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**THE PROBLEM OF CONCESSION AGREEMENTS IN THE BRAZILIAN ELECTRIC  
SECTOR.**

By

PEDRO PAULO DA CUNHA

[ppcunha@eletrobras.com](mailto:ppcunha@eletrobras.com)

**Advisor**

**Professor RICHARD PIERCE**

Washington DC

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## **1. – INTRODUCTION.**

Brazil is a privileged country, since it has a base of clean electric power generation of great relevance and representativeness, whose production cost is low and therefore very economically competitive compared to other sources.

The purpose of this study is to contextualize the broad debate currently under development on the deadline approaching closure of several concession agreements for generation, transmission and distribution of electricity in Brazil. Until the present date, there are no clear rules to address an issue of major relevance to the country.

The question that arises is that between the years 2015 and 2017, concession agreements for about 20% of current installed capacity in the country, or approximately 22,000 MW, will reach the end of the concession term. There are also assets in the same condition that represent more than 80% of the electricity transmission and distribution, and 35% of the energy sold in the country.

The first part of the paper will consist of a review of the formation of the Brazilian electric power sector, the profound changes that have occurred since the 90's, and the reshaping of the electricity sector since the reforms starting in 2003, under President Lula's, known as the "New Model" of the power sector.

The following part of the paper will analyze the magnitude of the present study, i.e., the final grants of power sector assets scheduled, for 2015, showing a breakdown of major companies and assets affected.

In sequence the study will present an overview about the main proposals of the ongoing debate, which mobilizes the government, state and private companies, and some of the entities representing the agents of generation, transmission and distribution.

Finally it will describe the impact of the decision either to bid or to extend these concessions on issues such: legal risk, expansion and new investments, low tariffs, employment and strategic positioning of the government.

## **2. EVOLUTION OF BRAZILIAN ELECTRIC POWER SECTOR.**

### **2.1. THE BEGINNING, EXPANSION AND DECADENCY OF ELECTRIC POWER SECTOR.**

In the mid-nineteenth century, coffee cultivation was the activity that generated more income in Brazil and profit made drove the urban sectors of the economy. The growth of cities promoted the first initiatives of the use of electricity in the country at the same time that they occurred in Europe and the USA.

The first milestone occurred in 1879 when electric lighting was inaugurated at the central station of the railroad Dom Pedro II (Central do Brazil) in Rio de Janeiro, which power source was a dynamo. In 1881 the first street lights was installed powered by dynamo in a part of “Jardim do Campo da Aclamação”, the current Republic Square. In the same year, the electricity was used to illuminate the building of the Ministry of Transportation during the event.

Early as 1883, Brazil inaugurated its first powerhouse, a thermoelectric unit with capacity of 52KW, moved the wood, feeding 39 lamps in the city of Campos, RJ, inaugurating the provision of public lighting in South America's. The preference for hydro model is also old: the first Brazilian dam was also built in 1883, in Diamantina, MG.

There were much to improve about the structure of Brazilian cities at the beginning of the century , and in 1904, Canadian and American investors create the Rio de Janeiro Tramway Light and Power Company with the intention of exploring almost all urban services, transport, street lighting , production and distribution of electricity, piped gas distribution and telephony. It is in this context that the first attempts at regulation arose by the state, the still beginner use of electric power in Brazil.

In the 1930s the federal government assumes its interventionist role in the water sector and electricity with the formalization of the Water Code (Decree 24643 of July 10, 1934). Thereafter, the Union starts to legislate and grant concessions of public services before

governed by regional contracts. The new sector policy reviews the criteria for setting prices to ensure the service provider to cover the operating expenses and depreciation and rollback quotas and fair return on capital invested.

Over the 40 years, according the trend of other strategic sectors, the State expands its role and starts to act directly in production. The first investment in this direction was the creation of the Hydroelectric Company of San Francisco (CHESF) in 1945.

With the electricity sector already established in the early 70's and the economy of the country experiencing high growth rates, the planning system was designed to match market growth rates higher than 10% per year. During the period 1970-1979, several works were planned and its designed buildings had begun to meet the market demand than expected for the first half of the 80's.

Takes place in 1979, reflecting the world, the second energy crisis, with the sharp rise in oil prices. Brazil, a major importer of the product, has had its economy profoundly shaken by the extent.

Throughout the country the electricity sector began to experience difficulties not long lived: the economic crisis reduced the rates of market growth to 9.9% in 1980 and 1.4% in 1981, and due to this that system planned to a market that would grow to more than 10% passed to have some slack. On the other hand, reducing the market has meant lower revenues, exacerbating a situation that was already 1978, when the rate of return of companies fell to less than 8%. This situation led to the deterioration of economic enterprises, difficulties in raising foreign loans and limiting the levels of investment for the future.

The delay in investments caused by the foreign debt and the gap in the rates begin to become severe since 1984, during which no longer keep up with demand growth. This framework, coupled with the severe droughts that occurred since 1985, causing a major crisis in the supply leading to shortages in the South in 1986, and in the Northeast next year. It is launched the Recovery Plan Sector (PRS) in order to gradually raise rates until they reach an appropriate level, reducing consumption and paying companies in order to resume investments in the sector. However, the has prevailed strategy of the Government of using

public tariffs as an instrument to combat inflation, quite strong in the late 80th and early the next decade.

The promulgation of the 1988 Federal Constitution, on the other hand, withdrew sources of resources used by industry, such as the Single Tax on Electricity (IUEE) and compulsory loans. This situation inhibited the self-financing sector that increasingly need to use third-party resources, generating a high debt service, and led to default among both companies as in relation to suppliers and contractors.

## **2.2. THE 90S: THE BEGINNING OF THE SECTOR'S REFORM.**

The 90s was a period of major changes. The first step was taken in 1993 with the extinction of tariff equalization and the creation of supply contracts between generators and distributors, thus beginning the process of privatization. Then came the bidding for new generation projects, the creation of the Independent Power Producer, the determination of free access to transmission and distribution systems and large consumers' freedom to choose where they purchase their energy supplies.

