPN JOA), two models widely adopted by industry, address decommissioning plans and liabilities. The AIEN model deals with decommissioning issues in a much more detailed way, requiring the forecasting of the costs of activities in the Work Program & Budget, the approval of the start of operations by the operational committee; the obligation of the parties to contribute to the costs and the provision of the decommissioning plan in the development plan. Exhibit E of the AIEN model deals with the conduct of decommissioning and brings requirements for creating a Decommissioning Trust Fund.

As reported in the previous section, JOAs adopted in the UK generally provide for submitting the model contract Decommissioning Security Agreement (DSA), developed by Oil & Gas UK (OGUK) in 2009. This contractual arrangement simplifies and standardizes the process of negotiating guarantees

⁷⁷ Brazilian Federal Decree n 11,699 (2008).

⁷⁸ Clarissa Brandão Kowarski, Marcelo Igor Lourenço de Souza and Renato Barcellos de Souza, 'Decommissioning in Brazil: Legal Aspects of a Technical Analysis' (2019) *The Journal of World Energy Law & Business* 12(5) <<https://doi.org/10.1093/jwelb/jwz029>>.

⁷⁹ More, Rodrigo Fernandes, *Regime jurídico do mar: a regulação das águas e plataforma continental no Brasil* (Revista da Escola de Guerra Naval 2013) <<https://revista.egn.mar.mil.br/index.php/revistadaegn/article/view/223>>

⁸⁰ Kowarski and others (n 78).

⁸¹ Hammerson and Antonas (n 16).

⁸² A Timothy Martin and J Jay Park, 'Global Petroleum Industry Model Contracts Revisited: Higher, Faster, Stronger' (2010) *The Journal of World Energy Law & Business* 3(1) <<https://doi.org/10.1093/jwelb/jwp022>>.

⁸³ Anderson and others (n 15).

According to Hammerson and Antonas,⁸⁴ ‘most oil companies are likely to prefer to contract with prime contractors who can subcontract with specialist contractors as necessary or appropriate.’ This contract is called an Engineering, Preparation, Removal, and Demolition (EPRD) contract and is commonly adopted in fixed platform decommissioning projects.⁸⁵ BIMCO, an association of companies dedicated to global keep shipping regulation, developed the first EPRD contractual model, called DISMANTLECON. Vianna⁸⁶ points out three main objectives of the model of this contract: i) to establish a degree of standardization in the sector; ii) to reduce costs and time in negotiations; and iii) to establish a fair and balanced contract.

Anderson and others⁸⁷ also report the publication of ‘a model contract for use by offshore operators and decommissioning contractors’ in 2018, by the UK offshore industry, in an effort to standardize decommissioning contracts and thus reduce costs. The contractual model was developed by LOGIC, a subsidiary of Oil & Gas UK, created to reduce costs through standardization during the 90s, marked by very low oil prices.

Industry practices

Duval and others⁸⁸ define industry practices⁸⁹ as ‘those practices and procedures employed in the petroleum industry worldwide by prudent and diligent operators under similar conditions and circumstances, having regard to factors such as conservation of petroleum resources, operational safety and environmental protection.’

García⁹⁰ defines them as behaviours or repetitive conduct performed by members of the petroleum industry that are generally accepted and practiced, and therefore legitimated by the members of this community. These repetitive conducts would be the ‘uses of the sector’ as referred to in the arbitration regulations.⁹¹ This author points out that in case of doubt about the recognition of such practices, it is possible to use model contracts, guidelines or industry databases as the first source of codification of these practices. In case of conflict, both the state judge and the arbitrator can determine the mandatory application, after the conclusion of an expert opinion.

Anderson and others report that the first national rules on decommissioning used to only require plugging wells and the adoption of industry practices to carry out this operation. Now that there is greater detail for the decommissioning regulatory system, industry practices include proper field closure techniques and should be applied in all activities that make up the decommissioning operation.

For the performance of the phases that make up the decommissioning operation—planning, plugging and abandonment of wells; cleaning; pipelines; removal; disposal and monitoring—several activities must be carried out. For most of these activities, especially those of a technical nature and those involving environmental and operational safety issues, there is a wide variety of industry practices prepared by standard-setting organizations available to guide the execution of these activities.

⁸⁴ Hammerson and Antonas (n 16).

⁸⁵ FGV (n 8).

⁸⁶ Godofredo Mendes Vianna, ‘Descomissionamento de Plataformas’. Workshop 2019 – Tribunal Marítimo, 2019.

⁸⁷ Anderson and others (n 15).

⁸⁸ Claude Duval and others, ‘International Petroleum Exploration and Exploitation Agreements: Legal, Economic and Policy Aspects’ (2nd edn, Barrows Company 2009).

⁸⁹ It is important to clarify that industry practices can be identified in several ways: ‘good oilfield practice’ (Claude Duval and others, ‘International Petroleum Exploration and Exploitation Agreements: Legal, Economic and Policy Aspects’. 2nd edn. Barrows Company 2009; Smith, Ernest E., John S. Dzienkowski, Owen L. Anderson, John S. Lowe, Bruce M. Kramer, and Jacqueline L. Weaver. “International Petroleum Transactions”. Third Edition edition. Westminster, Colo.: Rocky Mountain Mineral Law Foundation. 2010.); ‘Best and Good Industry Practices’ (García, Julian Cardenas. “Best Industry Practices and Environmental Regulation for Offshore Petroleum Operations. A Contribution to the Study of the Lex Petrolea.” Transnational Petroleum Law Institute Series on Transnational Petroleum Law. 2012); ‘International standards’ (Walde, Thomas 2004. “The Role of International ‘Soft Law’ in Natural Resources and Energy Investment”. *Oil, Gas & Energy Law Journal (OGEL)* 2, no 4. 2004.; Wawryk, Alexandra S. “Adoption of International Environmental Standards by Transnational Oil Companies: Reducing the Impact of Oil Operations in Emerging Economies”. *Journal of Energy & Natural Resources Law* 20, no 4.2002); and ‘Good international petroleum industry practices - Industry practices’ (Weaver, Jacqueline L. “Offshore Safety in the Wake of the Macondo Disaster: Business as Usual or Sea Change?” *Houston Journal of International Law*. 2014).

