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A LAW AND ECONOMICS ASPECTS OF THE IMPLEMENTATION OF SMART GRID IN THE RUSSIAN FEDERATION, PROBLEMS AND PERSPECTIVES OF THEIR USE

Abstract: In the course of this work, the authors considered the features and prospects of introducing smart energy systems in the Russian Federation, highlighted the legal problems that arise during the implementation of technologies, suggested possible solutions to them and made recommendations for the effective implementation of this activity.

The 21st century is the century of new technologies, the century of introducing innovations in all spheres of public life. Modern energy does not stand aside. One such innovation is Smart Grids. By Smart Grids we mean an automated set of algorithms that independently monitors and distributes electricity flows to achieve maximum energy efficiency, as well as other tasks. The emergence of a new generation of Smart Grids is caused by the following reasons: distribution of generation, as well as an increase in the volume of technologies used based on renewable energy sources; the emergence of new methods of managing consumer services, innovative energy storage technologies; the discovery of new approaches in the field of energy supply and distribution during the use of highly intelligent automated systems; the advent of new applications working with data analytics on high-voltage networks. Transformation of electric power segments allows achieving the following effects: increasing production capacities and providing energy to remote and isolated regions, reducing losses arising in the process of electric power transmission and transformation; reduction of peak network loads during power distribution and, as a result, reduction in operating costs and losses. In addition, the transformation of the segments will allow for accurate metering of consumption, and in the business environment to meet the growing requirements for environmental friendliness and energy efficiency of production, integrate electricity markets, introduce integrated intelligent management of both demand and consumption, as well as manage and supply to the market surplus energy, where former consumers will become producers of electricity.

The transition to Russia's Smart Grid will help to restrain the growth of electricity prices until 2035 by increasing generating and network capacity, quantitatively reducing energy losses to 70-80% and reducing the need for new capacity to 60-70%. In addition, the above will significantly reduce the accident rate in the engineering infrastructure, improve the level of energy security and quality of life of the population as a whole. However, the introduction of intelligent power systems in Russia is complicated by some legal problems. Let's take a closer look at them. As we know from historical experience, any positive economic changes associated with the automation of production have negative consequences for some categories of citizens. In the case of the widespread use of intelligent power grids, there will be a reduction in the number of employees who, up to a certain point, have performed the working functions of the intellectual power grid. The termination of the employment contract in this case will take place on the basis of section 2 of Article 81 of the Russian Labor Code. Since the widespread introduction of smart power grids is expected, we believe that a large number of employees in this industry will acquire the category of unemployed. In this regard, we propose the adoption of a federal law obliging the employer in the case of the introduction of automated systems in the energy sector of the economy six months before the planned reduction to provide an opportunity at the expense of the organization to take specialized courses of shift profession to employees who fall under the reduction or pay a premium of n-number of monthly salaries.

The next significant problem is the legal liability of the corporation and individual individuals for the operation of an automated energy system. In modern domestic law, there is no mechanism for holding a virtual program accountable. However, we are considering a system that is not the so-called strong artificial intelligence, which means there is no volitional criterion for the subjective side of the offense. Suppose that the

actions of the power system led to an environmental disaster. In this case, it will be necessary to identify the causes of such actions. There may be several of them - an error in the software of an intelligent energy system, dishonest actions of an energy enterprise or individual individuals. In the first case, the specific programmer or company that implemented the program will be legally liable. Under such circumstances, the energy company will not be liable, but if negligence is present in its actions, we assume the possibility of holding the company accountable.

In the second situation, the company will be held liable directly whose actions or omissions have caused environmental damage. Similarly with the 3 case, a certain person will be held accountable, whose actions contain guilt. But what if the actions of both programmers, and the energy company, and specific individuals were correct, and the cause of the disaster was the decision of the intellectual energy system itself? What if the program considered the disaster more preferable than, say, the probable loss of an energy company? Such an example cannot be regulated by modern law, and, of course, any actions that cause harm should be stopped and must bear consequences. With this combination of circumstances, we propose introducing into the current legislation the concept of joint legal liability, according to which both the author of the program and the enterprise itself will be subject to it. The novelty will be the fact that between these entities there was no initial conspiracy to commit an offense, their guilt is relative, but their joint actions led to the onset of negative consequences. Thus, in the course of this scientific work, we examined the prospects for the introduction of intelligent energy systems in Russia and suggested ways to solve some legal situations related to this implementation. that between these entities there was no initial conspiracy to commit an offense, their guilt is relative, but their joint actions led to the onset of negative consequences. Thus, in the course of this scientific work, we examined the prospects for the introduction of intelligent energy systems in Russia and suggested ways to solve some legal situations related to this implementation. that between these entities there was no initial conspiracy to commit an offense, their guilt is relative, but their joint actions led to the onset of negative consequences.

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