The Law 8.631 of March 4, 1993, reorganized the electricity sector within a business philosophy, enabling rates less compressed. However, while it was discussed how to implement the guidelines of this new legal framework, problems persisted as the lack of certain administrative concessionaires who squandered resources and investments of dubious, results with salary expenses inconsistent with the severity of the financial situation. This situation caused a cycle of defaults in the sector, and affected obtaining resources to invest in system expansion.

In parallel to changes in the model, a broad program of privatization started, initially involving federal distributors and then the state, which goal was to create conditions for the financial restructuring of state utilities and recovery technical management capacity and administrative which had been lost.

In 1995, the National Privatization Program (NDP) definitely reaches the electricity sector. The privatization of electricity companies were part of the second stage of the NDP.

It was in Collor government that started the NDP, in its first stage. It consisted in the sale of industrial companies. The second phase of the program aimed to transfer utilities to the private sector.

The privatization process has followed a policy of retreat of the state as a producer of economic activities and asset sales to reduce debt. In the electricity sector this process was especially motivated by the exhausted of the capacity of state funding and the intention to encourage increased efficiency through competition by restructuring the sector.

In 1996, the Ministry of Mines and Energy (MME) deployed the Brazilian Power Sector Restructuring Project (RE-SEB) . One of the main consequences has been the unbundling of the production chain: generation, transmission, distribution and sale of electricity became independent business areas. The generation and marketing has been progressively deregulated in order to encourage competition, transmission and distribution (natural monopolies) continued to be treated as regulated public utilities.

Faced with this new configuration, the federal government creates, even in 1996, the National Electric Energy Agency (ANEEL), whose function is to regulate the activities of the sector. Other changes were implemented in order to organize the market and to fix the structure of the Brazilian energy matrix, with emphasis on the creation of the National Water Resources Management in 1997 and in 1998, the Wholesale Energy Market (MAE) and the National Operator System (ONS).

### **2.3. THE 2000s: BLACKOUT, RATIONING AND THE BEGINNING OF CHANGES.**

With a mainly hydroelectric generation model, Brazil is seen in an emergency situation when going through a period of low rainfall which has fallen considerably the reservoirs of power plants. In May 2001 the government was forced to take emergency

measures to prevent a collapse in energy supply. The rationing period delayed the growth of the sector.

The crisis has brought attention to the need to introduce new ways of generating the national energy matrix. Prominent thermal plants that operate with fuels such as biomass and natural gas (the share of energy supply in the country jumped from 2.2% in 1985 to 6.6% in 2001). The Government also took action to support the development of projects of Small Hydro Power Plants (SHP), non-conventional sources and energy conservation.

Between 2003 and 2004 the Federal Government took a few important steps with the objective of become less vulnerable to the electricity sector. It created the Energy Research Company (EPE) responsible for planning the electricity sector expansion in the long term, the Monitoring Committee of the Electric Sector (CMSE), responsible for continually assessing the security of electricity supply in the country, and the House Energy Trading (CCEE), to replace of the former Wholesale Energy Market (MAE), so as to organize the activities of marketing power in the interconnected system.

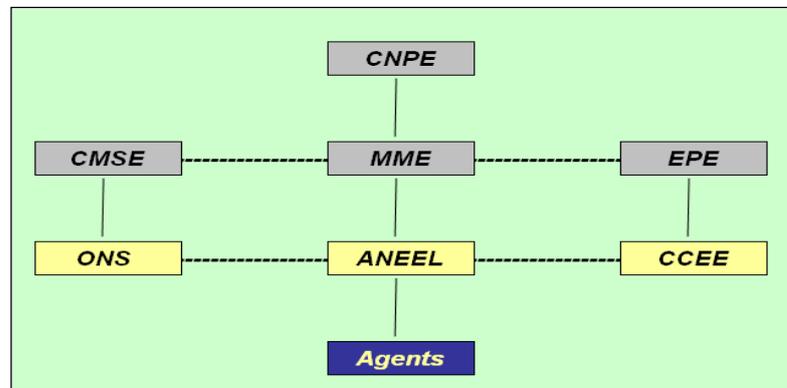
### **3 – THE NEW INSTITUTIONAL MODEL.**

In March 2004 a law was passed for the New Electricity Industry Model, aimed at restructuring the industry and offer consumers a secure supply of electricity at a convenient rate (low rates).

The law has introduced significant changes in the rules of the electricity sector in order to provide incentives for private companies and public construction and maintenance of generating capacity and to ensure power supply in the country with adequate tariffs through competitive bidding processes.

The law also excluded the ELETROBRAS and its controlled companies from the NDP mentioned earlier. The Institutional Model of the Brazilian Electric Sector can be depicted by the figure below:

**Figure 1 - Institutional Model**



The general responsibilities of each agency are as follows:

**CNPE - National Council for Energy System Policy** → Approval of energy policy in conjunction with other public policies.

**MME - Ministry of Mines and Energy** → Formulate and implement policies for the energy sector according to the guidelines of CNPE.

**CMSE - Monitoring Committee of the Power Sector** → Monitoring of conditions of service and recommend preventive measures to ensure security of supply.

**EPE - Electric Power Research** → Execution of studies to define the Energy Matrix and planning the expansion of the electricity sector (generation and transmission).

**ANEEL - Brazilian Electricity Regulatory Agency** → Regulation and supervision, ensuring the quality of services, universal service and the establishment of tariffs for consumers, while preserving the economic and financial viability of the marketing agents.

**ONS - Electric System National Operator** → Coordination and control the operation of the SIN; administration of transmission.

**CCEE - Electric Power Commercialization Chamber** → Administration of contracts, liquidation of short-term market, Energy Auctions.

### **3.1 - CHARACTERISTICS OF THE NEW MODEL OF THE ELECTRIC POWER SECTOR.**

The new model introduced by President Lula's administration has brought significant changes in energy contracting mechanisms. The primary goal of these changes was to promote the reduction of investment risks in order to facilitate the expansion of the segment generation through long-term contracts.

