

ON THE CONTRACTUAL FREEDOM IN THE DETERMINATION OF CONDITIONS FOR ENSURING RELIABILITY OF ELECTRICAL ENERGY SUPPLY TO CONSUMERS' POWER RECEIVERS*

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Legal acts in the electrical energy industry set only the minimum required parameters for ensuring reliability of electrical energy supply to consumer's power receivers. A consumer is provided with a wide range of opportunities to protect its own interests in the relations with a grid operator both by exercising the secondary rights owned by the consumer and through determination of characteristics of electrical energy supply reliability in contractual relations with a grid operator taking into account the used equipment and features of the technological process of a specific consumer. Whilst the laws determine the minimum requirements for carrying out of a complicated technological process consisting in the transmission of electrical energy to a consumer through the connected grid, the laws not only do not exclude but often stipulate pro-active behavior of subjects to the indicated relations, adding the required details to the legally established boundaries.

The limits of such activity and the degree of freedom of each of the parties in the determination of conditions of an obligation between a grid operator and a consumer differ depending on the relations establishment stage and the subject of regulation of specific contractual terms.

Keywords: energy law, energy legislation, contractual regulation in the electrical energy industry.

In accordance with Clause 31(b) of the Rules for Undiscriminated Access to Electrical Energy Transmission Services and Rendering of Such Services approved by Resolution of the Government of the Russian Federation No. 861 of December 27, 2004 ("RUA"), the obligations of a grid operator to

ensure reliability of electrical energy supply to consumer's power receivers being a subject of an electrical energy transmission agreement, is conditional upon the category of reliability of such power receivers. We cannot but note the imperfection of the legal writing in the use of the "category of reliability of a power receiver"

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term. In fact, we are not talking about reliability of a power receiver itself, rather of reliability as an energy supply characteristic. Due to that, the concepts of “category of reliability of a power receiver” and “category of reliability of energy (electrical power) supply” will be used as synonymous in this paper.

Considering that the reliability category is determined at the stage of the technological connection of a power receiver to electrical grids, legal publications express an opinion that this process is insufficiently detailed from the legal standpoint resulting in abuse and mistakes in the law enforcement practice. Some authors believe that any identified shortcoming in the legislative regulation of the technological connection process should be eliminated by means of filling the existing gap [1].

While we agree with the need for improvement of the legal regulation, we think that detailed imperative regulation of the reviewed relations is excess and is not in line with the market principles of the functioning of the electrical energy industry.

Parties to property relations regulated by civil law are able to determine the terms and conditions of mutual behavior based on their own will. That’s why the meaning of contractual relations in civil law lies not only in the fact that they expand objective legal provisions on the negotiating parties but also in the fact that the subjects regulate the content of mutual rights and obligations through an agreement, by reliance on legal provisions, within specific limits and based on their own will.

Contractual relations between an electrical energy consumer and a grid operator are not an exception. Whilst the laws determine the minimum requirements for carrying out of a complicated technological process consisting in the transmission of electrical energy to a consumer through the connected grid, the laws not only do not exclude but often stipulate pro-active behavior of subjects to the indicated relations, adding the required details to the legally established boundaries.

The limits of such activity and the degree of freedom of each of the parties in the determination of conditions of an obligation between a grid operator and a consumer differ depending on the relations establishment stage and the subject of regulation of specific contractual terms.

The choice of the category of reliability of a power receiver

By virtue of Clause 14(1) of the Rules for Technological Connection of Power Receivers of Electrical Energy Consumers, Electrical Energy Production Facilities and Power Grid Facilities Owned by Grid Operators and Other Persons, to Electrical Grids approved by Resolution of the Government of the Russian Federation No. 861 of December 27, 2004 (“RTC”), power receivers of an electrical energy consumer are referred to a specific reliability category by the electrical energy consumer at the stage of the technological connection of power receivers to electrical grids (“TC”).

Thus, in accordance with Clause 14(1) of RTC and Clause 31(6) of RUA, an electrical energy consumer is granted a right to determine the content of the future obligation of a grid operator by its own unilateral act of will, already at the stage of the establishment of a legal relation with a grid operator, and the grid operator is bound by the consumer’s will due to the legally established public nature of a TC agreement (Paragraph 4, Clause 1, Art. 26 of the Law on the Electrical Energy Industry). Such legal connectivity stipulates that a grid operator reviews a consumer’s application as a solution that best satisfies its demands. Clause 14(1) of RTC and Clause 1.2.18 of RDE (Rules on Design of Electrical Installations approved by Order of the Ministry of Energy of Russia No. 204 of July 8, 2002) establish criteria for the consumer’s determination of the reliability category that suits its needs.