⁹⁰ Julian Cardenas García, *Reflexiones sobre la Educación y la Práctica del Derecho Transnacional Petrolero* (Transnational Petroleum Law Institute 2015).

⁹¹ The following provisions of arbitration regulations consider trade usages to be the basis of its decisions: art 21 - 2 of the ICC Arbitration Rules; 35-3 of the UNCITRAL Arbitration rules; art 31 - 2 of ICDR Arbitration Rules.

Regarding the planning phase, Nicolosi and others⁹² cite the adoption of ‘decommissioning comparative assessment’ as a good practice to compare the possibilities of decommissioning from a multicriteria methodology that considers the technical, economic, environmental, social and safety aspects.

According to Morais,⁹³ among the standard-setting organizations that develop industry practices for decommissioning activities, stand out: the API, the ISO, the NORSOK, developed by the Norwegian petroleum industry, the IEC, the ISA and the ASTM.

In a survey carried out using the ‘Engineering Workbench’ tool from IHS Markit on the standards for ‘removal of offshore petroleum structures’, considering only the organizations mentioned above, 482 results were pointed out.

Among the research results, Jacques⁹⁴ emphasizes the importance of ISO practices on offshore structures—ISO 19901-9: 2019 and ISO 19902: 2020—for the decommissioning operation. Section 14 of ISO 19901-9 establishes specific standards for decommissioning and removal. This section has the following items: general; decommissioning process; pre-decommissioning data gathering; planning and engineering; well decommissioning; facilities decommissioning; pipeline decommissioning; conductor removal; structure removal; and site clearance. Concerning ISO 19902: 2020, items 8 and 12.4 contain rules applicable to removal situations.

Jacques⁹⁵ also highlights the Norsok Standard Z-013 on risk and emergency preparedness assessment. Item A.5.3 of this standard suggests the application of ALARP evaluation principles. According to this standard, ‘ALARP expresses that the risk shall be reduced to a level that is as low as reasonably practicable.’ ALARP is a concept that emerged in the UK in the 1950s and is dedicated to risk management at all stages of the plant life cycle, which includes decommissioning. Several standards incorporate this concept, but the Norsok Z-013 presents it in a well-structured way.

Another example of industry practices applicable to the decommissioning operation is the standard API RP 2SIM that deals with Structural Integrity Management of Fixed Offshore Structures. Item 5.6 provides specific guidelines for decommissioning in the structural integrity management process, and item 14 guides decommissioning platforms.

It is important to note that access to the standards developed by the mentioned standardizing organizations is charged with high fees. Likewise, the access to the ‘Engineering Workbench’ tool from IHS Markit, which meets several standards, and makes easier the access to these standards. The high costs are generally an obstacle for producing countries who want to keep up to date on industry practices.

Codes of conduct

Codes of conduct are compilations of industry practices, created through a multi-stakeholder collaborative process to guide petroleum companies and regulators in the performance and monitoring of operations. Thus, it aims to help in the clear identification of industry practices and their sources by indicating what the best practices among industry practices are, depending upon the circumstances in which they will be applied. They are also a way of enforcing the commitment to the industry practices among the member companies of the industry associations that compile them into such codes of conduct.⁹⁶

An example of a code of conduct is the Guidelines for Risk-Based Comparative Assessment of Options for Decommissioning of Subsea Installations in Brazil, published in 2017 by DNV-GL. Schaffel and others⁹⁷ report that these guidelines were developed through a Joint Industry Project,

⁹² Eduardo R Nicolosi and others, *Descomissionamento de Sistemas de Produção Offshore de Óleo e Gás: Cenário Atual e Perspectivas Futuras* Rio Oil & Gas 2018/IBP (Rio de Janeiro 2018).

⁹³ Interview granted by Caroline Pinheiro Maurielle de Morais, regulator of the ANP, on 26 June 2020.

⁹⁴ Interview granted by Tiago Machado de Souza Jacques, regulator of the ANP, on 28 June 2020.

⁹⁵ *ibid.*

⁹⁶ Jacqueline L Weaver, *The Role of the Regulator: Reflections on Forty Years of Research and Learning about Energy, Economics & the Environment* (Institute for Energy Law 2017).

⁹⁷ Silvia Schaffel and others, ‘Lessons Learned during the Application of the Guidelines for Risk-Based Comparative Assessment of Options for Decommissioning of Subsea Installations in Brazil’, Rio Oil & Gas Conference (2020).

including the Brazilian NOC, Petrobras and eight oil companies. Also participating in the discussions, through meetings, are the Brazilian regulatory bodies of the petroleum industry and the environment—ANP and IBAMA—and the Brazilian navy. The purpose of these guidelines is to guide a comparative assessment of different decommissioning options for subsea installations in Brazil. According to Schaffel and others,⁹⁸ ‘They should be viewed as a collection of good practices that if followed will lead to a good quality comparative assessment.’

The OEUK has at least fifteen guidelines publications for different activities that make up the decommissioning operation. These codes of conduct bring together the industry’s best practices for the specific activities subject to these publications.

Although published by an IGO under the international legal order, the IMO Guidelines constitute a collection of industry practices. According to Martin,⁹⁹ the IMO Guidelines were published to establish the ‘generally accepted international standards’ in compliance with the requirement of art. 60 of UNCLOS. Besides, as Higgins¹⁰⁰ argued, as the adoption of IMO guidelines and standards becomes a widespread practice among producing countries, they will have the status of industry practices; that is, they will be transnational standards that all producing countries may require.

