Russian Electricity Market Reform: Legal Aspects
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Abstract: This article presents an overview of the key means by which the Russian Federation brought regulated competition to wholesale electric energy markets by unbundling electric energy generation and sales from electric energy dispatch and delivery (transmission and distribution). It also provides an overview of the attempt to create competitive electric energy retail markets.

Key Words: balancing (deviations) market, capacity market, coal-fired generation, day-ahead market, electric energy retail markets, electric energy (capacity) wholesale market, energy generation, energy sale, guarantee supplier, hydropower generation, market council, market of bilateral contracts, natural gas generation, nuclear generation, open tender, operational dispatch, power transmission, privatization, RAO "UES of Russia" holding, regional generating companies (TGKs), system operator (OAO "UES SOCDA"), technological connection, technological dispatch, technological infrastructure, trading operator (OAO "Trading system administrator"), unbundling, vertically integrated companies (AO-energoes), wholesale generating companies (OGKs)

Prior to the reform, Russian electric power industry consisted of regional vertically integrated companies ("AO-energoes") that were incorporated in the single holding RAO UES of Russia, controlled by the state. As a rule, each "AO-energo" included power stations, power grid, technological and dispatch operator, distribution. "AO-energoes" were monopolists in their regions providing the whole technological process from power generation to electricity sale. Electricity and services’ prices in this sphere were under the full control of the state through setting fixed tariffs. This non-market model of industry functioning was marked by a high degree of reliability and provided consumers’ protection by guaranteeing relatively low prices for electricity.

At the same time, in the end of 1990-es wear of fixed assets started growing due to insufficiency of investments for the replacement of the necessary facilities. The reform of electric power industry was supposed to solve the problem of attracting private investments and raising industry efficiency by way of privatization of some energy assets and development of competition in this sphere.

1 Government held 52 percent of voting shares of RAO “UES of Russia”.
1. Changes in legal regulation

In 2001 the Government of the Russian Federation approved the main directions of restructuring the electric power industry in the Russian Federation.\(^2\) This document containing the program of action defined the concept of electric power industry reform in Russia. In 2003 the State Duma accepted a legislative package on electric power industry: Federal laws “On electric power industry”, “On the particularities of electric power industry functioning during the transitional period…”,\(^3\) and changes in a number of the existing federal laws. These regulatory legal acts laid the foundation of reforming the electric power industry and forming the legal basis of the industry functioning in new market conditions.

Prior to the reform, the regulation of the Russian electric power (capacity) market consisted of the law on price regulation in this sphere and several regulatory legal acts of subordinate level. It was sufficient in conditions of the branch’s strictly centralized control system.

The reform brought about the qualitative complication of rules and regulatory agencies. Despite its relative novelty Russian legislation on electric power industry is already extremely bulky and complex for application.. Presently there are about a hundred of by-laws accepted and applied in this sphere of legal regulation. The most significant of them are: electric power (capacity) wholesale market regulations, approved by the Russian Federation Government Resolution dated December 27, 2010\(^4\) and Fundamental provisions of the electric energy retail markets’ functioning, approved by the Russian Federation Government Resolution dated

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\(^4\) Prior to adoption of the said Regulations in 2010, the Electric Power (Capacity) Wholesale Market Regulations for Transitional Period, approved by the Resolution of the Government of the Russian Federation No. 643 dated October 23, 2003, were in force with the similar scope.
These legal acts regulate the relations on wholesale and retail markets of the electric power in sufficient detail.

There also were significant changes in contractual regulation. The new system of contracts based on general provisions of civil legislation and special provisions of the legislation on electric power industry started to develop in the course of the reform. Complication of contractual regulation was caused by the new and more multiple structure of market participants, including the entities of technological and commercial infrastructure of the electric power market. The most complex configuration of contracts is applied in the wholesale market considering the variety of sectors and sales models of electricity and capacity. Rules and decrees of the self-regulating organization “Market council”, the members of which are all participants of the wholesale market, play a significant role in the regulation of relations on the wholesale market of electric power.

Russian legislation on electric power industry is not flawless due to its novelty. Experts notice a number of contradictions in regulation and imbalance of interests of various market entities and consumers. Regulatory legal acts undergo constant changes, which do not provide stability and predictability of regulation. This generates high conflict-proneness in the market of electric power and complicates the defense of violated rights.

2. Establishing new structure of the branch

Structural reform of the electric power industry was carried out based on the principle of unbundling of potentially competitive business (energy generation and sale) and naturally monopolistic business (power transmission and technological dispatch). The purpose of this transformation consisted in creating conditions for competition in this market. In this part the Russian reform corresponds to the world tendencies of conducting liberal reforms in electric power industry.

