ELECTRICITY REFORM STATUS IN ROMANIA AND THE ASSESMENT OF THE DISTRIBUTION PRIVATIZATION REQUIREMENTS

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Electricity industry is facing in the whole world radical changes regarding, the core activities, generation, transmission, distribution and supply, deployment and organization.

As an essential part of the electricity industry value chain the electricity distribution activity is organized as a natural monopoly, its economics pertaining to the economy of scale. This very important feature determine that the investments in distribution to be exposed to a very peculiar commercial risk generated by the fact that being a natural monopoly structure, it has to admit a very well defined regulatory process for its rates and tariffs. As a consequence the distribution investor is facing three major risk categories: political risk, regulatory and commercial risk.

In spite of all this realities the distribution companies and the distribution business are very attractive for the investor and the last years experience has proved that the privatization of the electricity sector in many countries in the world like Brazil, Hungary, Argentina, s. o., began through privatizing the distribution.

Starting from these considerations and taking into account the fact that the Romanian electricity industry is facing a deep restructuring in order to attract foreign investors in this sector of the Romanian economy the paper performs analyses of the following important aspects:

- Presents the actual status of the organization and operation of the Romanian power system as a result of a four years restructuring process
- Analyses of the objectives and the general requirements for the privatization of the electricity distribution sector. Define the basic elements for an efficient privatization strategy.
- Identify the issues to be considered in the process of creating new distribution companies, taking into account the provision of the Romanian electricity legal and regulatory framework.
- Presenting the basic elements of the process of valuation of the distribution company. They are indicated the necessary data and information which has to be used for building a financial model for the valuation of the distribution company. They are mentioned a number of financial synthetic indicators used to assess the value of an electricity distribution company.

Key words: restructuring, economic viability, regulation, privatization, market value, regulatory risk, political risk, and commercial risk.
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1. INTRODUCTION

One of the main priority of the Romanian Government policy in the last four years was the restructuring and the reform of the Romanian Power Sector (RPS). In 1997 it was started the process of transforming the former Romanian Electricity Authority RENEL into a commercial company and planning the development of the process for creating a competitive electricity market in Romania.

The main purpose of these efforts was the unbundling of the core activities of the RPS, generation, transmission, distribution and supply of electricity and heat and to establish independent commercial company as legal person designated to perform these activities on a clear contractual basis. Following the principles included in the EU directive 92/96 for the creation of the internal electricity market in Europe the RPS restructuring process was developed having in mind the following objectives:

♦ To reform RENEL which was organized by the time as a vertically integrated business covering the power sector activities and having a strong monopoly position all the electricity customer in the country, having to buy electricity from RENEL.
♦ To attract private investment in the RPS and decrease the state role in performing the economic activities specific electricity and heat sector.
♦ To create competition in the electricity generation sector by establishing a number of electricity generation companies able to compete on this market.
♦ To create an independent electricity transmission which has to remain as a natural monopoly organized to provide the transmission services for the whole sale electricity market, and to assure the dispatching and the operation of the RPS as a system operator;
♦ To define a model and the basic rules for the wholesale Romanian electricity market and to create the institutional structure necessary to operate this market by establishing an independent company with the role of the electricity market administrator.
♦ To separate the distribution activity and to organize commercial companies meant to perform the activity on a contractual basis, running as local natural monopoly.
♦ To establish new commercial companies able to perform the electricity supply activities for the eligible customers.
♦ To create the necessary legal framework by issuing an electricity heat law and legal acts necessary for the creation of the electricity competitive market.
♦ To create an independent regulatory body able to produce the secondary legislation and to issue the license and authorizations, to assure the third party access to the transmission and distribution networks, to define and regulate the prices for the natural monopoly activities, and to supervise the operation of the electricity market.
♦ To open to the retail electricity market by defining the eligible customers.

This paper will present the present status of the restructuring and the reform of the RPS and some aspects related to the privatization of the distribution activities.