Risk allocation contracts

Risk allocation models, also called Industry Risk Liability Models, are mechanisms used to define the share of liability between companies involved in E&P operations in the event of an accident, especially those related to human resources, property and the environment. They may be established in the provisions of model contracts or in the HCs’ regulation. The risk allocation aims to ensure that, if the damage occurs, the companies responsible have sufficient conditions to mitigate the effects of such damage and to pay the appropriate compensation.¹⁰¹

The ‘knock-for-knock’ and ‘safety case system’ are the two risk allocation models frequently adopted in the industry. Cameron¹⁰² defines the ‘knock-for-knock’ or ‘mutual hold harmless’ (MHH) indemnities scheme as:

... liability regime in global use in respect of pollution offshore emanating from the subsurface or from the well, including control of well, clean up and third part liability. Its broad aim is to identify and mitigate the very substantial risks that the contracting parties face in offshore petroleum operations. In addition to limiting the risk to a level that is acceptable to the parties, the regime enables the parties to avoid having to obtain multiple.

Under this regime, liability for damages is borne by the operator, even if these are caused by the service companies contracted by it, except in the case of damage to third parties and caused by negligence or breach of duty. This is because the operator is responsible for designing the development of E&P activities, contracting for goods and services, and monitoring the performance of the activities carried out by contracted service companies. Furthermore, it is the operator who decides the equipment and standards to be used and how to execute each stage of the field development project. Therefore, the risk is allocated largely in proportion to the party that has the greatest capacity to control and prevent such risks.

The Safety Case is a risk management system to prevent accidents, adopted in the UK, Australia and New Zealand. In this system, the operator is charged with identifying the potential risks of the operation and presenting the regulator with a plan to avoid them through a risk management structure. This system involves the employees that participate directly in operation, and they can

⁹⁸ *ibid.*

⁹⁹ Martin (n 48).

¹⁰⁰ Higgins (n 46).

¹⁰¹ Wan Zulhafiz and Wan Zulhafiz Zahari, *On the Contractual Risk Allocation in Oil and Gas Projects* (2018) <http://www.academia.edu/34846686/On_the_contractual_risk_Allocation_in_Oil_and_Gas_Projects>.

¹⁰² Peter D. Cameron, ‘Liability for Catastrophic Risk in the Oil and Gas Industry’ (2013) *Oil, Gas & Energy Law Journal* (OGEL) 11(2) <<https://www.ogel.org/article.asp?key=3355>>.

be consulted by the regulators in the process of auditing. Hopkins¹⁰³ comments that the safety case is a case—an argument made to the regulator. Thus, operators must convince regulators of the practices selected to deal with identified risks, justifying the reason for the choice. According to this author:

A safety case does not give operators a free rein in how they respond to hazards. They need to specify the procedures and standards they intend to adopt. Where an operator proposes to adopt an inadequate standard, a safety case regulator may challenge the operator to adopt a better standard. For instance, if an operator indicated in its safety case that it intended to rely on a manifestly inadequate standard, the regulator could challenge it to adopt the best international standards. However, the success of this challenge may depend on whether or not the jurisdiction imposes a general duty on the operator to reduce risk as low as reasonably possible (see below), which would in effect mandate that operators adopt the best international standards.

A relevant characteristic of the safety case system, pointed out by Hopkins,¹⁰⁴ is the duty of the operator to reduce risks to levels ‘as low as reasonably practicable’, also called the ALARP principle or the performance standard, as suggested by Weaver.¹⁰⁵ Thus, the operator must take effective precautionary measures that are reasonable, which means the level of the forecast risk and the costs to prevent such risks are not highly disproportionate. In this way, the operator will be considered liable if the regulator identifies the possibility that the damages could have been reasonably avoided.

Another important point to emphasize about the safety case is that this system relies on a performance-based model of regulation, meaning operators are free to choose the industry practices they consider to be most efficient. There are no references in the regulation about the rules that must be followed, as in the prescriptive model. Referring to the safety case adopted in the North Sea, Bunter¹⁰⁶ argues that this model is based on results and principles and relies on the ethics of self-regulation produced by petroleum companies and their commitment to building a safety culture.

Due to the number of activities it encompasses, the offshore decommissioning operation consists of various potential risks: operational, human and environmental. Thus, defining the risk allocation model in the contracts that govern the decommissioning operation is necessary. For example, in BIMCO’s EPRD model contract, responsibility for these risks is expressed through the risk allocation model ‘knock-for-knock’. According to Vianna,¹⁰⁷ each party must assume responsibility for losses, damages or losses to its personnel and property in certain situations, regardless of the cause.

The LOGIC model contract also elects the ‘knock-for-knock’ risk allocation model for decommissioning operations. However, in the opinion of Dracoulis and Deane,¹⁰⁸ it does not adequately address the risks and discrete issues associated with the interaction of the knock-for-knock indemnity regime with insurance policies.

The Guidance Notes on ‘Decommissioning of Offshore Oil and Gas Installations and Pipeline’, published by the ‘Department for Business, Energy and Industrial Strategy’, the competent authority for regulating decommissioning in the UK, informs that the Offshore Installations (Safety Case) Regulations 2015 (OSCR2015) requires a safety case to be submitted at least three months before the start of the dismantling process.

Australia’s offshore energy regulator, NOPSEMA, also requires a Safety Case to be in effect to perform decommissioning. The requirements on the content of the safety case are laid down in the Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009 (OPGGS (S)).

¹⁰³ Andrew Hopkins, *Explaining ‘Safety Case’* (Regulatory Institutions Network 2012).

¹⁰⁴ *ibid.*

¹⁰⁵ Jacqueline L Weaver, ‘Offshore Safety in the Wake of the Macondo Disaster: Business as Usual or Sea Change?’ (2014) 36 *Houston Journal of International Law* <https://international.vlex.com/vid/offshore-safety-in-the-635988465>

¹⁰⁶ Michael AG Bunter, *The Promotion and Licensing of Petroleum Prospective Acreage* (1st edn, Kluwer Law International 2002).