The first stage of structural transformations started in 2003; it consisted in reorganization of regional energy companies (AO-energoes) - power stations, power networks,
energy supply component, etc. emerged from them and became separate companies. Later, at the second stage of the structural reform, the newly emerged companies were enlarged due to consolidation with other companies of similar activity profile in the framework of pre-defined institutional structure of the branch.

As of April 1, 2006, the statutory prohibition on combining naturally monopolistic activity (electricity transmission and operational dispatch management) with potentially competitive activity (generation and sale)\(^5\) was introduced. Federal Antimonopoly Service was assigned to control the compliance with the prohibition; it was commissioned to make decisions on compulsory reorganization of legal entities in the form of division (separation) in the case of non-compliance.\(^6\)

As a result of the conducted restructuring the participants’ structure of the industry underwent cardinal changes and essentially new structure of the Russian electric power industry was formed.

*Generation structure*

In the sphere of generation there were large generating companies established through association of power stations by technological principle (thermal, nuclear and hydropower generation).

Pursuant to the resolution of the Government of the Russian Federation 6 thermal wholesale generating companies (OGK) and one hydropower generating wholesale company (OAO “RusHydro”)\(^7\) were established on the basis of power stations of RAO “UES of Russia”

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holding in 2003. Two years before that the large generating company integrating all nuclear power stations of Russia (OAO “Rosenergoatom”) was established.8

Wholesale generating companies were established by extraterritorial principle - each of them incorporates 5-6 large thermal power stations in various regions of Russia. The installed capacity of one OGK is from 8000 to 10 000 MW, except OAO “RusHydro”, the capacity of which amounts to 26 000 MW.

Smaller size power stations were united by territorial principle (within several neighboring regions) into regional generating companies (TGK). There were 14 TGKs established total, the installed capacity of which is from 1000 to 6000 MW.

Beside large generating companies there remain individual power stations that supply cities and districts with electric power. Since they were not included in RAO “UES of Russia” holding, they maintained independence and status of small generating companies. Many large industrial enterprises have their own power stations (the so-called “block–stations”) for meeting their needs in electricity. Power stations generating electric power from renewable sources (solar energy, wind energy, bio-resources, etc.) command a small part in the structure of the Russian generation (approximately 1.5 %).

The Energy strategy of Russia for the period till 20309 provides for the increase of electric power generated from renewable sources, hydropower generation, nuclear generation and coal-fired generation. Accordingly, the decrease in the electric power generated from natural gas is expected. According to the Master plan of facilities placement till 202010, the capacity of atomic power stations will almost double by 2020, which will provide for their generation of up to 30 % of the country’s power balance.

8 “Rosenergoatom” Concern incorporates 10 nuclear power stations, the capacity of the generating units of which amounts to approximately 23 000 MW.


The output of electric energy from renewable sources of energy (RES) is expected to grow to 4.5% of the total electric power output. With this purpose the state introduces measures stimulating production and consumption of energy with the use of RES. With regard to the share of gas generation, it should decrease from 43% to approximately 35% in the structure of electric power production till 2020.

**Forming technological infrastructure**

During the reform the electric grids complex was incorporated in two large grid companies depending on voltage type (trunk or distribution networks). High-voltage power transmission networks – «National Grid» (220 KV and above) were transferred to OAO “Federal Grid Company” (FGC). Low-voltage power transmission networks (110 KV and below) were transferred to 11 Interregional Distribution Grid Companies incorporated in the OAO holding of “Interregional Distribution Grid Companies” (IDGC Holding). At a later stage by Decree of the President of the Russian Federation in 2011 they were incorporated in the unified holding “Russian Grids”.

A number of private and municipal grid companies were preserved, which leads to problems with their tariff regulation and network interconnection. In order to provide non-discriminatory access to electric networks the special normative legal acts regulating technological connection to electric networks and electric power transmission services access were accepted. 11

In the process of the industry reform the System operator (OAO “UES SO-CDA”) evolved from the structure of RAO “UES of Russia” holding. Therefore in the Russian model grids are separated from the system operator. According to the legislation the System operator (OAO “UES SO-CDA”) represents independent company carrying out process control of quality

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11 See: Rules for non-discriminatory access to electricity transmission services; Rules for technological connection of power receivers of energy consumers, energy production facilities and power grid facilities owned by other entities, to the electric network, Approved by the Resolution of the Government of the Russian Federation dated December 27,2004. No.861.
and reliability parameters in the unified energy system. The system of operational dispatch management is rigidly centralized and includes several hierarchically subordinate levels of operational dispatch management of electric power industry, including regional dispatching offices.