The auction bidding for projects is carried out in two environments: the regulated and free and the principles of hiring short-term were kept. In the regulated environment, bidding went to look beyond the concession is granted, the security agreement to purchase energy. That is, the long-term contracts were prioritized as the basis for generation expansion. The prices recorded in the auctions of enterprises became the reference for the marginal cost of expansion.

### **3.2 – TRADING OF ENERGY.**

The sale of electricity is currently held in two different environments:

1. **Free Contracting Environment (ACL)** for the free service for consumers through bilateral contracts signed with independent power producers, traders or generators state agents. The latter ones can only make their bids for public auctions. This environment is also carried out the supply of energy self-producers.
2. **Regulated Contracting Environment (ACR)** for the care of the distribution utilities, which are supplied through contracts with generators compulsory state or independent producers. In the ACR generation capacity to be bid is determined based on forecasts of demand from distributors for different time horizons. The auctions follow the criterion of minimum price.

### 3.3 – THE ENERGY AUCTIONS.

The energy auctions featuring the biggest change occurred in the trading model in the industry since 2004. All the growth market of distributors must be met by new energy (of new plants to be built), except any differences (fine tuning). In addition to the purchase and sale of electricity resulting from the auction, there is also, in the case of hydropower, the granting of the concession for the use of public property to the winning bidder.

- The auction for the purchase of new energy in the ACR had their requirements based on projections of market distributors themselves. Three types of auctions have been conducted as well as auction-specific settings (small amounts of energy), as follows:
- In A-5, it is the power auction for delivery five years after the contract. That is, five years before the onset of the market, the distributor acquires the block of energy referred to the year (base year). They are auctions of new power generation projects;
- In A-3, there is a power auction for delivery three years after the contract. They are also auctions for new ventures. If it is found that the market was in the subproject in A, the distributor can hire the missing portion to meet 100% of its market in A;
- In A-1, the power auction is done for delivery the following year. They are energy auctions of 87 existing plants in which the maximum price of energy is defined by the MME;
- Within one year until the completion of the market, auctions are made so that the energy distribution fit, the very short term, the amount of power already contracted, with its market. They are energy auctions of existing plants. These adjustments may represent no more than 1% of the total contracted load, and the date of commencement of supply can not exceed the period of four months after the auction.

#### **4 - ELECTRICITY RATES.**

The design of the new regulatory model has brought about the establishment of price assumption for the component of power generation, and tariff for the transmission and distribution , i.e., the energy follows the trend of the market, while the distribution and transmission system undergo the tariffs defined by ANEEL, the sector regulatory entity. This model has been established in many developed and developing countries, with satisfactory results and success in most.

The distribution and transmission are strictly controlled by ANEEL through the so-called "periodic review of tariffs," when assessing the economic and financial balance of the contract, every four to five years, by introducing more and more control mechanisms in the pursuit of low tariffs .

On the issue of energy supply, it submits price mechanism through auctions conducted by ANEEL, but which reference values are established by the Federal Government through EPE. In these auctions, the winner of the new venture is one that offers the lowest price compared to the maximum bid set by EPE.

In addition to the price of the input costs of electricity and transmission and distribution, the energy bill paid by the consumer enters the weight of taxation and industry charges. In this composition, the most striking thing is the weight of taxes and financial charges, which according to the Court of Audit (TCU), corresponding to 51.8% of the bill to industrial customers and 40% of residential, while the energy represents only 20%.

According to a study by PricewaterhouseCoopers, because of the tax burden the Brazilian electricity prices exceed not only the direct competitors such as India, Russia and China, as some European countries, including Austria and Norway there. Finally, the consumer is very costly and the country loses competitiveness.

To get an idea of how these costs are distributed among the five components of the bill, according to a study of the Brazilian Association of Electric Power Distribution - ABRADDEE, a residential account of \$ 100.00 these components are distributed as follows:

Energy - R \$ 31.16; Distribution - R \$ 17.42; Transmission - R \$ 3.67; Sector Charges - R \$ 11.24; Taxes - R \$ 36.50. When added with the Sector Charges Taxes find the value of R \$ 47.74, or 47.74% of the electric bill is not part of inputs necessary for establishment of good energy. In the case of a consumer Industrial distribution of values that undergoes some changes, but the proportions are similar, with an increase in energy and reduction in taxes.

Different types of taxes / taxes and charges on electricity rates happen. At the federal level, we highlight the tax: income tax, social contribution, PIS / PASEP and COFINS. However, the tax impact of higher tariff belongs to the state level VAT (Value Added Tax). In the municipal sphere, focus ISS (Municipal Service tax), Municipal property tax and contribution toward the cost of public lighting services.

The industry charges that focus on electricity rates are:

- CCC - Fuel Consumption Account
- RGR - Global Reversion Reserve
- TFSEE - Inspection Fee Electric Energy Services
- CDE - Energy Development Account
- PROINFA - Incentive Program for Alternative Sources
- R & D - Research and Development
- ONS - National Electric System Operator
- Compensation for Use of Water Resources
- Service Charges System - ESS
- Energy Charge Reserve - EER
- Payment for Use of Public - UBP
- Use of Facilities of Basic Network Electricity Transmission
- Use of Facilities Connection
- Use of Distribution Facilities

- Transmission of electricity from Itaipu

## 5 - PUBLIC SERVICE CONCESSIONS.

The general rules on concessions are provided for in Article 175 of the Constitution of Brazil of 1988 and Law 8987 of 02/13/95.

Art. 175 of the Constitution provide that: "It is for the government, according to the law, directly or by concession or permission, provided through competitive bidding, the provision of public services."

The law provides for the system of concessionaires and licensees of public services, the special nature of their contract and its extension, as well as the limitation period, control and termination of the concession or permission, the user rights, tariff policy and obligation to maintain adequate service.