¹⁰⁷ Vianna (n 86).

¹⁰⁸ Andreas Dracoulis and Ryan Deane, *Contractual Regimes for Offshore Decommissioning* (Haynes and Boone, LLP 2019). <<https://www.haynesboone.com/publications/contractualregimes-for-offshore-decommissioning>>.

Foreign regulation

The sharing of regulatory policies and experiences informally between producing states is a widespread practice in the upstream sector of the petroleum industry. For offshore decommissioning, there are similar rules in several producing countries, which can be explained, in part, as the use of rules from other countries in the construction of the regulation of another country.

Brazilian national rules for offshore decommissioning

Brazilian rules for offshore decommissioning take the form of laws, such as Petroleum and Pre-salt Laws, the form of resolutions, establishing rules about technical and operational safety issues and rules about the requiring of financial guarantees, and there are also the rules provided for in the E&P contracts.

Considering the complexity of this topic, the process of elaborating the decommissioning national rules relies on the participation of public and private, national and international actors who work in this sector. In this process, non-state rules are used as references.

This subsection will detail each of these national rules.

Petroleum law and pre-salt law

In the regulatory system for the upstream sector, petroleum law tends to be the rule with the highest hierarchy within the national legal order's regulatory framework. However, since offshore decommissioning operations involve environmental protection issues, environmental laws regulate these issues. Therefore, petroleum law will generally be the main norm concerning technical, operational and financial matters.

According to Anderson and others,¹⁰⁹ national laws are the most important layer of decommissioning regulation because they bring mandatory requirements. For these authors, these laws typically contain rules about removal, the submission of a decommissioning plan to the government, the reversion of facilities property, financial guarantees, compensation for environmental damage, liability, transfer of rights, fiscal and accounting mechanisms related to decommissioning operations.

Petroleum Law

Petroleum Law makes only one reference to decommissioning. When establishing the hypotheses of extinction of the concession contract, this Law establishes that the concessionaire has the sole responsibility for removing equipment and goods that will not be reverted to the Brazilian government. Any damage resulting from this activity must be repaired and compensated by the dealer. The concessionaire must also practice the acts of environmental recovery determined by competent institutions.

Influence of transnational rules

The rule-making process of the Petroleum Law was coordinated by the Ministry of Mines and Energy (MME), which hired the consultancy Expetro to write the final text of this Law. Prates¹¹⁰ reports that Expetro used as a reference to draft the Petroleum Law, the regulation of some countries such as the UK, Norway, Libya, Angola and Colombia, where Expetro technicians from Braspetro (Petrobras' international subsidiary) had worked. However, there are no precise references to the rules that specifically influenced the wording of the decommissioning clauses.

Pre-salt Law

The Pre-salt Law makes more references to the decommissioning process. This Law establishes that the decommissioning of facilities may be considered cost oil and, subject to conditions specified in the contract. This Law also determines that the operator is responsible for conducting and executing, directly and indirectly, the decommissioning activities of the facilities.

¹⁰⁹ Anderson and others (n 15).

¹¹⁰ Jean Paul Prates, 'The Beginning of Brazilian Upstream Regulation', Interview 2020.

The Pre-salt Law establishes that PPSA will not assume the risks, nor will it bear the costs and investments of the decommissioning activities of the facilities. Furthermore, and when setting the hypotheses of contract extinction, this Law determines the contractor's obligation to remove the equipment and goods, the property of which will not be reverted to the Brazilian government. It also establishes the contractor's responsibility to repair and indemnify the damages resulting from their activities and to perform the environmental recovery acts determined by the competent authorities.

Influence of transnational rules

Foreign regulations raised by studies carried out by the ANP, the Brazilian Energy Research Office (EPE) and the Brazilian Development Bank (BNDES) impacted the rule-making process of the Pre-salt Law. The studies carried out by the ANP analysed the regulation of Saudi Arabia, the USA, Russia and Venezuela. The ANP also made technical visits to Angola and Russia to examine the adoption of the PSCs.

The EPE focused its analysis on the E&P regulatory systems of ten Producing countries: Algeria, Angola, Azerbaijan, Kazakhstan, Colombia, Indonesia, Iran, Libya, Venezuela and Norway.

In a study developed in 2008, the BNDES analysed the regulatory experience of the countries of the Middle East and North Africa (MENA), Norway, the USA (Alaska) and Canada (Alberta). The following year, the BNDES carried out a second study in which they analysed the regulatory options of some countries (USA, United Arab Emirates, Norway, Angola, Indonesia, Mexico, Saudi Arabia, Venezuela, Russia and Nigeria) concerning some themes that integrate the regulation of the upstream sector. However, in this study, decommissioning was not dealt with in-depth, under the justification that, at the time, this issue did not assume great relevance in the short- and medium-term, and significant changes in its regulation were still expected.

Therefore, it is not possible to clearly identify the specific references used to draft the rules on decommissioning present in the Pre-salt Law.

ANP Decommissioning Resolutions

Regulations in the upstream sector are norms entirely dedicated to regulating an issue and generally detail the general rules in petroleum law. Considering that decommissioning activities occur only at the end of the field's life cycle, this is a topic that the producing countries do not urgently address. Hammerson and Antonas¹¹¹ report that this was the case in the USA, which effectively established robust regulation only after the Deepwater Horizon accident in 2010.

Brazil started to regulate decommissioning in general only after the creation of the ANP. The first resolution related to this aspect was published in 2002 to guide the abandonment of wells drilled in the E&P phase. However, it was only in 2006 that the ANP published a specific rule for the decommissioning to be carried out at the end of the field's productive life, establishing rules, including the requirement of guarantees. These rules have been updated periodically.

