

THE 'LEGAL OR EXTENDED' CONTINENTAL SHELF OF BRAZIL AND THE TAXATION OF OIL AND GAS

Jairo Marcondes de Souza

ABSTRACT

Brazil has a Territorial Sea of 12 nautical miles¹ (22.224 km) and an Exclusive Economic Zone (EEZ) that extends up to 200 M (370.400 km) from the baselines² from which the breadth of its Territorial Sea is measured. In addition to that, Brazil is entitled to extend its Continental Shelf (in the Legal sense) in accordance with the criteria of Article 76 of the United Nations Convention on the Law of the Sea – also known as “UNCLOS”, “The Convention” or “The Law of the Sea Convention” – of 10 December 1982, which entered into force on 16 November 1994. However, such maritime limits were not always as they are today. Until 1993, Brazil had a Territorial Sea with a breadth of 200 M. With the approval of Law no 8,617 on 04 January 1993, the maritime limits of Brazil are now in accordance with the Law of the Sea Convention. Clearly defined maritime boundaries are essential for good international relations and worldwide effective ocean management. Maritime boundary delimitation requires people with legal and technical skills which are not always available on the market. Brazil has already agreed their maritime boundaries with their neighbor’s coastal States France (French Guyana) and Uruguay. As there are no maritime boundary disputes with such

States, it remains the hard task of establishing the outer limits of its Legal or Extended Continental Shelf (LECS), sometimes also referred to as the Outer Continental Shelf (OCS). In order to avoid any confusion with the term continental shelf in the geological context, in this report we use LECS to refer to the continental shelf in the legal sense defined in Article 76 of the Law of the Sea Convention. The LECS of Brazil started to be determined in 1987 by means of a joint cooperation between the Brazilian Navy and *Petróleo Brasileiro S.A. (Petrobras)* – at that time the state-owned Brazilian oil company and today the state-controlled Brazilian energy company –, with the participation and support of faculty members of several Brazilian universities. On 17 May 2004 the Brazilian Government submitted to the Commission on the Limits of the Continental Shelf (CLCS) of the United Nations (UN) its proposal specifying the outer limits of its LECS. In April 2007 the CLCS delivered to the Brazilian Government its “*Recommendations*” on the analysis of the Brazilian proposal. In 2008 Brazil started Phase 2 of the Brazilian Continental Shelf Survey Plan (*Leplac – Plano de Levantamento da Plataforma Continental Brasileira*), which deals with the establishment of the Brazilian LECS. Nowadays, *Leplac*’s tasks are being carried out by a group of experts, with the participation of *Petrobras*, under the leadership of the Brazilian Navy and the coordination of the Interministerial Commission for the Resources of the Sea (*CIRM – Comissão Interministerial para os Recursos do Mar*). Brazil is preparing a revised proposal of the outer limits of its

¹ One nautical mile (n.m. or M) equals 1,852 meters.

² The coastal State can use both normal and straight baselines along its coast. Normal baseline is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State. Straight baselines joining appropriate points may be used in localities where the coastline is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity (UNCLOS, 1982).

LECS, which shall be submitted to the CLCS in the near future.

Keywords: Brazilian Continental Shelf Survey Plan; Extended Continental Shelf; Legal Continental Shelf; Outer Continental Shelf; LEPLAC.

1 THE MARITIME LIMITS

The Law of the Sea Convention defines the important concepts of Territorial Sea, Exclusive Economic Zone, and Continental Shelf.

Although these terms apply to distinct regions of the oceans, there are many misunderstandings and confusion in using the correct name when referring to a particular portion of the ocean. We intend to give the reader some insights about these concepts and their correct use (Souza, 1999).

1.1 TERRITORIAL SEA

A coastal State is entitled by the Law of the Sea Convention to establish its Territorial Sea with a breadth of up to 12 M (22.224 km) from its baselines, as long as that distance does not interfere with the Territorial Sea of adjacent or confronting coastal States.

In addition to its land territory and internal waters, the sovereignty of a coastal State extends to the air space above the Territorial Sea as well as to the seabed and subsoil, and should be exercised in accordance with the Convention and other rules of international law.

The Territorial Sea is considered to be an integral portion of the territory of a coastal State.

1.2 EXCLUSIVE ECONOMIC ZONE

According to the Convention, a coastal State is allowed to establish an Exclusive Economic Zone (EEZ) that extends up to 200 M (370.400 km) from the baselines from which the breadth of its Territorial Sea is measured, if such distance does not interfere with the EEZ of adjacent or confronting coastal States.

In the EEZ, the coastal State has (Article 56 of the Convention):

“(a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the sea-bed and of the sea-bed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds;

b) jurisdiction as provided for in the relevant provisions of this Convention with regard to:

(i) the establishment and use of artificial islands, installations and structures;
(ii) marine scientific research;
(iii) the protection and preservation of the marine environment;

(c) other rights and duties provided for in this Convention.”

As we go further offshore, i.e., as one advances into the high seas, the coastal State can exercise some sovereign rights, as provided for in the Law of the Sea Convention, but not the plain or recognized sovereignty it exercises in the Territorial Sea.