2. PRESENT STATUS REGISTERED IN THE ROMANIAN ELECTRICITY SECTOR RESTRUCTURING PROCESS

As the main significant steps which has been followed in the process of the restructuring and the reform of the RPS we can mention:

The promotion in July 1998 The government decree 365 created The National Electricity Company CONEL as a holding structure by separation from the former autonomous regie RENEL the nuclear sector, and the study and research activities. CONEL included the following independent commercial companies:

Termoelectrica S.A. for the operation of the thermal power plant;
Hidroelectric S.A. the operation of the hydro power plant;
Electrica SA for the operation of the distribution networks formed by all the facilities with the voltage level 110 kV and less. Electrica had 42 subsidiaries, one for each county. Electrica had to perform both the distribution activities and the supply for all the electricity customers in the country.

Conel had the mission to provide the operation of the transmission network (220 kV, 400kV and 750 kV substations and lines).
In October 1998 was promoted the Emergency Ordinance 29 which has created the National Electricity Regulatory Authority (NERA) which started to work in March 1999. In December 1998 it was promoted by the Government the Emergency Ordinance 63 for electricity and heat which as the energy and heat law. On the base of the provision of this ordinance NERA started in March 2000 to elaborate the secondary legislation for the wholesale electricity market.

During March 1999 and July 2000 NERA issued a great number of electricity market regulations and licenses for generation, transmission, distribution and electricity and heat supply. In February 2000 through the Government Decree 122 it was decided to open the electricity retail market up to the level of 10%.

In June 2000 the Parliament issued the Law 99/2000 for the modifications and approval of the Emergency Ordinance 29/98 regarding the creation of NERA. In July 2000 through the Government Decree 627 the National Electricity Company CONEL has been restructured and they have been created the following independent commercial companies:

- **Termoelectrica SA** created on the base of the former subsidiary of CONEL.
- **Hidroelectrica SA** created on the base of the former subsidiary of CONEL.
- **Electrica SA** created on the base of the former subsidiary of CONEL.
- **Transelectrica SA** a new electricity transmission company which is licensed to perform the transmission services and the operation of the electricity market as system operator.
- **Opcom SA** commercial company subsidiary of Transelectrica SA, established as independent legal person, which has the role of the wholesale electricity market administrator.

In October 2000 the Government decree 982 decided to open the electricity retail market up to the level of 15%.

In the field of generation there are operating also the commercial company Societatea Nationala Nuclearelectrica created since 1998 from the former nuclear sector of RENEL, commercial companies licensed as independent power producers, and a number of electricity self-producers. NERA licensed also commercial companies for electricity supply.

NERA has elaborated the framework contracts for the operation of the wholesale electricity market and issued tariffs for the transmission and distribution services. For this interim phase of the electricity market development the tariffs for the electricity produced and sold by Termoelectrica SA, Hidroelectrica SA and Nuclearelectrica SA are determined and approved by NERA based on the information and the requests formulated by the respective companies.

On the liberalized market which represent 15% the accredited eligible customers can buy electricity on a negotiated base from the producers which holds a supply license or from other licensed suppliers. All the captive customers have to buy electricity from SC Electrica SA which holds a distribution and a supply license.

### 3. OBJECTIVES AND GENERAL REQUIREMENTS OF THE DISTRIBUTION PRIVATIZATION

The electricity distribution privatization is a complex process, which has to be developed on the base of the Government political decision. There are many parties interested and/or affected by the distribution privatization. We will try in order to identify this actors and to define their main objectives.

The commercial company SC Electrica SA has its own priorities but we believe that as a possible vendor and as an distribution and supply company the following objectives are likely to be important:

- Creating a successful privatization model for the distribution and supply industry
- Improving the quality of services and lowering the real cost for electricity supply industry
- Raising funds for the state budget
- Transferring the responsibility for the investment to the private sector
- Securing public support for privatization and the economic reform process
- Encouraging foreign investment in the country
- Promoting domestic capital markets

All this objectives and those of other stakeholders and interested parties involved in the process may be conflicting and will need to be prioritized. The parties which we think should be considered for this process are: The Government of Romania, lenders, strategic investors, management and employees, electricity customers and the public and the regulator NERA. Each of this parties is interested to have its own expectation from a successful privatization as follows:

**The Government of Romania:**

- To create a self financing and viable electricity sector
- Cost effective and reliable power supply
- To attract high quality investors
- To achieve a transparent and speedy execution
- To encourage foreign investment
- To win public support.