Currently, ANP Resolution n°. 817 of 2020, which deals with decommissioning operation's technical aspects, is in effect. In this article, it will be called the ANP Decommissioning Resolution. Furthermore, the ANP has another resolution to deal with decommissioning financial aspects, the ANP Resolution n°. 854 of 2021, which will be called the ANP Decommissioning Guarantees Resolution in this article. These two norms will be presented in the following sections.

ANP Decommissioning Resolution

The ANP, the IBAMA and the Brazilian Navy drafted the ANP Decommissioning Resolution jointly in order to include in a single rule the provisions on decommissioning, ensuring legal certainty, regulatory simplification and speed in the process. Thus, these three competent institutions for carrying out the analysis of decommissioning programs harmonized the procedural aspects.¹¹²

¹¹¹ Hammerson and Antonas (n 16).

¹¹² FGV (n 8).

The ANP has the competence to evaluate the suitability of the proposed project, the reservoir situation regarding the recovery rate, and the facilities inventory. IBAMA is responsible for ensuring that the project presented causes minor environmental impact and that mitigation measures for this impact are included in the project. The Brazilian Navy is responsible for inspecting the naval aspects for the floating units' safe removal and good mapping and signalling of equipment that will remain in situ. Thus, it can analyse if the remaining facilities may interfere with other uses of the marine space.¹¹³

This Resolution introduces the term decommissioning into the Brazilian legal system, adopted internationally. Thus, it replaces the terms 'removal' and 'abandonment' adopted in the Petroleum and Pre-salt Laws and the Brazilian E&P contracts.

The ANP Decommissioning Resolution establishes the procedures for the planning and evaluation of decommissioning projects, which requires the submission of three documents:

The first is the 'Study of Justifications for the Decommissioning of Production Facilities', which should indicate the area to be relinquished and the characteristics of the reservoir, the wells, the facilities and the motivation for the decision for decommissioning.

The second document is the 'Decommissioning of Facilities Program', containing the information, projects and studies necessary for planning and executing the decommissioning. The Resolution establishes specific rules for activities in the exploration phase and the production phase. For this last phase, rules are defined for offshore installations, onshore facilities and installations used in anticipated production systems.

The third document is the 'Facilities Decommissioning Report', which should report all activities performed during decommissioning.

This Resolution also approves the Technical Regulation for Decommissioning of Exploration and Production Facilities, which defines requirements and guidelines for decommissioning in areas under the E&P contract, including specific rules related to transfer of rights. Among the provisions contained in this Technical Regulation, the following stand out: the requirement of a risk analysis 90 days before the start of activities; the presentation of a plan for the adequate treatment of radioactive materials (NORM); for offshore installations, conducting a multicriteria analysis that analyses the technical, environmental, social, security and economic aspects; and presentation of a monitoring plan. It also establishes conditions to maintain the integrity of the facilities while carrying out removal activities.

It is important to mention that the ANP Decommissioning Resolution requires that the company responsible for decommissioning has a social responsibility and sustainability management system that follows the industry practices and seeks to achieve the 17 United Nations Sustainable Development Goals. According to FGV,¹¹⁴ this forecast reinforces the importance of contemplating sustainable development in the company's strategic planning and contributes to a legacy for society after petroleum exploitation.

The ANP Decommissioning Resolution also deals with the area relinquishment, the sale and reversion of assets to the Brazilian government, the program for extending the useful life of mature fields, and the obligation of the contracted companies to keep all information about the facilities up to date.

Influence of transnational rules

According to the Joint Technical Note ANP/IBAMA/MARINHA n 01/2019, written by these three institutions, discussions on the preparation of the ANP Decommissioning Resolution started in 2016, and involved national and international regulators, and representatives of academia, operators and service companies.¹¹⁵

In the presentation made by the ANP during the public hearing that discussed the draft resolution, the ANP reported that it used international standards such as the IMO Guidelines, the

¹¹³ *ibid.*

¹¹⁴ *Ibid.*

¹¹⁵ ANP, IBAMA and Brazilian Navy, 'Joint Technical Note ANP / IBAMA / MARINHA n. 01/2019' (2019).

OSPAR Resolution and UK regulation as references. It also noted that several meetings were held with the Brazilian Institute of Petroleum, Natural Gas and Biofuels (IBP) and some E&P companies individually. According to this presentation, fourteen manifestations from different actors were sent to the public audience. Between them, there were the Brazilian environmental regulator, the IBP, oil companies, law firms, consulting firms and individuals.

Braga and Frota¹¹⁶ report that during the ANP Decommissioning Resolution rule-making process, some ANP regulators financed by the Prosperity Fund UK visited the British regulatory body, UK Oil & Gas Authority, to learn about the Host Countries's strategies on decommissioning.

It is also possible to observe the direct influence of transnational rules on the ANP Decommissioning Resolution by incorporating these rules into the Resolution's own text. For example, the sole paragraph of article 5 requires the contractor to have a social responsibility and sustainability management system during the decommissioning operation, comply with the industry practices and follow the 17 UN Sustainable Development Goals guidelines. This resolution also requires the observation of the ABNT NBR 10004/2004 standard in waste management.

ANP Decommissioning Guarantees Resolution

The ANP Decommissioning Guarantees Resolution aims to regulate the obligation foreseen in the Brazilian E&P contracts, which requires the presentation of financial guarantees to ensure the execution of the decommissioning. Saad and others¹¹⁷ note that this Resolution aims to improve the monitoring of contractual obligations related to decommissioning by the ANP, to mitigate the risks of the lack of financial resources to carry out this operation, and to reduce the uncertainties regarding the financial capacity of the companies in charge decommissioning.

This Resolution provides five types of financial guarantees that the ANP may accept and set specific rules for submitting each one. The modalities are a letter of credit, insurance, pledge of oil and natural gas, corporate guarantee and provisioning fund. Furthermore, the Resolution establishes the procedures required for the presentation and execution of these guarantees, providing deadlines, the possibility of submitting more than one type of guarantee, restrictions on the incidence of liens on the object of the guarantee, specific rules in cases where there is a consortium and unitization, and the procedures for executing the guarantees in case of default.