A reading of the constitutional text can be seen that the State's activities qualified (by the Constitution or common law) as a public service must submit to a special legal regime: the legal regime of public service.

In this regime, should be highlighted, given its relevance, the following aspects:

- **Possibility of granting (or permission)** - while public services are public responsibilities, and therefore can be provided directly by the Government activity or holder of its public powers, the Constitution expressly provides that its provision by individuals, by concessions and authorizations or licenses to private companies, and the law shall lay down rules on such licensees and concessionaires of public services, the special nature of their contract and its extension, as well as the conditions of forfeiture, control and termination of the concession or permission ;
- **Bidding** - the Constitution requires as a prerequisite of the grant, the execution of bidding (administrative process, governed by law, which ensures equal

conditions to stakeholders, aims to choose one that best serves the public interest);

- **Tariff policy** - the same way, the Constitution provides that dealers and authorized public services are paid through the payment of fare, which is subject to a tariff policy, which guaranteed the economic and financial balance of the concession contract;
- **The requirement to maintain appropriate service** - the doctrine of public managerial qualifies the "appropriate service" as the raison of public services, being, of course, the common law rule on the characteristics and behaviors that, according to the characteristics of each activity qualify their service as appropriate.

Law 8.987 known as the General Law on Concessions, regulated the article 175 of the Constitution and brought relevant provisions regarding concessions of public services, highlighting the following:

- **Concessions granted without competitive bidding under this Constitution** - the law establishes its dissolution (article 43);
- **Concessions granted without competitive bidding before the validity of the Constitution**, which works or services have not started or are paralyzed when the entry into force of Law - The Law establishes its dissolution (article 43, sole paragraph);
- **Concessions granted with competitive bidding before the validity of Law 8.987** - Law established that the concessions were valid for a specific period in the contract or the granting act, after which they would be auctioned (art. 42).

Pursuant to Law 8.987, the following are the judging criteria of the bid: (i) the lowest rate of public service to be provided, (ii) the highest offer for the grant of the concession, in this case it should be paid to Granting Authority, (iii) combination, two by two, the criteria stated in items "i", "ii" and "vii" (iv) the best technical proposal, with price set in the notice, (v) the best proposal in terms of combination of the criteria for the lower rate of public service to be provided with the best technical proposal, (vi) the best proposal in terms of

combination of the criteria for higher offer for the grant of the lease with the best technical, or (vii) improved offer of payment for the grant after qualifying the technical bids.

As for the tariff policy, Law No. 8987/95 established that the rate of public service given was set for the price of the proposal of the winning bidder and preserved by the rules review under this Law, in the public note and in the contract, regulating, though, that the review rules aimed at maintaining the economic and financial balance of the concession contract.

### **5.1 - CONCESSION CONTRACTS OF THE ELECTRIC POWER SECTOR.**

In the definition of eminent jurist Hely Lopes Meirelles, "The concession agreement is the written document that contains the delegation of the granting authority, defines the object of concession, borders the area, shape and gives the time of operation, establishes the rights and duties of parties and service users"

The concessions in the electricity sector are set out in Water Code - Decree number 24.643/1934, with additional force of law, in Articles 150 to 169, and authorizations in Articles 170 to 177. Decree number 41.019/1957, which regulates the Electric Power Service, concessions and authorizations that are specified in Articles 65 to 88.

However, until the publication of the Law number 8.987/95 and 9.074/95, there were in the electricity sector, several decrees granting awards. Actually, there was no concession contract signed between the grantor and the concessionaire, which legally established concessions for an indefinite period.

The concession contracts are the tools provided by Law number 8.987/95 and adopted by the Authority and by ANEEL, in which relationships are established with the agents of distribution of electricity.

These contracts are set rules about the system of concessionaires and licensees, the tariff, of the appropriate service (continuity, efficiency, safety, timeliness, generally

complimentary in their supply and reasonable tariffs), as well as the obligations the personal service to consumers.

Regarding tariffs, concession contracts have as basic principle the preservation of the economic-financial balance, setting values to ensure coverage of all costs so that the energy is produced, transported and delivered to customers, plus the costs and industry taxes as well as the remuneration of the investments made by the oil companies. The preservation of the economic and financial balance is done through the reviews and rate adjustments agreed by ANEEL.

With the publication of these laws, the concessions of public services were put into law new level, therefore, required the formalization of relevant and essential (in the qualification of Law Number 8.987/95, article 1) concession of public services having been disciplined even the possibility of maintenance of concessions already granted, with and without bidding, before or under this Constitution.

Considering the difficulties in the electricity sector at the time , which difficulties in investment implied in the existence of works not started, delayed, and paralyzed, was edited - the same day of the publication of the General Law of Concessions - Provisional Measure Number 890, of February 13, 1995, later converted into Law Number 9.074/95, which established standards for granting and extension of concessions and permissions of public services, especially about the electricity services. Law Number 9.074/95 was the result of articulated broad political agreement within the National Congress, thus allowing the very publication of the General Law on Concessions.

Law Number 9.074/95, in its articles 17, § 4 and 5, 19, 20, 22, established the conditions for renewal of existing concessions at the time, softening the severity of the article. 41, § 2 of Law Number 8.987/95 determined that the bidding of concessions to an indefinite term, which validity would be maintained only for a necessary period to complete the surveys and assessments necessary for the organization of auctions that would precede the granting of concessions that would replace them with Indeed, Law Number 9.074/95, it made it possible:

- Article 4, paragraph 2, established that the concessions to generate electricity, contracted from the law, would have the necessary period for depreciation of

investments, limited to thirty-five years from the date of signature of the essential contract, may be extended for a maximum for the same period, at the discretion of the granting authority under the conditions established in the contract;

- Article 4, paragraph 3, established that the concessions of transmission and distribution of electricity, contracted from the law, would have the time required for amortization of investments, limited to thirty years from the date of signature of the essential contract, may be extended for no more than the same period, at the discretion of the grantor under the conditions stated in the contract;
- Artigo.17, paragraph 5, allowed the extending of the concessions of the existing transmission, and finally;
- Article 19: allows the extension of concessions for electricity generation, achieved by article. 42 of Law Number 8.987/95 (concessions available);
- Article 22: allowed the extending of the concessions to existing distribution.