The Brazilian government entities “National Agency of Petroleum, Natural Gas and Biofuels” (ANP – Agencia Nacional

do Petróleo, Gas Natural e Biocombustíveis) and the "Brazilian Institute of Environment and Renewable Natural Resources" (Ibama – Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis)" are legally entitled to rule and provide regulations for the oil and gas (O&G) activities both within the 12-M limit of the Territorial Sea and the 200-M limit of the Brazilian EEZ.

1.3 CONTINENTAL SHELF

Article 76 of the Law of the Sea Convention defines and provides the criteria to be used in the establishment of the outer limits of the LECS of a coastal State.

"The continental shelf of a coastal State comprises the sea-bed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental shelf does not extend up to that distance." (Article 76, paragraph 1)

The Continental Margin referred to in paragraph 1 is defined in paragraph 3: *"The continental margin comprises the submerged prolongation of the land mass of the coastal State, and consists of the sea-bed and subsoil of the shelf, the slope and the rise. It does not include the deep ocean floor with its oceanic ridges or the subsoil thereof."*

The definition of paragraph 3 coincides with the geological continental margin of a coastal State (Figure 01).

Article 76, paragraph 4, establishes the extension criteria to be used by the coastal

State for the definition of the outer limits of its LECS:

"(a) for the purposes of this Convention, the coastal State shall establish the outer edge of the continental margin wherever the margin extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by either:

- (i) a line delineated in accordance with paragraph 7 by reference to the outermost fixed points at each of which the thickness of sedimentary rocks is at least 1 per cent of the shortest distance from such point to the foot of the continental slope; or*
- (ii) a line delineated in accordance with paragraph 7 by reference to fixed points not more than 60 nautical miles from the foot of the continental slope.*

(b) In the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in the gradient at its base."

The outer limits of the LECS established in accordance with the extension criteria of paragraph 4 *"either shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured or shall not exceed 100 nautical miles from the 2,500 metre isobath, which is a line connecting the depth of 2,500 metres"* (Article 76, paragraph 5).

In spite of the provisions of paragraph 5, *"on submarine ridges, the outer limit of the continental shelf shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is*

measured. This paragraph does not apply to submarine elevations that are natural components of the continental margin, such as its plateaux, rises, caps, banks and spurs” (Article 76, paragraph 6).

By combining the information and criteria of paragraphs 4, 5 and 6 of Article 76, the coastal State establishes the outer limits of its LECS. Applying the criteria and information of the Law of the Sea Convention is not an easy task – in practice, it is a very hard one – and requires knowledge and expertise for accomplishing it.

If the continental margin does not extend beyond the 200-M limit, the coastal State can assume a LECS up to that distance, if that distance does not interfere with adjacent or confronting States. If Brazil does not carry out any program for establishing the outer limits of its LECS beyond 200 M, the LECS would coincide with the Brazilian EEZ, since the EEZ concept is broader.

“The coastal State shall delineate the outer limits of its continental shelf, wherever the shelf extends beyond 200 nautical miles (...), by straight lines not exceeding 60 nautical miles in length, connecting fixed points, defined by coordinates of latitude and longitude.” (Article 76, paragraph 7).

“Information on the limits of the continental shelf beyond 200 nautical miles (...) shall be submitted by the coastal State to the Commission on the Limits of the Continental Shelf set up under Annex II on the basis of equitable geographical representation. The Commission shall make recommendations to coastal States on matters related to the establishment of the outer limits of their continental shelf. The limits of the shelf established by a coastal State on the basis of these

recommendations shall be final and binding” (Article 76, paragraph 8).

Once the outer limits of the LECS based on the recommendations of the Commission are established, *“The coastal State shall deposit with the Secretary-General of the United Nations charts and relevant information, including geodetic data, permanently describing the outer limit of its continental shelf. The Secretary-General shall give due publicity thereto.” (Article 76, paragraph 9).*

2 COMMISSION ON THE LIMITS OF THE CONTINENTAL SHELF

The Commission on the Limits of the Continental Shelf (CLCS or *“the Commission”*) was established in accordance with Article 76 and Annex II to the Law of the Sea Convention. By the provisions of Article 2 of Annex II to the Convention, *“the Commission shall consist of twenty-one members who shall be experts in the field of geology, geophysics or hydrography, elected by States Parties to the Convention from among their nationals, having due regard to the need to ensure equitable geographical representation, who shall serve in their personal capacities”.*

The election of the members of the CLCS should be held no longer than 18 months after the date the Convention enters into force. As the Convention entered into force on 16 November 1994, the Commission was supposed to be established before 16 April 1996.

The Third Meeting of States Parties to the Law of the Sea Convention (SPLOS), held from 27 November to 01 December 1995 in New York City (NYC), decided to postpone the first election of the members of the Commission until March 1997.

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 6 The Fifth Meeting of States Parties decided that the procedures for the first election of all 21 members of the Commission would commence on 13 March 1997 at the Sixth Meeting of States Parties, held in NYC from 10 to 14 March 1997.

The Commission held its First Session at the United Nations (UN) Headquarters in NYC, from 16 to 20 June 1997. At the opening of the session, the UN Legal Counsel (Mr. Hans Corell), on behalf of the UN Secretary-General, emphasized the fact that *"the Commission did not consist of States or representatives of States, but members who had been elected in their personal capacity in recognition of their outstanding expertise in specific fields of science"* (CLCS/1, 30 June 1997).