2. Changes in the ownership structure of electric power industry objects

Prior to the reform the electric power industry in Russia was a branch with high state participation and control. The new legislation on electric power industry provided for changes in the ownership structure by allowing privatization of energy companies carrying out potentially competitive activities (production and sale of electric power). However the entities of technological infrastructure (grid companies and subjects of operational dispatch management) attributed to natural monopoly according to the law should mainly remain federal property. 12

In 2005-2008 several wholesale generating companies carried out emissions and initial public offer (IPO) in order to attract investments, as a result of which the share of RAO “UES of Russia” holding in the authorized capital of these companies was reduced. Besides, RAO “UES of Russia” sold part of OGK and TGK shares owned by it to private investors. Controlling interest in some OGK and TGK was purchased by foreign investors, including European energy companies Fortum, E.On, Enel, and by strategic Russian investors, including OAO “Gazprom”, OAO “Norilsk nickel”, etc. RAO “UES of Russia” also auctioned blocks of shares created as a result of demerger of power supply companies from the joint-stock company; later the former received the status of guarantee suppliers as per resolution of the Government of the Russian Federation.

As of July 1, 2008 the energy holding RAO “UES of Russia” was liquidated during the last stage of reorganization, and blocks of shares created in the course of energy companies’ reform, that were formerly on the company’s books, were distributed between shareholders of RAO.

“UES of Russia” during the exchange of shares. Government and other holders of RAO “UES of Russia” shares exchanged them for shares of a number of affiliated energy companies (OGK, TGK, FGC, IDGC holding, and others). During this stage of reorganization according to the legislation requirements the state increased the share of its participation in the Federal Grid Company authorized capital to no less than 75 percent plus one voting share, and in the authorized capital of the System operator to 100 percent of shares. The state also kept its participation in the capital of some strategic energy companies – OAO “HydroOGK” (hydropower industry), OAO “Rosenergoatom Concern” (nuclear power stations), OAO “MRSK Holding” (electric grid company), OAO Holding “Energy systems of East” and some others.

Now the structural transformations are already completed. The process of adaptation of new entities to the market conditions is underway.

3. Mechanisms of energy purchase and sale activity

Russian electricity market is divided into wholesale market consisting of energy-intensive consumers and large generating companies, and retail markets for all other consumers, including general public (households).

Wholesale market is organized – electricity purchase and sale activity is provided by the commercial infrastructure specially created for these purposes. According to art. 33 of the Federal Law “On electric power industry”, the functioning of the wholesale market commercial infrastructure is provided by the following organizations:

- self-regulating organization “Market council”;

- wholesale market commercial operator;

- other organizations endowed with functions of providing commercial infrastructure by the Market Council according to the agreement of joining to the wholesale market trade system.

Nonprofit partnership “Market council” (further – Market council) was formed according to the changes in the Federal law “On electric power industry” in 2007 and it includes large consumers and producers, as well as infrastructure organizations on the basis of wholesale
market membership. Market council does not carry out functions of electricity trade directly, it carries out administrative functions (regulatory, control, etc.), connected with acceptance of market rules and regulation of wholesale market participants’ behavior. Multilateral agreement of joining wholesale market trade system is used as the main regulatory mechanism in the wholesale market, the participants of which are all entities of the wholesale market. This agreement contains a number of supplements - wholesale market Regulations obligatory for all market participants by the requirements of contractual law.

Making decisions on amendments of joining agreement and regulations is carried out by special body of the Market council - the Supervisory board including, under quota established by law, representatives of energy sellers and buyers as well as representatives of technological and commercial infrastructure. Eight representatives of the state authorized by the Government of the Russian Federation are also included in the Supervisory board.

Wholesale market trade organization activity connected with conclusion and execution of transactions on electricity and capacity turnover is assigned to another entity of commercial infrastructure - the Trading operator (OAO “Trading system administrator”). The Legal status of the Trading operator is only superficially covered by the law “On electric power industry” and does not fall within the scope of the law “On commodity exchanges and exchange trade”, although it corresponds to power stock exchange in its character of activity.

Participants of wholesale market trade are large producers and consumers of electric power, that are the wholesale market entities. The order of receiving the wholesale market subject status and the main conditions of wholesale market trade are regulated by the Wholesale Market Regulations approved by the Government of the Russian Federation, and by the Agreement of joining wholesale market trade system. There are a number of requirements to the subject of the wholesale market: technical, financial, organizational and legal. Organizations meeting these requirements receive the status of the wholesale market subject.
Wholesale market is fully centralized and mandatory for producers (suppliers). According to Article 31 of the Electric Power and Capacity Wholesale Market Regulations the generation entities with the established generating capacity of 25 MW and above are obligated to sell the produced electric power and capacity at wholesale market only. This leads to the fact that practically all generation, including generation of regional significance, is obligated to deliver energy to wholesale market.