**The lenders:**

- Enhanced credit worthiness
- A stable cash flows
- Minimal political interference in the process
- Clear and stable regulatory environment
Strategic investors:
- Meaningful equity stake
- Management participation or/and control
- Transparency and regulatory stability
- Improve efficiency
- Predictable cash flows
- Achieve adequate investment returns
- Minimum political interference

Management and employees:
- Terms and conditions of the future employment
- Protect benefits
- Participation in management
- Outsourcing opportunities
- New career opportunities
- Share ownership and other employment incentives

The public and the customers:
- System reliability and efficiency
- Security of supply
- Lower tariffs in real terms
- Wider share of ownership and liquidity

The National Electricity Regulatory Authority:
- To maintain control over sector
- Ensure a competitive environment
- Efficiency and security of supply
- Technological improvements
- Attract quality investors to the power sector
- Improve the payments

4. PREPARING OF THE PRIVATIZATION PROCESS

4.1. Developing a Privatization Strategy

The strategy of SC Electrica SA the distribution company should be elaborated looking to the long term. In order to achieve the privatization the company must have the capability to promote the reform process. The management has to avoid uninformed decisions and to improve and strengthen the corporate image. In the process development is important to protect the staff but do not promise the undeliverable. The corporate and the Government interest has to be aligned and the diverging interests must be carefully watched. It is important for the company to become a friend of the regulator and to organize its press relations. It is important to know the possible stakeholders in the distribution privatization. The main categories of stakeholders to be considered are: investors, suppliers, management and employees, customers, industries and the government.

The strategy has to approach the following area: the market structure issues, operational issues, regulation, financial structure, configuration of the distribution companies which are to be privatized, the institutional strengthening and legal, tax and accounting. Each of this focus area contains its own specific aspects, which must be identified and analyzed.

The market issues comprise wholesale market problems like bulk-supply contracts, security of supply and distribution companies direct access to the generators. In the present structure of the market SC Electrica buys electricity from the Termoelectrica and Hidroelectric on the base of portfolio contracts and from the Nuclearelectrica and independent power producers using a kind of long term power purchase agreement. Electrica sells electricity on the retail market to the captive customers (industrial, residential and tertiary). As a distributor the company provides distribution services for the eligible customers, generators and independent suppliers.

Operational issues regards the following main aspects: metering, billing, collection and enforcement of electricity bills payments. It also deals with load forecast, investment plant, operational codes, operation and maintenance of the distribution networks. It is important from the operational point of view not to allow privatization to affect the service, to collect data for investors and to launch pilot schemes in order to show potential for further improvements. It worth to mention that the company has already different pilot projects in order to decide on the best technology and business development solutions.

The regulation area must cover the tariff structure, procedures, license provisions, service standards and competition. The tariff structure must provide the cost recovery, a tariff reform, efficient use of electricity and economic incentives for the business development. The service standards must define norms and performance indicators for the service quality as well as investment obligations to improve the services. The competition should be one of the main goals of the long term strategy.

4.2. Configuration of new Distribution Companies

The key factor for defining the new distribution companies is their economic viability. It must be defined a set of criteria in order to assess the economic potential of a distribution company. In this respect we may use as indicators: estimated replacement value of the facilities, and the structure of the loads determined by the number of residential and nonresidential electricity customers to be served by the new distribution company. The international privatization experience registered in different countries like, Argentina, Brazil, Hungary and others showed that the proper size of a new formed distribution company should have at least one million customers. The geographical conditions are also an important factor to be considered, taking into account the weather influence and the cost
differentiation for the distribution networks operation and maintenance induced by the geography of the region. In order to establish the new distribution companies the following key issues have also to be considered:

♦ It would be difficult to maintain uniform national tariffs with more than one distribution company in Romania;
♦ There will be differences among distribution companies in transmission and distribution charges for moving their power purchases to their loads because the generation plants are not uniformly distributed over the country;
♦ The ability of large industrial customers to secure their supply from elsewhere can affect the economic viability of the distribution companies;
♦ It is important for the new distribution company to have a well defined and a operating electricity spot market in order to face the loss of the eligible customers:
♦ The competitive market model choosen for Romania by the ministry and the NERA needs a clear separation between the wire business and the supply business. As a natural monopoly, the wire business receive revenues based on costs. Ideally the supply business should neither benefit nor be disadvantaged by the wire business.