The members of the Commission made the solemn declaration in a ceremony that took place at the UN Headquarters on 19 June 1997. The ceremony was conducted by Mr. Hans Corell, in the presence of representatives of the Member States. In his statement, Mr. Corell noted that *"the Commission was of paramount importance to the United Nations and to the international community as a whole and would play a pivotal role in the establishment of the outer limits of the continental shelf of coastal States beyond 200 nautical miles"* (CLCS/1, 30 June 1997).

That ceremony was very important and with historical significance, marking the completion of the establishment of the three institutions created by the United Nations Convention on the Law of the Sea of 1982: *the International Seabed Authority (ISA), the International Tribunal for the Law of the Sea (ITLOS), and the Commission on the Limits of the Continental Shelf (CLCS).*

According to Article 3 of Annex II to the Convention, the Commission shall be entrusted with the following tasks:

- "(a) to consider the data and other material submitted by coastal States concerning the outer limits of the continental shelf in areas where those limits extend beyond 200 nautical miles, and to make recommendations in accordance with Article 76 and the Statement of Understanding adopted on 29 August 1980 by the Third United Nations Conference on the Law of the Sea;"*
(b) to provide scientific and technical advice, if requested by the coastal State concerned during the preparation of the data referred to in subparagraph (a)".

3 THE 'LEGAL OR EXTENDED' CONTINENTAL SHELF OF BRAZIL

Article 76 of the Convention contains complex technical formulae for the definition and establishment of the outer limits of the continental shelf. The term "continental shelf" is used in Article 76 as a "legal concept" (Fiorati, 1999) rather than as a geological one.

Coastal States have the right to claim the seabed and subsoil up to 200 M (370.400 km) from the baselines from which the breadth of their Territorial Sea is measured, even where their geological continental margin (Figure 01) falls short of that extent.

In cases where the continental margin extends beyond 200 M, the coastal State – if it complies with specific technical criteria established in Article 76 of the Convention – can establish the outer limits of its LECS up to 350 M (648.200 km) from the baselines, or up to 100 M (185.200 km) seaward of the 2,500- metre isobath,

whichever is further seaward, but cannot go seaward beyond any of these two constrained limits (Figure 02).

In some special circumstances, the outer limits of the LECS can reach a distance beyond 350 M, if the coastal State meets both extension technical criteria of Article 76, paragraph 4, and the 100-M constrained limit goes further offshore than the 350-M constrained criterion.

The limits of the LECS to be defined in the submission from a coastal State with a continental shelf that extends beyond 200 M are to be based on distances measured with respect to the foot of the continental slope (FOS), in general located near the edge of the submerged prolongation of the coastal State's land mass (Figure 01).

As provided in Article 76, paragraph 4.b, *"In the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in the gradient at its base."*

In a passive margin like the Brazilian one, in several circumstances the FOS to be used in the establishment of the outer limits of the LECS. Such is the case in the deep Amazon Fan region, the Northern-Brazil Ridge, and the southern continental margin in the proximity of the international boundary with Uruguay. But there are others regions of the Brazilian Continental Margin with particularities which make it very difficult to position the FOS.

Article 76 (paragraph 8) of the Convention requires that information on the limits of the continental shelf beyond 200 M from the baselines from which the breadth of the Territorial Sea is measured shall be submitted by the coastal State to the Commission. Such information should include particulars of such limits

accompanied by supporting scientific and technical data.

After the completion of the examination of the coastal State submission, the Commission shall submit its recommendations, in writing, to the coastal State which presented its submission to the Secretary-General of the United Nations. The recommendations to coastal States shall be limited to matters related to the establishment of the outer limits of their continental shelf.

The limits of the continental shelf established by a coastal State on the basis of such recommendations shall be final and binding. However, in case the coastal State disagrees with the recommendations of the Commission, the coastal State shall, within a reasonable time-period, present a revised or a new submission to the Commission.

In order to assist the coastal States in carrying out their tasks concerning the establishment of the outer limits of their LECS, the CLCS published in its Fifth Session (NYC, 3-14 May 1999) the document CLCS/11 (13 May 1999) entitled the **"Scientific and Technical Guidelines of the Commission on the Limits of the Continental Shelf"** (STG, 91 pages), which contains very useful information for any party interested in understanding the contents of Article 76 of the Law of the Sea Convention.

It is expressly stated in item 1.2 of the STG: *"The Commission prepared these Guidelines for the purpose of providing direction to coastal States which intend to submit data and other material concerning the outer limits of the continental shelf in areas where those limits extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured. The Guidelines aim to clarify the*

scope and depth of admissible scientific and technical evidence to be examined by the Commission during its consideration of each submission for the purpose of making recommendations.”

On 17 May 2004, Brazil presented a submission through the Secretary-General of the United Nations to the Commission, pursuant to Article 76, paragraph 8, of the Convention. Brazil was the second State to submit the outer limits of the “Extended or Legal Continental Shelf” to the Commission examination. The first one was the Russian Federation on 20 December 2001.