It was established 20 years the maximum period for all these cases (Articles 17, 19 and 22) of their extensions.

On December 26, 1996, is signed Law Number 9427 establishing the National Agency of Electric Energy - ANEEL regulating the system of concessions of public power and other measures. This law introduced the possibility of successive extensions of contracts of concessions conditioned on offering a quality service to consumers, as provided in article 27, described below:

"The concession of public power and use of public celebrated in the validity of this Law and those resulting from application of the arts. 4 and 19 of Law Number 9074 of July 7, 1995, include a clause for renewal of the concession, while services are being provided under the conditions of contract and the law of the industry, serve the interests of consumers and dealer requests it. "

It turns out that Article 27 of Law 9.427/96 was later repealed by Article 32 of Law 10,848 of March 15, 2004, arising from that legal challenges to its effectiveness would reach the agreements signed under the rules of Law 9.074/95 and 9.427/96.

## **6 - THE END OF CONCESSIONS.**

In response to the legal provisions mentioned above, there were from the year 1995, several formal Concession Agreements of Public Power, which respective periods of validity will be depleted by 2015.

At that moment, the expectation was that these assets were privatized, which would have to pass a new concession in line with the intention of maximizing the current value of assets which is subject to privatization.

The failure of the privatization auction of the Energy Company of São Paulo (CESP) in June 2008, described the problem of closure of concessions, as investors gave up the business before the federal government's refusal (President Lula) to ensure that in 2015, the deadline for the grant of the main plants CESP their contracts would be extended.

Since then, the industry players have been discussing the theme of the final concessions, because of the large concentration of expiration of term contracts in 2015, it is not insignificant the number of concessions which will expire this year.

### **6.1 - DIMENSION OF THE PROBLEM.**

The magnitude of the problem to be faced in the short and medium term can be scaled by the observation that about 20% of the installed capacity of electric power generation will have their leases expiring in the 2015/2017 biennium.

Besides these, 82% of the concessions of existing transmission lines that compose the basic grid of the National Interconnected System will be extinct and 35% energy distribution companies, which represent 30% of the market distribution (Table 1).

Table 1: Number of Final Term Concessions between 2015 and 2017

SEGMENTS	AMOUNT OF CONCESSIONS	ON THE TOTAL AMOUNT
GENERATION	58 Generating Units	Equivalent to 21.5 GW 12.9 GW average (20% of electricity generation in the country)
TRANSMISSION	73,000 km of transmission lines	83% of the basic network of SIN
DISTRIBUTION	41 Dealers	30% Market Distribution

Source: ANEEL

In case of the generation segment, almost all of the plants, which concession contracts expire in 2015, belong to federal enterprises (CHESF and Furnas) and state governments (CESP, Copel, CEMIG and CEEE) and only 2.7% to a private company, as shown in Table 2. These plants are located in the South, Southeast and Northeast, close to major load centers in the country.

Table 2:  
Volume of Concessions of Assured Energy that will expire between 2015 and 2017 without the right to extend.

COMPANIES	Values in Mw				
	2015	2016	2017	TOTAL	%
CHESF	5.868	-	-	5.868	45,4%
FURNAS	1.947	-	911	2.858	22,1%
CESP	2.894	-	-	2.894	22,4%
BAIXADA SANTISTA ENERGIA	345	-	-	345	2,7%
CEMIG	383	-	229	612	4,7%
CEEE	234	-	-	234	1,8%
COPEL	115	-	-	115	0,9%
TOTAL	11.786	-	1.140	12.926	100,0%

Source: ANEEL

In order to have a better idea of the problem, it is worth mentioning that 90% of the generation assets of CHESF (federal state) and about 60% of CESP (state government) will have their concession contracts expiring between 2015 and 2017.

Regarding the grants of power transmission, whose contracts expire in 2015, the majority also belongs to federal enterprises (FURNAS, CHESF, ELETRONORTE and ELETROUL) and state governments (COPEL, CEMIG, CELG and CEEE). Unlike the generation segment, a significant in size and strategic position, belongs to a private company, Company de Transmissão de Energia Elétrica Paulista (CTEEP). The set of these lines cut most of the country, forming the backbone of the national interconnected system.

Regarding the distribution concessions, all the concession contracts ending between 2015 and 2017 is composed of eight government-owned companies, among which are COPEL (Paraná), CEMIG (Minas Gerais), CELG (Goiás) and CEEE (Rio Grande do Sul ); six federal companies belonging to ELETROBRAS of the states of Amazonas, Piauí, Alagoas, Acre, Rondonia and Roraima. There are also two small municipal companies and 22 small private concessionaires scattered over the states of Sao Paulo, Parana, Santa Catarina, Rio Grande do Sul, Goias, Maranhão, and Espírito Santo.

For those industries, the end of the concessions concerns about the energy supply and its quality. Specifically considering the generators, it is worth noting that the contracts of most of the power plants which concessions are expiring in 2012 and 2013.

Confusion rules complicates the negotiation of these contracts on the open market. Legally speaking there are doubts about whether companies can sell power for a period higher than the concessions of the plants that will produce it.

The total energy traded by auction between 2004 (1 auction) and 2008 (7 auction) which plants are maturing with their concessions between 2012 and 2016 is 19,703 MW, as shown in Table 3.