For this transition period SC Electrica has restraint the forty-two subsidiaries into nineteen. If the new Government will decide to begin the privatization this structure might be reviewed according to the principles and the ideas expressed above.

4.3. Valuation of the distribution company

The most important element to be used for the valuation of the distribution company is the discounted cash flow which must be determined using a financial model. The use of financial is critical for testing sensitivities. For the privatization the market will decide and the minimum price can cause difficulties. The discounted cash flow valuation must be based on certain assumption among which we mention:

♦ The valuation has to be done in US dollars, in order to represent a real term cash flow;
♦ All the revenues is assume to be collected in cash;
♦ It is necessary to chose a base period generally the last year. Some adjustments may be necessary in the original budget accounts;
♦ It is necessary to assigne a certain reinvest/pay out policy;
♦ The real GDP growth per annum is assumed, over the period for which the valuation is done;

♦ In order to discount the cash flow it must be used a percent value for WACC;
♦ It is important to note [Charreaux, 1991] that generally the WACC used by the seller is different compare to the WACC used by the buyer.

The main type of data, [WDI 1999], and information introduced as variables in the financial model must cover the following important domains: macroeconomic, demand and revenue, costs, expenses, income tax, reinvestment policy, other income and expenses, net operating profit after taxes and investors incentives. From the macroeconomic point of view they have to be used the following variables: inflation, devaluation, GDP growth and population growth.

As it concerns demand and revenue the following parameters are important: elasticity of electricity consumption to GDP growth, the structure of the electricity revenue, electricity transfer to neighboring distributors, revenue from other services, evolution of the consumption due to privatization, the price control and a special variable to reflect the eligibility effect, introduced in order as input in order to model, the effect of granting eligibility to the main customers in the region.

The costs structure has to include: electricity costs, evolution of the acquisition prices, evolution of the efficiency gain in generation, electricity losses and raw materials and materials.

Expenses registered by a distribution company consist of: labor expenses, compensatory payments which may be formed by the payments paid to the employees laid off during the private-ownership years due to efficiency gains, outsourcing expenses, depreciation and other expenses. The last item is used as contingency level and stands for small non-predictable expenses that may occur in time.

Other income and expenses includes financial income rate, financial expense and extraordinary gains/losses like labor compensation.

In a financial model [Bechtel, 1998] elaborate for the evaluation of the distribution, company operating o a competitive market it was assumed that 30 percent of the average tariff used to sell power to the end user will be allocated for the distribution and supply activities. In this scenario the distribution reference company is somewhat financially viable. This allocation covers network losses, personnel, and operation and maintenance costs.

There are a number of financial synthetic indicators used to asses the value of an electricity distribution company like enterprise value divided to the customers number and enterprise value reported to annual sales. Determining this values we may use for the benchmarking taking into account that this are figures used as measures for international transactions.
5. CONCLUSIONS

The restructuring and reform process of the Romanian power sector is developed in order to improve quality of services, and on a long term to reduce the electricity and heat tariffs for the final consumer. In order to obtain this goal it was issued a legal framework which allowed to create a new electricity wholesale market presented in this paper.

In order to achieve its goals the reform needs to attract significant investment funds for improving the infrastructure and the technology used now in the Romanian power system. One of the main way to attract this funds is the distribution privatization, a process which should be started as soon as possible.

Distribution privatization requires a good understanding of the economic of the distribution and supply business and an efficient and professional control from the Romanian experts.

6. REFERENCES

3.*** The William Davidson Institute (WDI), 1999, “CONEL Business Assistance And Survey Project”