The oral presentation to the plenary of 21 members of the Commission was held at the UN Headquarters in NYC on 31 August 2004. The Subcommittee of seven members (Figure 03) established by the Commission to consider the Brazilian Submission carried out its tasks from September 2004 to March 2007. The Brazilian Delegation in charge of the preparation and defense of the Brazilian Submission met with the Subcommittee on several occasions during the period of examination of the Submission.

The Brazilian Submission of 17 May 2004 (Brazil, 2004) considered as “Legal or Extended Continental Shelf” an area of **911,847 km²** beyond the 200-M limit of the Brazilian EEZ.

As a consequence of the amicable relationship and profitable discussions between the Delegation of Brazil and the Subcommittee in September 2004, the bathymetric and reflection seismic data already provided to the CLCS in the Submission of 2004 were revised and reinterpreted, which led to the repositioning of the foot of the continental slope in the Southern Continental Margin and, as a consequence, in the further

offshore positioning of the outer limits of the Brazilian LECS. In February 2005, this revised interpretation was provided to the CLCS.

Brazil submitted on 01 March 2006 an Addendum (Brazil, 2006) to the original Submission of 2004 with a revised outer limit of its LECS. In the Addendum, the total area of the LECS requested by Brazil beyond 200 M was **953,525 km²** (Figure 04).

It is worthy of note that the Addendum to the Submission of 2004 was a request of the CLCS based on the “**Annex to the letter dated 25 August 2005 from the Legal Counsel, Under-Secretary-General of the United Nations for Legal Affairs, addressed to the Chairman of the Commission on the Limits of the Continental Shelf**” (CLCS/46 – 7 September 2005) conveying the legal opinion of the Legal Counsel Nicolas Michel to the consultation made by the CLCS on the following question of general nature (CLCS/44 – 3 May 2005 and CLCS/48 – 7 October 2005):

“Is it permissible, under the United Nations Convention on the Law of the Sea and the rules of procedure of the Commission, for a coastal State, which has made a submission to the Commission in accordance with article 76 of the Convention, to provide to the Commission in the course of the examination by it of the submission, additional material and information relating to the limits of its continental shelf or substantial part thereof, which constitute a significant departure from the original limits and formulae lines that were given due publicity by the Secretary-General of the United Nations in accordance with rule 50 of the rules of procedure of the Commission?”

The legal opinion of the Legal Counsel contained in the document CLCS/46 – 7 September 2005 expressly states:

“(..) it is quite possible that, in preparing a response to requests for additional information, a coastal State, while reassessing the data originally submitted to the Commission, could reach the conclusion that some of the particulars of the outer limits of its continental shelf contained in its original submission to the Commission need to be adjusted. A situation may also arise in which a coastal State reaches that conclusion not in response to a request by the subcommission but on its own. This may occur, for instance, in the light of additional scientific and technical data obtained by the State concerned, or if errors or miscalculations in the submission are discovered that need to be rectified. The State concerned could then bring these to the attention of the subcommission and the Commission.(..)

In the event that a coastal State submits new particulars related to the proposed outer limits of its continental shelf, either in response to requests by the Commission for additional data and information or clarifications or on its own, an issue may arise with regard to the due publicity given to the original submission. If the new particulars lead to a significant departure from the original limits contained in the executive summary that was given due publicity by the Secretary- General of the United Nations, it appears that the newly proposed particulars of the outer limits of the continental shelf should be given similar publicity. All States have an interest in being notified about the limits proposed in a submission. The outer limits of the continental shelf of a State also define the Area (the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction), which is, together

with its resources, the common heritage of mankind (article 136 of the Convention). According to the preamble of the Convention, the exploration and exploitation of the Area and its resources “shall be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States”. The Commission therefore should consider whether it would be advisable to address the issue of due publicity with regard to new particulars submitted to the Commission in the course of the examination of the original submission in one of its documents.

The question of whether there is a significant discrepancy between the originally submitted and the newly proposed particulars can be properly addressed only by the body with the required scientific and technical competence, namely the Commission. If the Commission concludes that such a discrepancy is significant, it may consider requesting the coastal State concerned to provide the Secretary- General of the United Nations with an addendum to its executive summary so that due publicity is given to this new information through its circulation to all States Members of the United Nations, including States parties to the Convention. The coastal State, of course, could make such a determination itself and directly provide an addendum to the Secretary-General for the purposes of due publicity. However, the Secretary-General should be guided in this regard by the Commission.”

That was the case of Brazil in reassessing the data already provided to the CLCS examination in the Submission of 2004: “a coastal State, while reassessing the data originally submitted to the Commission, could reach the conclusion that some of the particulars of the outer limits of its continental shelf contained in its original

submission to the Commission need to be adjusted.”.

Both the Executive Summary of 2004 and the Addendum of 2006 are available in the CLCS site. Below is the link to access these official documents of Brazil: http://www.un.org/Depts/los/clcs_new/commission_submissions.htm

*The recommendations were prepared and adopted on 23 March 2007 by the Subcommittee in charge of the Brazilian Submission. With amendments, on 4 April 2007 the Commission adopted the **“Recommendations of the Commission on the Limits of the Continental Shelf in regard to the submission made by Brazil on 17 May 2004 on information on the proposed outer limits of its continental shelf beyond 200 nautical miles”.***

These recommendations were sent to the Brazilian Government through the Permanent Mission of Brazil to the United Nations, in NYC. This document was not made public by the Government of Brazil.