		Values in MW					
	End of the contract Auction Date	31/12/2012	31/12/2013	31/12/2014	31/12/2015	31/12/2016	Total
1st auction	12/07/2004	9.054	6.782	1.172	-	-	17.008
2nd auction	04/02/2005	-	-	-	1.325	-	1.325
3rd auction	10/11/2005	-	-	-	-	-	-
4 th auction	10/11/2005	-	-	-	-	1.166	1.166
5 th auction	12/14/2006	-	-	204	-	-	204
6th auction	06/12/2007	-	-	-	-	-	-
7th auction	11/28/2008	-	-	-	-	-	-
<b>Total</b>		<b>9.054</b>	<b>6.782</b>	<b>1.376</b>	<b>1.325</b>	<b>1.166</b>	<b>19.703</b>

Source: CCEE

Of the 19,703 MW average traded in auctions of existing energy, and that will not be contracted between 2012/2016, about 66% (12,926 MW) are generated by plants belonging to the companies mentioned in Table 2, which concessions expire during the same period.

Therefore, there are several reasons why the need for rapid signaling Granting Power for the fate of those concessions be given to mature, i.e., extend them or submit them to bid. Among them should be highlighted:

- the need for security of supply;
- the need for legal certainty, thus enabling investors' confidence (and continuing investment sector) and free consumers;
- the need for adequate signage market prices of energy preventing or inhibiting sectoral strategic behavior of agents, and, last but not least,
- the possibility of improving conditions for the provision of their public services with better quality and reduction of costs to be supported by users.

## **6.2 - BIDDING VERSUS RENEWAL OR EXTENSION OF NEW CONCESSIONS.**

Among the possibilities, two options are possible: change the law to allow a further extension of current concessions or a new bidding process of the enterprises, in both scenarios, the low tariffs stands out as a key variable in the process, joining the need for maintenance of the Brazilian electric park and the need for guarantee the continuity of quality services to consumers and feedback to operators.

The National Energy Policy Committee- CNPE, the body responsible for formulating national energy policy, issued Resolution CNPE Number 04 of May 2008, by which determined to create the Working Group "with the purpose of carrying out research, propose conditions and suggest criteria for subsidizing agencies concerning definitions of the future situation of hydroelectric plants and transmission facilities of the Basic Network Interconnected System - SIN and distribution of electricity, amortized or depreciated. "

The aspects to be necessarily looked at the occasion of decision are also relevant. In this sense it is essential to highlight the due observance of legal norms, in particular the Federal Constitution which requires the Government should provide the service directly or through concession, always preceded bidding.

It is important to situate the debate in progress, checking the best doctrine and jurisprudence on the alternatives.

### **6.2.1 CONCESSION BIDDING.**

The legislation requires that at the end of concessions, the assets revert to the Union, for bidding, being the previous owners of the concession compensated by investments not depreciated.

It should be noted that from the interpretation of article 175 of the federal Constitution, which deals with the provision of public services, emerge basically three currents: (a) the first, represented by attorney Justen Filho, does not allow extension of the concession of public service (this would be determined strictly by the amortization period required of the planned investments considered the economics of contract), in the face of the constant expression of the heading of this article, "when through bidding" (b) the second, the majority, sees an opportunity for extension, if provided by law, provided that the result of bid award, denying that the extension of concessions does not bid, (c) the third, which considers the possible extension, in any case, including non-tendered concessions , provided that the extension is expected by law.

### **6.2.2 EXTENSION OF CONCESSIONS.**

The subject is treated with great concern by the government, which does not rule out the possibility of a further extension of the concession contracts, resulting in a change of

legislation in the electricity sector, because the legal framework that determines at the end of the concessions assets accrue to the Union being then auctioned, with the last dealer the right to a financial compensation for any investments have not fully depreciated.

Through the National Congress the Bill 7.068/10 by Mr Vladimir Costa - PMDB / PA. In conclusion, the Bill changes the articles 4, § 2 and § 3, 19 headings and 22nd of the Law number 9.074/95, stating:

- "The generation concessions will have an amortization period of investments of up to 35 (thirty five) years from the signing of the concession contract, successors further periods of 20 (twenty) years. Granting the burden will be imposed provided the concessionaire for the extension;
- The granting of transmission or distribution will have an amortization period of investments of up to 30 (thirty) years from the signing of the concession contract, successors further periods of 30 (thirty) years, at no cost to the concessionaire;
- An extension of public service concessions granted before the entry into force of Law number 8987/95, as long as required by its licensees, and
- The possibility of reunion for concessions for electricity distribution from the same dealer, at the request of and the criteria of the Granting Authority, which in this case would have longer term and with possibility of extension. "

It was recently presented a proposed amendment to the Constitution introduced by Senator Walter Pinheiro (PT – Bahia) authorizing the extension of contracts granting permission and facilities services and energy that will expire after 2015. The congressman has been advocating that this is a way to preserve the ability of electricity companies, such as Chesf, Eletronorte, Furnas, Eletrosul and Cemig.

The proposal provides that the extension will be focusing mainly on the fixing of low tariffs, one of the basic principles of the New Model of the electricity sector.

It is noteworthy that the second case, the understanding of ANEEL and the Court of Audit (TCU) is that provisions that extend concession contracts are not valid, since the Law No. 10.848 of 2004 repealed Article 27 of Law 9.427/96 that allow this possibility.

Under the regulator of the electricity services there are legal opinions that address the examination of extension Terms contained in the concession contracts for transmission and distribution, which conclude that in the face of the repeal of Art. 27 of Law 9.427/96, such clauses no longer exist and must be regarded as nonexistent.

### **6.2.3 - WHAT THINK THE ELECTRIC POWER SECTOR AGENTS.**

Several demonstrations have been made by agents operating in the electricity sector, waging an intense debate verifying positions for the bidding of the assets at the end of the concession period, as provided in Law No. 9.074/95 and also contrary opinions to this solution arguing that there enormous risks to growth, security and operation of the electricity sector by setting itself up for auction as a significant amount of hydroelectric power plants and transmission lines.

The auction is held, for example, the CEO of the Brazilian Association of Large Energy Consumers (HUG), Paulo Pedrosa. According to him, the end of the concessions is natural and it was expected. "It's not a surprise. It's like the end of a rent, and must leave the property. It is a fact of life. "He defended the performance of new bids, saying that this is a great opportunity to regain competitiveness in the energy sector. Mr. Pedrosa argues that "every \$ 1 less in energy costs can result in an increase of R \$ 8.60 in gross domestic product (GDP)."