Power receivers can be referred to the first reliability category if it is necessary to ensure uninterrupted operations of power receivers; a break in the electrical energy supply to

such receivers is allowed only for the period of automatic launch of a reserve electrical energy supply source as such break can entail a threat to the life and health of people, a threat to the security of the state, considerable financial damage. The first reliability category contains a special category of power receivers that need to operate on an uninterrupted basis for the purposes of accident-free halting of production to prevent threats to human lives, explosions and fires.

Power receivers can be referred to the second reliability category if it is necessary to ensure reliable functioning of power receivers; a break in the electrical energy supply to such receivers can result in inadmissible violations of technological production processes.

Power receivers not included in the first or second reliability category, are referred to the third reliability category.

There appears the question whether a consumer can choose a different reliability category (higher or lower) than the one that corresponds to its actual needs? Should a grid operator verify the presence of grounds for the declared category of reliability of electrical energy supply?

The judicial practice does not acknowledge the right of a grid operator to object against the applicant's selection of the reliability category for its power receivers at the stage of conclusion of a TC agreement as well as in case of its contestation.

Thus, the Commercial Court of the West Siberian District pointed out in its ruling of June 19, 2020, in case No. A03-13386/2019 that the applicant bears the risk of selection of the respective reliability category and possible negative consequences. A grid operator is not responsible for any consequences arising as a result of the consumer's selection of the respective reliability category if it resulted in damage to the equipment, threat to the life and health of people, environmental security and (or) security of the state, considerable financial damage, irreversible (inadmissible) breakdowns of uninterrupted technological production processes. The consumer's right

to change the reliability category with regards to the receivers connected under a different category ensures a balance of economic interests of electrical energy suppliers and consumers (Article 6 of the Law on the Electrical Energy Industry), a refusal to conclude the respective agreement as well as further conclusions about the invalidity of such an agreement represent a form of restriction of access to the retail electrical energy market not stipulated by the applicable laws.

Taking into account the characteristics of exercising of the consumer's right to select the category of reliability of a connected power receiver, we can conclude that the indicated right refers to the category of so-called "secondary rights" that are understood by the civil law science as rights granting a possibility to establish (transform) a specific legal relation by means of a unilateral transaction [3].

Secondary rights appear in case of such legal connection between subjects that stipulates dependence of the obliged party from exercising of the secondary right. "The exercising of such a right results in the appearance of legal consequences irrespective of the behavior of the person, whose property these consequences affect" [4].

The consumer's selection of the category of reliability of a power receiver together with submission of the respective TC application to a grid operator imposes the following obligations on the latter:

- to determine the technical opportunity for agreement conclusion in accordance with the selected TC parameters;
- to develop process specifications for TC ("PS for TC") and approve them with a system operator in cases prescribed by legal acts;
- to submit an agreement draft with an application of PS for TC to the applicant.

Determination of the technical opportunity for TC

Clauses 28, 29 of RTC stipulate a presumption that TC is possible if it does not fall under any legally established restrictions connected with the performance thereof.

According to Clause 28, the criteria for the presence of a technical opportunity for technological connection are as follows:

a) maintaining of electrical energy supply conditions (the established category of reliability of electrical energy supply and preservation of quality of electrical energy) for other consumers, whose power receivers are connected to electrical grids of the grid operator or related grid operators as of the date of application filing by the applicant, and non-deterioration of conditions of operations of facilities of the electrical energy industry earlier connected to power grid facilities;

b) absence of maximum capacity restrictions at power grid facilities, technological connection to which is required;

c) absence of the need to reconstruct or expand (build new) power grid facilities of related grid operators or construct (reconstruct) generating facilities to satisfy the applicant's demand;

d) ensuring compliance with the admissible parameters of the electrical energy regime of the energy system in case of technological connection of applicant's power receivers inter alia taking into account reference incidents defined under methodological regulations for the energy system stability approved by the Ministry of Energy of Russia.

Essentially, determination of the technical opportunity for TC consists in verification of whether the requested TC violates the rights of:

— third parties that are consumers and owners of facilities of the electrical energy industry (the criterion of “maintaining of electrical energy supply conditions”);

— the grid operator itself (the criterion of “restriction of the maximum grid capacity”);

— related grid operators and owners of generating facilities connected to grids of the grid operator or a related grid operator (the criterion of “without reconstruction (new construction)” taking into account the events of reconstruction (new construction) stipulated by investment programs of grid operators or obligations of electrical energy producers);

— all consumers and subjects of the electrical energy industry (the criterion of “stability of the energy system”).

If there are no restrictions for TC, a grid operator has to develop PS for TC and an agreement draft in accordance with the consumer's application.