A **“Summary of the Recommendations”** was adopted by the Commission, with amendments, on 24 August 2011.

The Summary was made public by the Commission and is available at: http://www.un.org/Depts/los/clcs_new/submissions_files/bra04/Summary_Recommendations_Brazil.pdf.

The Brazilian Government did not agree with all the recommendations of the Commission. If it had agreed in its entirety, Brazil would relinquish an area of more than 250,000 km² of its requested LECS beyond 200 M.

Nowadays, a Working Group coordinated by the Brazilian Navy is in charge of the tasks concerning the preparation of a

revised proposal of the outer limits of the Brazilian LECS, to be submitted to the Commission in due time.

According to the Law of the Sea Convention, there is not a deadline – a limit of time after receiving the Recommendations – for Brazil to accomplish the task of submitting the revised proposal to the analysis of the CLCS.

When the limits of the Brazilian LECS are due established pursuant to Article 76 of the Convention and formally recognized by the Commission and States Parties to the Convention, Brazil will exercise *“sovereign rights for the purpose of exploring it and exploiting its natural resources”* (Article 77, paragraph 1).

It should be pointed out that the limits of the LECS established by a coastal State on the basis of the recommendations of the Commission are final and binding.

In a reference to the **Brazilian Green Amazon** rain forest, the Brazilian Navy named as **“Blue Amazon”** that maritime region shown in blue color in Figure 04, which encompasses the Territorial Sea, the Exclusive Economic Zone (about 3.5 millions km²) and the requested LECS (953,525 km²) submitted to the CLCS’s analysis, totaling approximately 4.5 million km², or about half of the land territory of Brazil (8.511.996 km²).

As a matter of fact, both the Green and the Blue Amazons should be carefully monitored, protected, and preserved in benefit of the future generations of the Brazilian people.

4 CHALLENGES AND TAXATION OF OIL AND GAS IN THE LEGAL OR EXTENDED CONTINENTAL SHELF

There are still significant oil and gas (O&G) resources yet to be found worldwide. Increasing resource demands and technological developments are some drivers that put forward the O&G industry into frontier offshore areas. Exploring deep to ultra-deep water reserve potentials seems to be the way to satisfy the increasing worldwide demand for hydrocarbons.

Auctions for O&G concessions in Brazil have been suspended for about five years, as a consequence of new policies established for a sector that is on the verge of rapid expansion after the discovery of massive offshore reserves deep under a layer of salt rock, in the Santos Basin, in the Southern Continental Margin of Brazil.

The 11th O&G licensing round was conducted by the Brazilian National Agency of Petroleum, Natural Gas and Biofuels (ANP) on 14 May 2013. A total of 289 blocks were offered in this round (123 onshore and 166 offshore). License rights were awarded for 142 blocks, increasing the available O&G concessions acreage in more than 100,000 km². There was strong and wide competition in this licensing round with the participation of 39 companies from 12 countries. This round gathered record investment bonus rates.

Two additional bid rounds are scheduled in 2013. The most expected bid for the pre-salt areas will place the Libra Field on the market on 21 October. It is scheduled for November the 12th bid which will put 240 onshore blocks, expected to be prone both in conventional and unconventional natural gas.

According to Per Arne Nilsen (Total's head of subsea operations), *"there are prospective sedimentary basins around the world in depths of up to 5,000 m (16,405 ft). There are potential discoveries in that type*

of water depth, and we need to be prepared for that in the future. We are talking about perhaps 300- km, 400-km, even 500-km tiebacks. Beyond 500 km offshore, this will happen at some time in the future" (Thomas, 2013).

On 28 November 2012, the Bureau of Ocean Energy Management (BOEM) of the United States of America (USA) put the Western Gulf of Mexico Lease Sale 229 on market with some blocks beyond the 200-M limit of the US EEZ.

According to BOEM's Press Release of 25 October 2012³: *"This will be the first offshore sale under the Administration's new Outer Continental Shelf Oil and Gas Leasing Program for 2012–2017 (Five Year Program), which makes available for exploration and development all of the offshore areas with the highest conventional resource potential, which together include more than 75 percent of the Nation's undiscovered, technically recoverable offshore oil and gas resources. (...) With today's action, BOEM is fulfilling the requirement to provide final details at least 30 days before the sale. The sale will include all available unleased areas in the Western Gulf of Mexico Planning Area – encompassing 3,873 blocks and covering roughly 20.8 million acres⁴, located from nine to 250 miles offshore, in water depths ranging from 16 to more than 10,975 feet (five to 3,346 meters). BOEM estimates the proposed lease sale could result in the production of 116 to 200million barrels of oil and 538 to 938 billion cubic feet of natural gas."*

³ Available on <http://www.doi.gov/news/pressreleases/obama-administration-offers-more-than-20-million-acres-offshore-texas-for-oil-and-natural-gas-exploration-and-development.cfm>. Last access on 19 August 2013.

⁴ 1 acre = 4,046.85642 m²

Note 2 of the BOEM's Final Notice of Sale (NOS) 229 of 22 October 2012⁵ explains: "Blocks or portions of blocks beyond the United States (U.S.) Exclusive Economic Zone are offered based upon provisions of the 1982 Law of the Sea Convention".