According to Saad and others,¹¹⁸ for the guarantee to be accepted, the ANP must analyse the convenience, observe the public interest, the proportionality, the company's reasons and the risks of the guarantees presented in the analysis of its admissibility. If the company meets all requirements, the guarantee should be refused only on a motivating basis for reasons contrary to the public interest.

Of the modalities provided in this Resolution, the pledge of oil and natural gas deserves a little more attention, as it is a Brazilian innovation. The Resolution defines it as a type of financial guarantee whose objective is the production of a petroleum field located in the national territory. The company that owns the rights in this field presents the field production to the ANP to guarantee the decommissioning obligations of another field whose rights are also held by the same company.

Furthermore, there is the possibility of companies ensure decommissioning obligation by itself, provided that it presents financial capacity, demonstrated according to the criteria established in the Resolution.

This Resolution also regulates how the amount to be guaranteed must be updated annually. According to Saad and others,¹¹⁹ this value should be obtained from the cost of decommissioning informed in the most updated version of the following documents: Development Plan, Annual Work Program, Annual Bulletin of Resources and Reserves, or Facilities Deactivation Plan,

¹¹⁶ Luciana P Braga and Elisidiney ST Frota, 'Proposta de transnacionalização para o sistema regulatório do setor upstream e sua governança', RO&G Conference (2020).

¹¹⁷ Saad and others (n 32).

¹¹⁸ *ibid.*

¹¹⁹ *ibid.*

provided that the ANP has approved these documents. When there are discrepancies concerning the amount, the ANP may arbitrate it considering the industry practices.

Regarding the presentation of the first financial guarantee, the expected value must be confirmed through certification, estimate in similar cases or quotation of the cost of each activity that is part of the decommissioning operation. Saad and others¹²⁰ confirm that the ANP can request this procedure in the annual reviews of the values of the guarantees.

The ANP Decommissioning Guarantees Resolution proposes a dynamic model for providing financial guarantees, called the 'Progressive Contribution Model'. This Model must be adopted for the annual calculation of the amounts to be guaranteed. According to Saad and others,¹²¹ for calculating this model, the accumulated production and proven and probable reserves are considered, in addition to the estimated costs of decommissioning the field. The capital update is recalculated to the net present value from the performance of the field development activities. The amounts contributed are lower at the beginning of production and are higher near the end of the contract or when the reserves are exhausted. Thus, the costs are reduced at the beginning of the contract, and this value will increase as the activities are carried out and production grows. Saad and others¹²² report that this model was built based on the UK and Colombia regulations. This model aims not to impact the investments to be made at the beginning of the field's productive life, balancing the protection against default with the investment incentive.

This Resolution also set rules on the presentation of guarantees during the transfer of rights process, aiming to protect the entire guaranteed system for decommissioning established from the beginning of the production. The incoming company may request a revision of the amount to be guaranteed, but it must present the guarantee within the transfer of rights process scope. The guarantee of the assignor company will be retained until the effective date of commencement of the addendum assignment term.

Influence of transnational rules

The ANP Decommissioning Guarantees Resolution was also impacted by the transnational rules in its rule-making process. In a presentation made during a public hearing, the ANP informed that it had considered the subsidies submitted by the institutions which it had met while drafting the Resolution. The ANP held more than twenty-five meetings with the following institutions: IBP, Brazilian Association of Independent Oil and Gas Producers (ABPIP), E&P Companies, Central Bank of Brazil, Brazilian Development Bank (BNDES), Brazilian Bar Association (OAB), National Federation of General Insurance (FENSEG) and the British Consulate. In one of these meetings, the consultancy IHS Markit, hired by the IBP, presented to the ANP in March of 2020 a comparative analysis on the regulation regarding guarantees for decommissioning costs adopted by the USA, UK and Norway.

According to Saad and others,¹²³ the construction of the progressive contribution model provided for in the Resolution was based on the UK and Colombia models.

The proposed Resolution also expressly mentions industry practices, requiring that they be observed if the ANP should arbitrate the amount to be guaranteed when there is a disagreement.

Brazilian E&P contracts: risk contract, concession agreement, production sharing agreement, transfer of rights

Anderson and others¹²⁴ argue that E&P contracts are not the best instrument for regulating decommissioning. The obligations entered into at the time of signing the IPA will not reflect changes in government policy, in calculating reserves or in the escalation of costs. Besides, participation may be assigned, new technologies will emerge, and other uses for depleted fields will be possible.

According to these authors, the first E&P contracts did not contain provisions on decommissioning activities, as they provided for the reversion of assets to the producing countries. Thus, the

¹²⁰ *ibid.*

¹²¹ *ibid.*

¹²² *ibid.*

¹²³ Saad and others (n 32).

¹²⁴ Anderson and others (n 15).

companies that operated the field transferred the obligation to carry out decommissioning to the producing countries. The most recent E&P contracts generally address the issue in more detail than national laws. Examples of the producing country that bring rules on decommissioning in E&P contracts, within the scope of Hammerson and Antonas' research,¹²⁵ are Indonesia, Malaysia, Norway, Denmark and Brazil.

The following lines will detail the information obtained by analysing the contractual models available on the ANP website dedicated to the Bidding Rounds.¹²⁶

Concession agreement

The rules on decommissioning have undergone more changes over the concession contracts drafting evolution. From the Round Zero Contract to the Fifth Round Contract, modifications were made to each contract. According to Adaulto Pereira,¹²⁷ the concept of asset reversal was incorporated into the Round Zero Concession Contract, as the technicians who prepared this first draft had worked at Petrobras with the Risk Contracts.