The president of the Brazilian Association of Investors Self-Energy (ABIAPE) Mr. Otavio Carneiro de Rezende said recently that "the market should soon resolve the question of concessions, because it directly affects the uncertainty in the investment industry."

As president of the Brazilian Association of Large Industrial Energy Consumers and Free Consumers, Mr. Ricardo Lima, "it seems that the government will choose to extend the concessions of the plants, but little is said about one of the most important process that is the destination to be given to these power plants. After all hydroelectric plants are built, in some

cases for over 50 years, whose investments have been fully amortized. Thus, their cost is minimal, corresponding mainly to the costs of operation and maintenance of the plants."

The Federation of Industries of São Paulo (FIESP) has been advocating, including an advertising campaign, that the bids are the best solution. According to FIESP, there would be a huge benefit to consumers, because the price of energy plants in the final award would fall from 90 R\$/MWh (weighted average of the current contracts) to about 21 R\$/MWh. If we multiply this expected economy of 69 R\$/MWh for the bid amount of energy (11,000 MW, which corresponds to 96.3 million MWh per year) it comes to 6.6 billion dollars per year, a very significant value in the face of huge numbers of the sector.

Experts commenting the subject hold the opinion that the electricity sector has the possibility that the regulated price for the consumer (ACR) of the plant Teles Pires, recently auctioned, of approximately 58 R\$/MWh, could be used as "reference" for the establishment of regulatory prices.

### **6.3 - EXPANSION AND NEW INVESTMENTS.**

The solution that will be given to the issue of termination of concessions of important assets in the electricity sector will have great influence on the decisions of investment in the infrastructure segment in the country in the short term.

The uncertainty regarding the final decision on this is the second recently revealed the president of Company Energetica de Sao Paulo (CESP), Mauro Arce, impacting the performance of investments by the company. According to Mr. Arce, "CESP will not undertake investments to expand its generating capacity, focusing on their contributions to the modernization and maintenance of these plants in operation, because depending on the solution to the concessions, the company may not have cash flow enough".

The Ten Year Plan for Expansion of Energy 2008-2017 (PDE) indicates the need for aggregation in the period of (i) nearly 53,000 MW of installed capacity, or 5,300 MW per year, representing a growth of over 50%, (ii) more than 36,000 Km of transmission lines with

voltage of 230 kV or more, or 3,600 km per year, a growth of over 42% and (iii) more than 71,000 MVA of transformation capacity, an increase of 40%. In summary, the PDE indicates the need for growth of almost half of what has already been implemented in the power sector today.

The investments under the PDE are estimated at U.S. \$ 105 billion for system expansion of generation and transmission of energy in the period 2008-2017. In this scenario arise two main concerns associated with the decision to be taken to the issue of termination of the concessions.

The first refers to the risk in bidding to put a lot of facilities in operation in the electricity sector, because the mere prospect of asset trading to generate the magnitude of 22,000 MW already installed, can cause a decline or even stagnation of private investment in expanding the supply of electricity, given the possibility that investors will have to acquire businesses in operation.

The second hypothesis concerns the costly extension of the concession contracts. That decision may bring negative impacts on the financial health of companies, significantly impacting the ability of investment federal companies controlled by ELETROBRAS, thus affecting the government that ultimately to prevent the loss of the investment capacity of the largest agent in the electric sector , owner of about 60% of the electricity transmission grid and 40% of installed generation capacity will need to capitalize ELETROBRAS, causing negative effects on the country's fiscal policy.

Eletrobras companies have been instrumental in bidding process for new generation projects, partnering with private companies in consortia, thus leveraging the large projects currently running in the electricity sector and produced decisive result to obtain lower rates for energy to be produced.

#### **6.4 OPORTUNITY TO REDUCE ENERGY TARIFFS.**

The discussion about the electricity tariff from 2015 has been considered fundamental by the major consumers such as the Federation of Industries of Sao Paulo (FIESP) and the Brazilian Association of Large Energy Consumers (ABRACE). According to the ABRACE, the price of energy in Brazil is among the three highest in the world, it is necessary to reduce it to international standards.

Actually, high tariffs jeopardize the competitiveness of Brazilian products, however, very low rates at unreal levels endanger the health of financial companies reducing their ability to generate investment and maintaining the quality of services.

According Nivalde and Brandão (2010), members of the Study Group of the Electricity Sector (GESEL) "which seems more sensible and realistic to propose a renewal for existing holders of concessions, but using a formula that will bring benefits to all consumers. It is what has been called the "renewal with encumbrance" for the current concession holder. The authors see the end of the concessions as an opportunity to reduce the cost of energy for the end user, helping to reduce the bill of Brazilian families and lower the costs to industry.

According to a study by ABRAGE, considering that fees and taxes represent approximately 41% of the final price of electricity to consumers, the low tariffs could be achieved by, for example, with reduction duties and taxes on the energy bill.

According to Elena Landau, for each \$ 100 bill paid, half is divided between the remuneration of the transmission and distribution and purchasing electricity, this last part corresponding to the 25% rate. How to win concession contracts account for 30% of the electricity sold in the captive market, it appears that only 7.5% of the total bill could be influenced by the process. For Landau, better than make unviable major power companies in the country would begin to relieve the cost of energy acting on the burden of taxes and electric bill.

## **6.5 - REVERSAL OF ASSETS**

Another important issue in the discussion about the end of the concession assets in the electricity sector, concerns the possible reversal of property and compensation for the unrecovered investment to the dealers who should return their concessions. In this scenario, so there is no discontinuity of investments, the rules for calculating the reversal and compensation should be well defined and assimilated by all stakeholders.

