

ELECTRICITY DEMAND RESPONSE: PROBLEMS OF SEARCHING FOR A LEGAL STRUCTURE

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During the implementation of a pilot electricity demand response project, it has become obvious that the demand response model is of interest to market participants and end consumers. One of the main goals of the pilot project is fine-tuning of the regulatory, contractual and engineering solutions for the target electricity demand response model. The paper substantiates the conclusion that a deep doctrinal study of this issue will make it possible to find even more significant differences between the actions of a consumer within the framework of demand response and the actions involving the performance of an energy supply agreement, and will confirm the correctness of the regulator's position on the governance of demand response relations within the framework of a special contractual type. It seems expedient to work out a comprehensive methodology combining civil and public law approaches to the regulation of the corresponding relations, which will be a significant stage in the development of the energy law science.

Keywords: energy law, legal regulation in the electric power industry, electricity demand response.

With the adoption of Resolution of the Government of the Russian Federation No. 287 of March 20, 2019 [1], Russia started to implement a pilot electricity demand response project for consumers of the retail electric energy market.

Electricity demand response stipulates a reduction in energy consumption by the end consumer at the presence of certain economic signals from the electric energy market and the receipt of payment for the implementation of such reduction.

The economic effect within the framework of the demand response relations is achieved

due to the fact that consumers participating in the project reduce their consumption during peak periods for the energy system. Hence, there is no need to use ineffective and thus more expensive generating capacities to meet the electricity demand. This, in turn, leads to a relative decrease in the market price of electric energy in general.

During the implementation of the pilot project, it has become obvious that the demand response model is of interest to market participants and end consumers. Since July 2019, the total volume of capacity outtake within the framework of the reduction

program has increased from 48 MW in Q3 2019 to 737 MW in Q2 2021.

The direct effect from the price decrease on the day-ahead market (DAM) for all wholesale electric energy market buyers amounted to about 320 million rubles from July 2019 to December 2020.

It should be noted that the emergence of electricity demand response relations is rather a consequence of than a reason for their statutory regulation. The state acting as the regulator does not describe the economic relations existing on the market but in fact creates them. In this regard, there appears a number of theoretical and practical problems associated with the search for the optimal legal structure to mediate such relations.

One of these problems is the problem of the determination of the legal nature of the end consumer's actions aimed at the intentional limitation of its own electric energy consumption.

The actions of the supply and the corresponding consumption of electric energy are traditionally associated with the relations arising out of an energy supply agreement.

According to Clause 1 Art. 539 of the Civil Code of the Russian Federation (the "CC RF") an energy provider undertakes to supply energy to a subscriber (consumer) through the connected network under an energy supply agreement, and the subscriber undertakes to pay for the received energy and comply with the *energy consumption regime* stipulated by the agreement.

Based on the legal definition of an energy supply agreement and the provisions of Art. 541 of the CC RF regulating the terms and conditions related to the transmitted energy amount, it can be assumed that consumption reduction actions are covered by the said "contractual consumption regime". But is it really so?

When determining the contractual electric energy consumption regime, it is impossible to take into account in advance the need to reduce consumption during specific periods of time as they are defined daily based on the energy system operation parameters.

The contractual electric energy consumption regime modeled for the electricity demand response purposes is not applicable to household consumers, who are entitled to use energy in the required amount in virtue of the imperative provision of Clause 3 Art. 541 of the CC RF.

And most importantly, hypothetical inclusion of demand response relations in an energy supply agreement with the end consumer creates no incentives to limit consumption as the only thing saved in this case is the money for the non-supplied energy.

It seems that a deep doctrinal study of this issue will make it possible to find even more significant differences between the actions of a consumer within the framework of demand response and the actions involving the performance of an energy supply agreement, and will confirm the correctness of the regulator's position on the governance of demand response relations within the framework of a special contractual type.