In addition to the Lease Sale 229 of 2012, BOEM will put offshore blocks beyond 200-M on the Western Gulf of Mexico Lease Sale 233 scheduled for 28 August 2013.

Although the USA has signed the Law of the Sea Convention, it has not ratified or acceded to it yet. Nowadays, it is the only developed country which is not a State Party to the Law of the Sea Convention. Under this condition, the US seems to be free to put on lease sale offshore blocks beyond the 200-M limit of its EEZ.

With the pre-salt discoveries in the Santos Basin, Brazil's vast oil sector has been moving further and further into deeper waters very distant from the coast and closer to the 200-M limit (370.400 km) of the Brazilian EEZ.

Although all the production from the pre-salt fields is still within the 200-M limit of the Brazilian EEZ, there is a strong possibility of future production in areas beyond that limit, in the Brazil's LECS region located between the 200-M limit of the EEZ and the outer limits of the Extended Continental Shelf recognized by the Commission and the State Parties to the Law of the Sea Convention.

In spite of the CIRM's Resolution 3/2010 of 26 August 2010, which states that "Brazil has the right to previously evaluate any request for doing research in the region of

the Brazilian Continental Shelf beyond 200-M, taking into account the limits of the Brazilian proposal submitted to the CLCS in 2004", it is the author's understanding that both ANP and IBAMA are not entitled to rule on O&G activities in the LECS beyond 200 M while the outer limits of the Brazilian LECS are not recognized by the CLCS and State Parties to the Convention.

Frontier deep water projects typically carry more technical risks than those in shallow waters but also contain certain very complex nontechnical risks. Some of these nontechnical risks may include shortage of qualified people, operator and contractor capability and experience, fiscal risks, local content policy, and regulatory and political issues such as evolving or new regulation.

In addition to all payments that an O&G company has to make over the period of exploration and production of an area within the 200-M limit of the Brazilian EEZ – signature bonus, royalties, special participations, rents –, according to Article 82 of the Law of the Sea Convention, coastal States will have to "make payments or contributions in kind in respect of the exploitation of the non-living resources of the continental shelf beyond 200 nautical miles".

These payments will be made to the International Seabed Authority (ISA) – also known as ISBA – International Sea Bed Authority –, established in accordance with Section 4 (Articles 156 to 185) of the Convention. The ISA (or ISBA) was established on 16 November 1994 and has its headquarters in Kingston, Jamaica.

Payments will commence on the sixth year of the exploration of the areas beyond the 200-M limit (Article 82, item 2): "The payments and contributions shall be made annually with respect to all production at a site after the first five years of production

⁵ Available on <http://www.boem.gov/Oil-and-Gas-Energy-Program/Leasing/Regional-Leasing/Gulf-of-Mexico-Region/Lease-Sales/229/fnos229.aspx>. Last access on 19 August 2013.

at that site. For the sixth year, the rate of payment or contribution shall be 1 per cent of the value or volume of production at the site. The rate shall increase by 1 per cent for each subsequent year until the twelfth year and shall remain at 7 per cent thereafter. Production does not include resources used in connection with exploitation.”

The main question is: “*how and who will pay this bill to the ISA?*”. The Brazilian Federal Government, the Brazilian federated States, the Brazilian municipalities or the O&G companies? This is still an open question, which deserves close attention of the Authority (ISA, 2010 and 2013), of the States Parties to the Convention and of the Brazilian Government.

The report **Implementation of Article 82 of the United Nations Convention on the Law of the Sea** (ISA Technical Study No12, 2013) contains important information on the subject.

In the Foreword of the report, **Michael W. Lodge**⁶ and **Zhiguo Gao**⁷ comment:

“Article 76 of the Convention entitles a potential extension of a State’s continental shelf to 350 nautical miles, which erodes the size of the Area and hence the resources available to developing and land-locked States. Article 82 was introduced as a quid pro quo for this situation. As part of the overall legal regime for the continental shelf established under the Convention, Article 82 is a unique provision of international law and an important component of the concept of the common heritage of mankind. Whilst the intent

behind Article 82 is clear, its language leaves a number of important practical issues unresolved. Much further work remains to be done if the provisions are to be applied uniformly and consistently in State practice. In order to avoid potential future disputes over the interpretation and application of Article 82, it is important that these issues are resolved as soon as possible. Clear and unambiguous guidance as to how Article 82 will be implemented in future will also help to provide greater certainty to the offshore industry and enable it to promote more activity on the outer, or extended, continental shelf.

The Authority’s work on resolution of the issues associated with the implementation of Article 82 commenced with a seminar in 2009 held in collaboration with the Royal Institute of International Affairs (Chatham House) in London. As proposed by the Secretary-General in his annual report to the Assembly of the Authority during its sixteenth session in 2010, this work was included in the Authority’s work programme for the period 2011-2013. Accordingly, and as a follow-up to the Chatham House seminar, the Beijing Workshop aimed to draw up recommendations for Article 82 implementation guidelines and the outline of a model Article 82 agreement between the ISA and an outer continental shelf (OCS) State for receiving payments and contributions.

The workshop also considered the framework, process and criteria for the equitable distribution by the Authority of payments and contributions. The recommendations of the Beijing Workshop are intended to form the basis for further consideration of the issues associated with the implementation of Article 82 by the relevant organs of the Authority in 2013 and beyond.”.