The Brazilian electric sector has a specific fund to promote the expansion of energy supply through financing of generation projects, transmission and distribution and also has the important function of compensating agents in case of reversal of assets not yet amortized. This fund is the Global Reversion Reserve (RGR), administered by ELETROBRAS that accounted 31.12.2010 in a cash balance of U.S. \$ 7 billion.

In fact, the market believes that the issue should concern the government because of the unavailability of sufficient funds in the account of RGR for payment of all claims of non-depreciated assets as being the amount to be refunded to dealers more than the balance of RGR is up to the Government provide the following year's budget with the necessary complementary resources.

To Flávio Neiva, the Brazilian Association of Energy Generating (ABRAGE), the statement that all plants which leases are expiring in 2015 are already depreciated and paid, it is not a correct decision to be made by the Government about the future of these concessions can not be based on this premise. He said the plants are at different levels of depreciation and, for most of them projected revenue over the period of concession will be achieved or not, for various reasons: high volumes of surplus in some years, the period of insufficient, inflation control by the government, etc..

## **6.6 – LABOR ASPECTS.**

At the end of the concession situation and the decision is the bid, there is another issue to be discussed: must the assets be bid separately or bundled and linked to a company as done at the time of privatization in the electricity sector? No doubt the second alternative would be easier, since in isolation, sale would be necessary the segregation of debts, assets, employees and management structure linked to each of the auctioned assets, so that in the end of the process does not remain a company emptied of assets and full of debts and costs.

One point that stands out is the fact that unlike the case of privatization of the electricity sector which saw the sale of controlling interest, i.e. sale of state-owned private sector comprising the physical assets of generation, transmission and distribution, and also employees, receive rights, debts with suppliers and other creditors of the privatized company in the case of reversal assets and subsequent bidding, only the physical assets would be transferred to the winners of auctions, and employees, receivables and payables with the previous concessionaire.

The same reasoning applies if the solution is the renewal of concessions with an overtax , because if the government impose a very low rate, we will have the bankruptcy of companies as there would not have cash flow to support, for example, payment of debts and certainly would need the dismissal of employees.

## **6.7 – STRATEGIC POSITION OF THE GOVERNMENT.**

The federal enterprises, headed by Eletrobras (FURNAS, CHESF, ELETROSUL and ELETRONORTE), will have much of their generation and transmission assets in concession contracts maturing between 2015 and 2017. So, if there is no possibility of extension, the government may lose much of their assets to the private sector through competitive bidding process.

For the researcher from GESEL Nivalde de Castro, the discussion involves the use of state and state-owned enterprises as an instrument of energy policy, which in its evaluation has been essential to reduce the price of energy sold in recent auctions.

It is true that one cannot compare this possible transfer of assets of the Union for private companies with the privatization process of the past decade. At that time were auctioned shares representing the capital of the company and were transferred to the private sector in addition to assets linked to the concession, the debts, employees, credits and other assets.

However, this possibility is seen with great concern by the government which has to face the Workers' Party, a major opponent of the privatization process has gone through the Brazilian electricity sector.

## **7. CONCLUSION.**

According to the Brazilian Constitution, at the expiry date of the concessions, they should be tendered out, however, this alternative has become very complicated, and it seems that the Federal Government has practically no time left to do the bidding process.

The National Agency of Electrical Energy (ANEEL) can only extend the existing concession contracts, if there is a legal device approved by the Public Authority, authorizing the sector Regulatory Agency to promote a case by case negotiation with each dealer on your interest or not to extend its concession. That might be possible with the approval of the bills already submitted by some lawmakers.

Depending on the parameters legally established by the Public Authority for negotiation of contracts by ANEEL, some dealers may elect to receive the compensation of the residual value of its assets and leave the business of generating, transmitting or distributing electricity. Private dealers and others controlled by the state may have different views and positions in relation to business continuity.

My belief, according to the study that I have accomplished on the subject and also discussed with some experts that the decision is more likely to be taken by the Government will extend the existing concessions, but introducing a mechanism for the reduction of tariffs to benefit the consumer, due to the following points:

- It will be very hard in the remaining time left until the end of the concessions period, for the preparation of an appropriate model for new auctions, to articulate and to make the interested investor groups prepared to raise sufficient capital, whereas at the present time, significant investments are being made for the construction of large plants, especially the plants in the Madeira River (Jirau and Santo Antonio) and Belo Monte;
- Given the short time the option of bidding at this time does not meet the public interest, because the impact of placing a large amount of power generation assets in the auction would lead to the obtainance of a price below the desired level;
- There is the potential risk to investors opting for the purchase of existing assets in the auction, instead of investing in new projects to expand the supply of energy in the country. It reinforces this concern, as shown in this work, the Ten-Year Expansion Plan - PDE which indicates the need for more than 50% growth in installed capacity, or 53.000 MW by 2017;
- With the end of the concessions, the current dealers are entitled to receive compensation for the part corresponding to not yet depreciated assets, which would revert to the Union. However, the calculation of the amount of losses is not clearly established, so that there is no legal certainty as to how to perform this calculation, whereas there is not enough resources in the Global Reversion Reserve to cover for that reimbursements, which would trigger the need for Government to allocate other resources in its budget for such purpose;
- The extension of current concessions would guarantee the preservation of the ability to work directly from the State on a sector as strategic, ie, maintaining an important tool for energy policy that is currently performed by state enterprises, even at the expense of a decrease in revenues;

- The extension would also have the advantage of avoiding the operational risk associated with the exchange of the hands of a very large set of assets in too short a period.

As for the demand from specific sectors as regarding the fixing of low tariffs, it seems more reasonable to reduce the tax burden of the electricity sector, as presented here the taxes and charges account for approximately 47.74% of electric bill, according to a study of the Association of Energy Distribution Companies electric.

Finally, I understand that the solution to be given to the question of maturity of concession contracts in the electricity sector will serve as a kind of jurisprudence for the discussion of future contracts of the other infrastructure sectors, such as in the case of the concessionaires of railways and telephone operators. Thus, whatever the decision, it must be well built in its legal and market features.

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