The Round Zero Concession Contract required the Development Plan to include an abandonment plan and the provision of funds necessary to ensure this operation through guarantee mechanisms, reserve funds or financing. According to this contract, any abandonment operations of area, wells, structures, fields, transfer lines, parts or units of surface and subsurface installations should be carried out following the industry practices. Concerning socio-environmental issues during the decommissioning operation, the contract provided that the concessionaire would be obliged to preserve the environment, pay attention to the safety of people and animals, respect the historical and cultural heritage, to repair or indemnify the damages arising from its activities, and to practice the acts of environmental recovery determined by the competent institutions. In the event of damage and losses to the environment and third parties during the decommissioning operation, this contract determines the concessionaire's obligation to repair them and indemnify the Brazilian government. The guarantees for the decommissioning operation were generally provided for in the insurance clause, even admitting self-insurance. However, there are not many details regarding the specific case of decommissioning.

The Facilities Deactivation Program began to be required from the First Round Contract. This contract requires the delivery of this Program, six months in advance, in cases of early closure during the production phase. The Second Round Contract extended this requirement to the conclusion of the production phase. The Third Round Contract detailed the ways of financing the decommissioning, specifying the guarantees that the ANP could accept. The Fourth Round Contract started to require the Facilities Deactivation Program for early closure of the exploration phase.

The contracts from the Sixth Round to the Thirteenth Round followed similar wording to the contract from the fifth round, with minor changes.

The Fourteenth Round Contract changed the submission deadline for the Facilities Deactivation Program to 365 days and dealt with the process of approving this program and returning the field in more detail. The Fifteenth Round Contract followed the same wording, with minor rearrangements.

The submission deadline for the Facilities Deactivation Program was extended to two years in the Sixteenth Round Contract. The Seventeenth Round Contract replicated almost all of the decommissioning rules of the Sixteenth Round Contract. However, this concession contract was the first to adopt the term decommissioning in some of its clauses.

Therefore, it is possible to identify three phases of clauses on decommissioning in Brazilian concession contracts. The first, from Round Zero to the Fifth Round, in which the changes were constant; the second, from the Sixth Round to the Thirteenth Round, in which only changes in wording were made; and the third, from the Fourteenth Round to the Sixteenth Round, in which

¹²⁵ Hammerson and Antonas (n 16).

¹²⁶ ANP, 'Contratos e Editais: Modelos e Extratos' (2021) <<http://rodadas.anp.gov.br/pt/legislacao/contratos-e-editais-modelos-e-extratos>>

¹²⁷ Adaulto Pereira, 'E&P Risk Agreements adopted in Brazil', Interview 2021.

new changes were made, due to the studies resulting from the discussions to update the ANP Decommissioning Resolution.

Product sharing contract (PSC)

The PSCs follow the evolution demonstrated in the description of the concession contracts decommissioning rules. However, they contain specific clauses on the recovery of expenses spent on decommissioning activities, such as cost of oil. The points of difference relate to the deadline for submitting the facility deactivation program and the final facility deactivation report requirement. The PSC for the First Round required 180 days to present the facility deactivation program. The PSCs for the Second Round up to the Fifth Round provided for 365 days for the presentation of this program. The Sixth Round Contract extended this term to two years. The final report of the deactivation of the facilities is foreseen from the contract of the Fourth Round.

Transfer of Rights Contract

The Transfer of Rights Contract rules on decommissioning has some similarity to the Tenth Round Concession Contract rules. However, it requires the submission of the facility deactivation program one year in advance of the estimated completion of production. This contract also provides specific rules for decommissioning if the production limit established in the contract is reached and production continues.

Influence of transnational rules

In the concession contract first versions, the international experience of Expetro and Gaffney Cline consultant technicians printed foreign regulations references from producing countries where these technicians had worked.

Regarding the rules on decommissioning of the First Round Contract, Cline¹²⁸ informs that its drafting was based on the similar requirements present in the regulation of the UK and Norway for the operations carried out in the North Sea.

According to Papaterra,¹²⁹ the evolution of the clauses on decommissioning of the Zero Round Contract until the Fifth Round Contract was motivated by intense debates that occurred between the ANP and the E&P companies and within ANP's technical departments. Nilce Costa,¹³⁰ ANP regulator who worked in the Production department in the first years of the ANP, adds that for the amendment of these first clauses on decommissioning, the UK regulation and American rules for decommissioning in the Gulf of Mexico were used as a reference. In addition, Costa recalls that the ANP had a very close relationship with the former Minerals Management Service (MMS) in its early years.

The rules on the decommissioning present in the transfer of rights and in production sharing contracts followed the evolution of the concession contract rules, being influenced by the suggestions arising from consultations and public hearings.

The influence of the transnational rules on the interpretation and enforcement of Brazilian regulation for offshore decommissioning

Interpretation

The influence of transnational rules on the interpretation of the Brazilian regulatory system for offshore decommissioning can be seen in some offshore decommissioning operations already carried out in Brazil. Some examples reported by FGV¹³¹ will be exposed in this subsection.

In the decommissioning operation for the platform of the City of Rio de Janeiro, which was part of the facilities of the Espadarte Field, the DNV-GL code of conduct was used to carry out a comparative assessment of the decommissioning alternatives of the rigid stretch of the gas pipeline

¹²⁸ Bill Cline, 'The Begging of the Brazilian Upstream Regulation', Interview 2020.

¹²⁹ Interview granted by Guilherme EZ Papaterra, regulator of the ANP, on 26 April 2021.

¹³⁰ Nilce Olivier Costa, 'Decommissioning Regulation in Brazil', Interview 2021.

¹³¹ FGV (n 8).

export of this platform. Thus, this code of conduct was used to interpret item 3.2 of the Decommissioning Technical Regulation contained in the ANP Decommissioning Resolution. Thus, this code of conduct was used to interpret item 3.2 of the Decommissioning Technical Regulation contained in the ANP Decommissioning Resolution, which requires a comparative assessment of the decommissioning alternatives.