⁶ Deputy to the Secretary-General and Legal Counsel, International Seabed Authority.

⁷ Director, China Institute of Marine Affairs (CIMA); Judge, International Tribunal for the Law of the Sea.

The task of implementing Article 82 of the Convention is not easy or of immediate application.

“When studying the implementation of Article 82 of the Convention, we are faced with good opportunities; however we should by no means underestimate the challenges. Article 82 is a complex and comprehensive Article that touches upon legal and political, economic and technical as well as many other issues. The implementation of Article 82 calls for a balanced approach to dealing with the interests of coastal States and the overall interests of the international community. Meanwhile, particular consideration should be given to the interests and needs of the developing States. When we study the implementation of Article 82, we should exercise caution and take a step-by-step approach. The result of our study should be strictly in compliance with the spirit of the Convention, and should also be able to withstand the test of history.” (Jia Guide⁸, in ISA Technical Study No12, 2013).

In the near future, if any company happens to find hydrocarbons in the LECS of Brazil beyond the 200-M limit, such company will have to include Article 82 payments to the ISA in consideration.

Significant challenges remain to be faced by the O&G industry as it heads into greater depths and further offshore, but *“these challenges will be overcome with the industry’s usual mixture of applied technological innovation, some good imagination, and a whole lot of hard work”* (Thomas, 2013).

The power of continuing technological innovation is the key to reducing risks and

⁸ Deputy Director-General of the Department of Treaty and Law, Ministry of Foreign Affairs of China.

solving problems. The offshore industry continues to develop new technologies extensively through research and development, in order to decrease high risk and associated cost of projects in frontier deeper waters.

O&G companies should evaluate potential strategies to counter these risks and additional payments for successful and profitable future offshore exploration and production in the LECS of any coastal State.

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Figure 01 – The geological continental shelf of a coastal State.

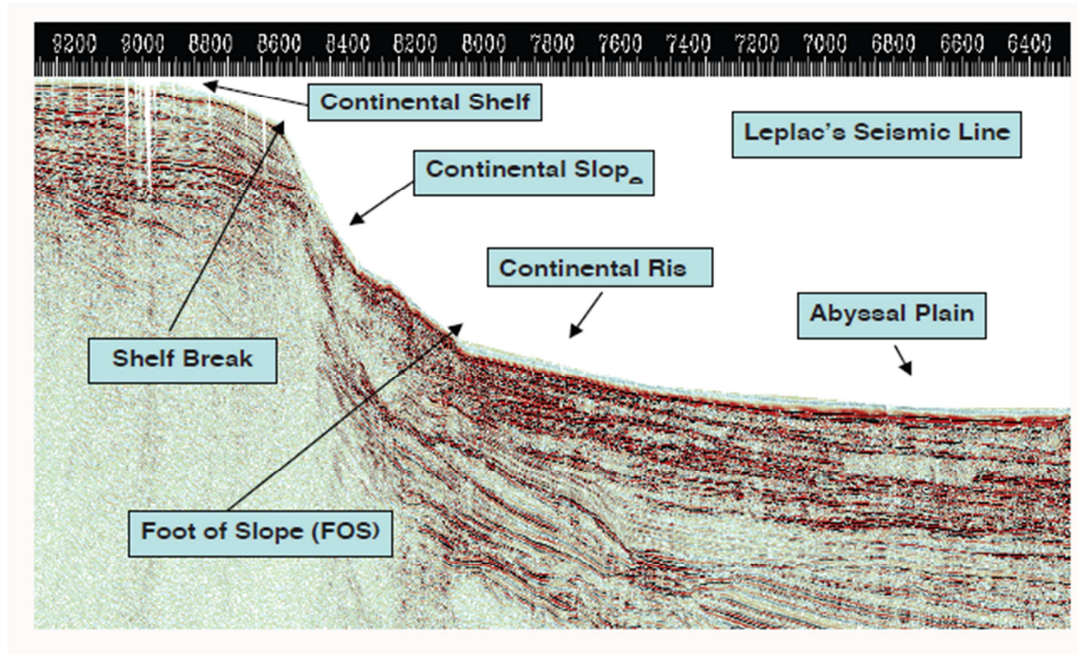


Figure 2 – Criteria for establishing the outer limits of the 'Legal or Extended' Continental Shelf of a coastal State beyond the 200-nautical mile limit of the Exclusive Economic Zone (EEZ)