According to the specified Regulations there are several sectors of the wholesale market providing different ways of electricity trade: day-ahead market of energy sale and purchase (spot market); market of bilateral contracts; balancing market (deviations market). Participants of the day-ahead market submit applications for purchase/sale of certain volumes of electric power with breakdown by hours of the day following the day of application. Trading operator carries out competitive selection of price bids one day prior to the actual delivery of electricity and organizes the conclusion of sale and purchase agreements. If the energy supply volumes deviate from the ones specified in the day-ahead market applications, the market participant has to buy electricity in the balancing market (deviations market) on the supply date.

The market of bilateral energy purchase and sale contracts includes “regulated contracts”, where the prices for electricity are regulated by the state authority, and bilateral contracts concluded at free price. Volumes of electric power not covered by “regulated” contracts are sold at free price. The market of free price bilateral contracts is not developed as there are a number of participation restrictions. Therefore the main volume of electricity is sold at the spot market and at the market of “regulated” bilateral contracts.

There is one more commodity trade introduced in the wholesale market - electric capacity. The capacity market stimulates generating companies to maintain power stations’ generating equipment in working order, including conducting timely repairs. In 2007 the amendments of the

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13 As amended by the Russian Federation Government Resolution dated 06.10.2011 No.813
Federal Law were introduced, according to which all buyers of electric energy - wholesale market participants - are obliged to purchase capacity in the cases stipulated by the Wholesale Market Regulations. There are several various legal models of electric capacity sale functioning now in experimental mode.

In 2010 the Government of the Russian Federation approved the amendments in the Wholesale Market Regulations providing the start of the long-term capacity market model. In the framework of this model the sale of capacity is carried out by the System operator by choosing the most effective generation and maintaining its guaranteed payment by buyers through conclusion of long-term contracts. The search for optimum capacity sale model providing balance of the consumers and energy producers’ interests still continues.

Consumers with relatively small volumes of electric energy consumption, including general public, purchase electric energy at the retail market.

The retail markets were never opened for free competition. The supplier selection by the consumer remains the declared goal of the past reform. The key subject of the retail market is the guarantee supplier - commercial organization, obligated to supply any consumer on standard contract conditions within the limits of its established activity zone. According to the legislation, only one guarantee supplier may operate in each region, as a rule. If there are several guarantee suppliers in the region their activity zones should not overlap. As per resolution of the Government of the Russian Federation in 2004, all power supply companies formed as a result of “RAO UES of Russia” holding’s reorganization received the status of guarantee suppliers. Due to this decision they received advantages at the start of business activity. It was expected that after several years the guarantee supplier status shall be conferred through open tender, conducted by authorities at regional level (level of the Russian Federation constituent entity). Due to the delay in development and acceptance of such tenders’ rules, they have not been

14 The market “open for competition” means an easily implemented possibility of supplier selection by the buyers.
conducted. Later, according to changes in the Retail Market Regulations introduced in 2011, these tenders were cancelled, except for the cases of loss of the guarantee supplier status by power supply companies working in this capacity. Such non-market regulation of retail markets led to their monopolization by guarantee suppliers. As a result the majority of consumers today have no easily implemented opportunity of choosing energy supplier and buy electricity from the sole guarantee supplier in their region.

There are other power supply companies beside the guarantee supplier, the electricity prices of which are not regulated by the government. But they cannot effectively compete with guarantee suppliers due to some institutional and regulation barriers, as well as a result of unequal starting conditions for business created by the government.

It should be noted that competitive market was not created within the whole territory of Russia. The regulated model remained in a number of regions due to their territorial isolation or absence of technological conditions for competition (territory of the Far East, Kaliningrad region and several northern regions of Russia).

4. State Control of Electric Power Industry

During the reform the system of government management of the branch characterized by a multitude of “regulators” with narrow functional competence and fragmentary authority remained virtually unchanged.

Ministry of Energy of the Russian Federation, Federal Tariff Service of the Russian Federation, Federal Antimonopoly Service of the Russian Federation, and Federal Service for Ecological, Technological and Atomic Supervision of the Russian Federation have separate authority in the sphere of electric power industry. The reform did not bring about the creation of adequate “industry regulator” with a wide range of regulatory competences to develop competitive market.
Prior to the reform and during transitional period Holding RAO “UES of Russia” had real authority to develop and make a number of substantial decisions in the framework of the conducted reform. After the liquidation of RAO "UES of Russia" in 2008, a system gap appeared in the industry coordination and regulation. Therefore the development of a new market format of state control of electric power industry is becoming an increasingly critical need.