If a grid operator has no technical opportunity for technological connection of power receivers indicated in the application, technological connection can still be performed, but under an individual project. In this case, the relations between the parties are formed based on the principle of contractual freedom taking into account the negotiated arrangements.

Preparation of PS for TC based on the selected reliability category

Upon receipt of a TC application, a grid operator has to prepare PS for TC and an agreement draft and submit the same to the applicant within the term indicated in RTC. A grid operator indicates in PS for TC a list of TC events and parameters of the performed technological connection including the ones conditional upon the reliability category selected by the applicant, according to the criteria stipulated by Clause 14(1) of RTC:

— availability of independent reserve electrical energy supply sources is required for power receivers referred to the first and second reliability categories.

— availability of an autonomous reverse power supply source of the respective capacity is additionally required for power receivers of the special category within the first reliability category and power receivers referred to power receivers of the emergency standby reserve.

One power supply source is stipulated for power receivers of the third reliability category.

Different parameters of technological connection for power receivers of various categories are caused by the need to ensure uninterrupted and safe technological process of a consumer.

The more critical an energy supply breakdown for the consumer, the higher

the demand for reserve sources. Within the framework of the existing regulatory model, the obligations to ensure such reservation are not imposed exclusively on a grid operator but are distributed between a grid operator and a consumer depending on the latter's needs taking into account a reasonable balance of interests of the parties as well as technological features and restrictions of functioning of the electrical energy system.

A consumer selects a high category of reliability of energy supply to protect its own interests as it allows reducing the risks of own financial losses and the liability for damage caused to third parties.

Since functioning of the energy system requires constant scheduled repairs of each of the elements, and its functioning depends on the mutually agreed operations of energy facilities belonging to different owners, there is always a risk of termination of energy supply to a consumer irrespective of the grid operator's will. Imposing of the obligation to ensure a high category of reliability of energy supply exclusively on a grid operator would not correlate with the principles of reasonableness, justice and economic justification in such a situation.

That's why legal acts stipulate that interests of the parties in case of ensuring high categories of reliability of energy supply for a consumer are taken into account:

firstly, by imposition on a consumer of the obligation to ensure functioning of an autonomous reserve power supply source in special cases;

secondly, by an opportunity for the contractual determination of requirements for functioning of each of the independent reserve power supply sources engaged in the energy supply to a consumer.

On criteria of independence of reserve power supply sources.

The term "independent" in relation to power supply sources of power receivers is defined in Clause 1.2.10 of RDE that define an independent power supply source as a power supply source that maintains voltage in the

post-emergency mode within the regulated limits in the event of its disappearance at one or several other power supply sources.

Regulatory acts give no legal definition of the "power supply source" term. RDE, RTC and other legal acts view the following as a power supply source of a power receiver:

- autonomous power supply source, i.e., an object able to give back electrical energy but having no electrical links to the energy system;
- equipment within an energy system, a power receiver is directly connected to for the purposes of obtainment of electrical energy.

Obviously, location of an autonomous power supply source outside the exposure of technological parameters of operations of an energy system a priori ensures its independence from other reserve power supply sources and the energy system in general.

In the event that a consumer selects the first special category of reliability of energy supply and in other legally established cases, the legislator imposes on the consumer the obligation to install autonomous reserve power supply sources and maintain them in a condition of readiness for use in case of non-scheduled breakdowns, emergency restriction of the electrical energy (power) consumption mode or use of automatic emergency response systems (Subclause c, Clause 14, Paragraph 8, 9, Clause 31(6) of RUA, Paragraph 6, Clause 14(1) of RTC).

It gets more complicated if we look at independent reserve power supply sources functioning within an energy system.

1. According to the above given definition, a criterion of independence of a power supply source is characteristics of its operations in the post-emergency mode.

In accordance with Clause 1.2.8, 1.2.9 of RDE, a post-emergency mode is a mode of operations of an electrical energy consumer (electrical receiver or a group of electrical receivers united by the technological process and located in a specific territory) caused by malfunctions in its electrical energy supply system until the normal mode of operations is established (the mode ensuring achievement

of set parameters of operations of an electrical energy consumer) following malfunction localization.

The Rules for Technological Functioning of Electrical Energy Systems approved by Resolution of the Government of the Russian Federation No. 937 of August 13, 2018, define a post-emergency mode of an energy system as an established electrical energy regime of an energy system characterized by parameters emerging following the completion of the transition process triggered by an emergency disturbance.

It follows from the above provisions that, firstly, a power supply source is qualified as an independent one with regards to a specific power receiver (or a group of receivers) in an assumed situation of availability of malfunctions in its (their) electrical energy supply system.