The independence of the relations under consideration from the electric power supply agreement is also confirmed by the fact that, firstly, the end consumer's actions aimed at the intentional limitation of its own consumption create an independent economic effect that goes beyond the framework of the "consumer — energy provider" relations.

Secondly, not every consumption limitation creates the corresponding effect, but only the one associated with a "demand response event", i.e., which is carried out during peak periods for the electric energy system and is economically feasible. Consequently, there is a need for a system

of relations beyond the scope of an energy supply agreement to determine such events, inform the consumer accordingly, assess the economic effect, etc.

And most importantly, one requires a model providing economic incentives for the consumer behavior that is beneficial to the market.

A legal structure stipulating the origination of a special entity, a “demand response aggregator”, and its inclusion into the system of relations for the provision of system reliability services has become such a model within the framework of the pilot project (Resolution of the Government of the Russian Federation No. 117 of March 3, 2010).

At the current statutory regulation stage, the electricity demand response model constitutes three groups of interrelated relations.

1. Relations arising out of a **load change service agreement** concluded between a *retail electric energy market consumer and a demand response aggregator*, where the retail market consumer undertakes to reduce consumption upon the occurrence of a demand response event using the power receiver specified in the agreement and meeting the set requirements, for a fee agreed by the parties.

2. Relations arising out of an electricity **demand response service agreement** concluded between a *demand response aggregator and the system operator (SO EES, JSC)* based on the results of a competitive selection.

Electricity demand response services are understood as the activities of a demand response aggregator to maintain readiness of an aggregated demand response facility(-ies) for the reduction of electric energy consumption upon the occurrence of demand response events in accordance with the declared volume and duration of the reduction of consumption of the aggregated demand response facility(-ies). At the same time, the system operator pays for the

aggregator’s services at the price specified in the quotation filed within the framework of the competitive selection. It should be noted that during the pilot project, the aggregators’ quotations varied from RUB 1 per MW per month in the first price zone to RUB 620K per MW per month in the second price zone of the wholesale market. But the development of relations and toughening of competition in this sphere make prices gradually come to some equilibrium values (about RUB 300K per MW per month in the first price zone, RUB 520K per MW per month in the second price zone).

At present, a demand response aggregator can be any electric power industry subject or electric energy consumer, which will determine power receivers that meet the requirements of the system operator and declare them as a single aggregated demand response facility in relations with one or several retail electric energy market consumers.

3. Relations arising out of an **operational dispatch management agreement in the electric power industry in terms of ensuring the reliability of functioning of the electric power industry by arranging the selection of contractors and payment for system reliability services, services to recover the Russian Unified Energy System in case of emergencies, services for the establishment of a technological power reserve (the ODU-2 agreement)** concluded between the *system operator and wholesale electric energy and capacity market buyers*.

Within the framework of this agreement, the system operator is paid for the selection of contractors rendering the corresponding services, i.e., the selection of demand response aggregators in the case under consideration, and is reimbursed for the expenses associated with the payment for such services. Thus, within the framework of the pilot project, the system operator acts as a kind of intermediary between demand response aggregators and

wholesale electric energy and capacity market subjects translating the resources of price-dependent reduction in retail consumers' consumption to the wholesale electric energy and capacity market.

However, one of the main goals of the pilot project is fine-tuning of the regulatory, contractual and engineering solutions for the target electricity demand response model.

A draft of the federal law on the transition to the target electricity demand response model is of interest (project ID: 01/05/01-21/00112234) [3]. It is anticipated that the relations model tested in the pilot project will be changed and incorporated in the wholesale electric energy and capacity market

system requiring demand response aggregators to obtain the wholesale market subject status.

In conclusion, it is necessary to note the existing shortage of doctrinally developed tools for the analysis, assessment and modeling of legal relations in the electric power industry in general and within the framework of the electricity demand response institution that is new for the electric power industry. It seems expedient to work out a comprehensive methodology combining civil and public law approaches to the regulation of the corresponding relations, which will be a significant stage in the development of the energy law science. ■

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