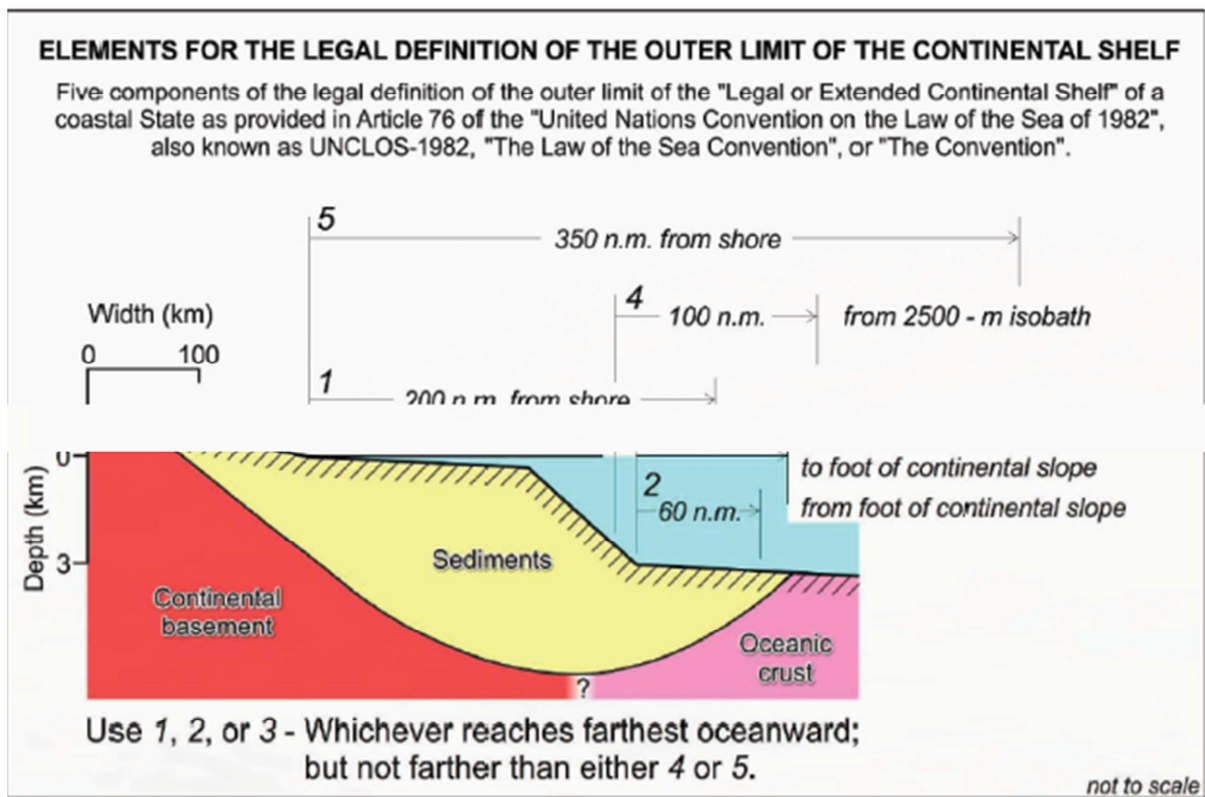
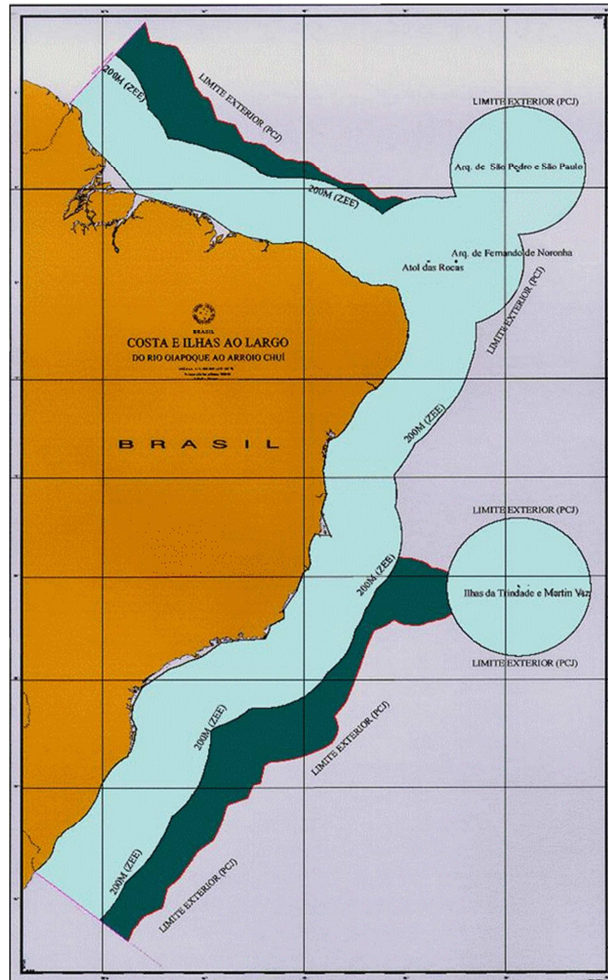


Figure 3 - Areas totaling 953,525 km² of the Legal or Extended Continental Shelf submitted by the Brazilian Government to the analysis of the Commission on the Limits of the Continental Shelf, Sea Convention. The maritime region in this figure was named Blue Amazon, by the Brazilian Navy.



Jairo Marcondes de Souza

Senior geophysicist in the Corporate Segment of the Exploration and Production (E&P) Business Unit of Petrobras, Petrobras' Headquarters, Rio de Janeiro – RJ, Brazil. Member of the Delegation of Brazil which participated in the technical meetings with the Commission and the Sub-commission in NYC (September 2004 to March 2007). Member of the Working Group in charge of the preparation of the Brazilian revised submission. Emails for contact: jairosouza@petrobras.com.br; jairosouza@predialnet.com.br; jairomarcsouza@gmail.com

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