Pursuant to Clauses 1.2.12, 1.2.13 of RDE, the “independence” of power supply sources is verified in repair, emergency and post-emergency modes. In the selection of independent mutually redundant power supply sources being objects of an energy system, one takes into account the probability of simultaneous, dependent, short-term reduction or complete disappearance of voltage for the period of action of relay protection and automatic equipment in the event of damage in the electrical part of the energy system and simultaneous, long-term disappearance of voltage at those power supply sources in complicated system accidents.

Secondly, the transition process (its duration and other characteristics) triggered by an emergency disturbance in an energy system remains out of the scope of the qualification of a power supply source as an independent one. Thus, no regulations consider characteristics of receivers and equipment reacting to changes in the energy supply system of a power receiver, e.g., the ones switching between the primary and reserve power supply sources.

However, determination of such characteristics including the transition process duration can be significant for a consumer in the relations with a grid operator.

In this regard, the legal structure enables to consider technological parameters important from the standpoint of continuity of energy supply to a consumer in the determination of such characteristics as “energy supply recovery time”.

Pursuant to Clause 31(6) of RUA, the energy supply recovery time for the first and second reliability categories is equaled to the time of automatic power recovery that is set at the moment of technological connection of consumer’s power receivers. If the technological connection documents indicate no automatic electrical energy supply recovery time, the latter is determined by a grid operator upon approval by a consumer depending on the parameters of the consumer’s external electrical energy supply scheme and the applied grid automatic systems as the maximum time of action of automatic systems recovering power supply from reserve sources.

2. The independence of a power supply source is also manifested in the parameters of its operations being different from the ones of other power supply sources in the post-emergency mode. Such a main parameter indicated in RDE is maintenance of voltage within the regulated limits.

Regulated voltage limits are set by interstate standard: Standard Voltage. GOST 29322-2014 (IEC 60038:2009) enacted by order of the Federal Agency on Technical Regulation and Metrology No. 1745-st of November 25, 2014, as a national standard of the Russian Federation. The said standard stipulates nominal voltage for electrical systems, grids, circuits and alternating and direct current equipment applied in countries that are members to the International Electrotechnical Commission, determines the maximum and minimum voltage at supply terminals and power receivers for alternating current systems with nominal voltage of 100 to 1,000 V inclusive.

However, what is to be understood as “maintenance of voltage” with respect to parameters of operation of an independent power supply source?

If we analyze this phrase word-for-word, only a source that is always under voltage and

equipped with some voltage measurement devices fixing voltage stability (maintenance) can be acknowledged to be an independent power supply source.

It remains unclear at which point to measure voltage including at which phase in a three-phase circuit. Can voltage change within the regulated limits as compared to the ratio before breakdown of electrical power supply or should it remain unchanged? Should voltage remain within the regulated limits at each of the three phases? Can there appear a situation when an independent power supply source is used as a reserve one, and voltage will disappear and reappear, but not be “maintained” in the post-emergency mode?

At systemic interpretation of provisions of RDE, other legal acts, considering the technological logic of functioning of the energy system, there can be made a conclusion that we are not speaking of “maintenance” of voltage in a power supply source rather of the possibility to transmit electric current to a consumer through a respective power source at disappearance of such possibility at a different power supply source.

Such interpretation of the “voltage maintenance” term is in line with the logic of electrical energy laws and allows modeling of a situation where voltage at a specific point in time is absent at both power supply sources, which does not deprive them of the qualification as independent ones. Parameters of the admissible termination of energy supply and consequently limits of due discharge of

obligations by a grid operator can be determined based on contractual regulation.

Thus, Clause 31 (6) of RUA sets the admissible period of termination of energy supply depending on the declared reliability category. The admissible number of hours of disconnection for the third reliability category is 72 hours per annum but not more than 24 consecutive hours including the electrical energy supply restoration time. The admissible number of hours of disconnection per annum and the electrical energy supply restoration terms for the first and second reliability categories are determined by the parties in an agreement depending on the electrical energy supply scheme parameters, availability of reserve power supply sources and features of the technological process of activities performed by a service consumer (electrical energy consumer, on whose behalf an agreement is concluded) but cannot exceed the ratios stipulated for the third reliability category.

In view of the above, one can conclude that legal acts in the electrical energy industry establish only the minimum required parameters of ensuring reliability of energy supply to consumer’s power receivers. A consumer is provided with a wide range of opportunities to protect its own interests in the relations with a grid operator both by exercising the secondary rights owned by the consumer and through determination of characteristics of electrical energy supply reliability in contractual relations with a grid operator taking into account the used equipment and features of the technological process of a specific consumer. ■

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