5. Price (Tariff) Regulation

In the beginning of the reform it was expected that at the end of transitional period the state will not control the final prices for consumers and will only reserve the control of prices to natural monopolies’ services in the sphere of electric power industry and the right to enforce price control in emergency situations. Starting from 2007 there was gradual price deregulation and increase in the share of energy sold at free prices (approximately by 15 percent a year) in the market of electric power. By the beginning of 2011 it was planned to complete the deregulation and fully transfer to free prices of energy in the wholesale and retail markets.

On January 1, 2011 the end of transitional period of the reform was announced. At the same time the government reserved the right to control the electricity prices for general public and equivalent consumers and the prices in some segments of the wholesale market. In order to provide the population with electricity at fixed prices amendments of the legislation were introduced, according to which till 2015 electric power producers have to sell up to 35 percent of energy volume at controlled prices to guarantee suppliers that sell electricity to general public and equivalent groups of consumers.

Consequently, despite the end of transitional period the state continues to control a sufficiently large volume of prices in the sphere of electric power industry including the end prices for the public. Price control is carried out according to ex-ante model, where fixed tariffs are established by the authorized regulatory authorities (Federal Tariff Service and price control
organs in constituent entities of the Russian Federation) regarding each controlled organization till the moment of service rendering or electricity sale.

The method of economically justified expenses (“costs plus”) is applied as the main price control method. According to the legislation, starting from 2012 tariffs for grid companies’ services will be established with the use of Regulatory Asset Base (RAB) method. However the use of this method regarding the grid companies in 2009 - 2010 caused a significant grid services’ price rise, which alongside with other factors brought about the growth of end prices for the electric power.

Currently the medium and small business enterprises have especially high prices since they have no opportunity to buy electricity at cheaper prices in the wholesale market and have to bear part of cross-subsidization concerning cheap tariffs for the general public themselves. In many regions market prices for electricity for such enterprises amount to more than 15 cents per kW/hour. General public (households) is in somewhat better conditions due to state regulation of the prices. At the same time tariffs for energy even for this category increase by 10-15 percent annually, which is above the official inflation rate. In this way the electricity prices for general public in Moscow in 2013 are established at the rate of 4.5 rubles per kW/hour (approximately 13 cents).

In order to restrain the price growth the Government of the Russian Federation annually establishes the limit of electricity price raise (as a rule at the rate of 12-15 % per annum). In this way the state, not trusting the market mechanisms created during the reform, continues to actively apply non-market price regulation methods. Such inconsistency in the regulation policy gives conflicting signals to the market participants and increases uncertainty concerning the vector of further energy market development in Russia.
6. The Main Results of completing the transitional period of the reform

Summing up the completed transitional period of the electric power industry reform in Russia, one may note both positive and negative results. Among the positive issues it is necessary to note the completion of deep structural transformations of the industry, as a result of which there was division of natural monopolies and potentially competitive sectors. The state withdrew from the capital of generating and power supply companies and strengthened the presence in the capital of grid companies and system operator. This predetermined the development of competition in the generation and sale sector. The commercial infrastructure of the wholesale market was created and new rules of wholesale and retail markets’ functioning were developed.

Failure to reach the planned goals of the reform may be mentioned among the negative results. Despite serious structural transformations the qualitative transition to the new state of Russian electric power industry has not taken place. Consumers have not received noticeable benefit from the conducted reform. Absence of effective competition in retail markets compels the state to continue the regulation of end prices for the public. The reform did not lead the industry from investment deadlock and did not create conditions for technological modernization. Serious technological deterioration of equipment (up to 50% in electric grids, up to 40% in generation) becomes the reason of major accidents. In this way in 2006 there was a major accident in Moscow generation center, in 2009 - at Sayano-Shushenskaya HPP, etc. Low efficiency of the industry as a whole leads to constant price growth.

Current condition of Russian electric power industry can be characterized as continuation of experiment with undefined result. If the state concentrates efforts on completing the reform, there is a chance it can reach the planned goals. At the same time, without active participation of the state (‘no change’ scenario) the industry risks to remain in transitional period for a long time. Speaking in terms of economics, Russian electric power industry can get in the “institutional trap”, i.e. the combination of weak market and inefficient regulation. In this combination the
long-term stabilization of electric power industry is possible in condition of "bad" balance – low competition, lack of transparency and inefficient market as a whole. This creates serious social and economic risks for the state and consumers in the future.