Regarding recycling offshore installations, FGV reports that Estaleiro Atlântico Sul SA is adapting its procedures to carry out this decommissioning stage using Regulation (EU) N^o 1257/2013 of the Council of the European Parliament of 20 November 2013, as a reference, in addition to Brazilian standards. In this way, Estaleiro Atlântico Sul SA interprets the Resolution's requirement for waste management to be carried out in an environmentally appropriate manner.

Enforcement

Although the offshore decommissioning processes are recent in Brazil, it is already possible to observe examples of the influence of transnational rules in enforcing Brazilian regulation in ongoing operations.

Through the analysis of Official Letter no 237/2021/SSM/ANP-RJ-e, it is observed that the regulator requires the operator to follow the industry practices when carrying out the pipeline removal step in the Ubarana Field. This Letter cites as examples of industry practices Section 14 of ISO 19901-9: 2019 and item 12.4.3.5 of ISO 19902: 2020.

The Board of the ANP, in recent decisions, has demanded that the E&P companies, signatories of E&P contracts, provide decommissioning guarantees using a progressive contribution model. As the resolution providing for this model has not yet been published, its adoption is based on the influence of the UK and Colombian regulation. The Board Resolutions no 538/2020; 587/2020 and 602/2020 are examples of these decisions.

Transnational rules relevant to the Brazilian regulatory system for offshore decommissioning

According to the examples mentioned in this section, it is possible to affirm that the Brazilian regulatory system for offshore decommissioning is influenced by the following categories of transnational rules: the regulation of other producing countries—laws, regulations and E&P contracts; industry practices related to offshore decommissioning and codes of conduct, especially the ones created by IGOs. Therefore, the following subsection will describe these transnational rules in the context of their adoption in the Brazilian regulatory system for offshore decommissioning.

Foreign regulation

Foreign regulation is the main category of transnational rule that influences the Brazilian regulatory system for offshore decommissioning. The Petroleum Law and the first concession contracts adopted foreign regulations from the consultants Expetro and Gaffney Cline, contracted by MME and ANP, respectively, to draft the final version of these norms. Public actors—ANP, BNDES and EPE—promoted the Pre-salt Law and the first PSC. Technical visits were also made to regulatory bodies in Angola and Russia. Regarding the ANP's resolutions on decommissioning, the UK, Norway, the USA and Colombia regulations were used as a reference, and were accessed by the ANP directly through research and indirectly through the IHS Markit consultancy hired by the IBP. The ANP also visited the British regulatory body, UK Oil & Gas Authority (now North Sea Transition), to learn about this country's procedure for decommissioning.

It is also possible to point out the influence of foreign regulation in the decisions of the ANP Board of Directors, which based its demands on guarantee of decommissioning in the regulation of the UK and Colombia, as verified in the Board Resolutions no 538/2020; 587/2020 and 602/2020. And in the interpretation made by Estaleiro Atlântico Sul SA about the requirement of the ANP Decommissioning Resolution on waste management. This company adopted Regulation (EU) N^o 1257/2013 of the Council of the European Parliament of 20 November 2013 as a reference to carry out the disposal waste.

Industry practices

The decommissioning regulatory system has the direct incorporation of some industry practices, such as the reference to the ABNT NBR 10004/2004 practice in the ANP Decommissioning Resolution and to the standards of ISO 19901-9: 2019 and ISO 19902: 2020 in Official Letter no 237/2021/SSM/ANP-RJ-e.

In addition, all categories of the legislative framework of decommissioning regulation expressly require that industry practices be observed in general.

Codes of conduct

It is possible to note the influence of codes of conduct on decommissioning regulation, especially in the ANP Decommissioning Resolution rule-making process. As stated by Costa,¹³² this Resolution was drafted considering the IMO Guidelines. This Resolution still makes express reference to the UN 17 Sustainable Development Goals.

It is also possible to note the evident influence of the DNV-GL codes of conduct in the interpretation of the requirement of comparative assessment of the decommissioning alternatives, carried out by Petrobras in the decommissioning operation of the platform of the City of Rio de Janeiro, which was part of the facilities of the Espadarte Field.¹³³

4. CONCLUSION

This article presented the challenge faced by all countries that produce offshore O&G in relation to the financial issue of offshore decommissioning: balancing the cost of guaranteeing the performance of this operation (which occurs at the end of the useful life of the field, when there is no longer any outcome revenue), and the incentive to invest, especially in mature fields (when more capital is needed to extend the useful life of the field, the return on production will hardly be extraordinary, and the costs of decommissioning may be very heavy for the financial capacity of the company).

The Brazilian regulatory system on decommissioning was presented to exemplify how a producing country deals with this issue. For showing this system, this article adopted the proposal of Halliday and Shaffer¹³⁴ on Transnational Legal Order, proposing a broad and integrated view of the regulatory system for offshore decommissioning, composed not only of the national rules, but also of international and transnational rules (those that are outside the national *versus* international dichotomy).

Thus, this article analysed the Brazilian rules for offshore decommissioning, identifying the international and transnational rules that influence the rule-making process, the interpretation and the enforcement of these rules and given examples to prove this influence.

In the words of Weaver,¹³⁵ ‘good regulation is the industry’s best friend.’ So, appropriate regulation is essential to ensure a balance between protecting the public interest and attracting investment. When dealing with transnational sectors, such as the petroleum industry, regulation assumes a higher level of complexity, composed of rules elaborated by a plurality of actors, including state and non-state actors.

Thinking about a regulatory system in an integrated way, considering the relevant international and transnational rules, can help producing countries to better face complex challenges such as those imposed by the regulation of offshore decommissioning.

¹³² Costa (n 130).

¹³³ FGV (n 8).

¹³⁴ Halliday and Shaffer (n 5).

¹³⁵ Weaver (n 96).