



АКЦИОНЕРНОЕ ОБЩЕСТВО
«СИСТЕМНЫЙ ОПЕРАТОР
ЕДИНОЙ ЭНЕРГЕТИЧЕСКОЙ СИСТЕМЫ»

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SO UPS Chair presents global trends and advanced technologies in power industry at SPIEF-2022 in St. Petersburg

On June 16th, during XXV [St. Petersburg International Economic Forum \(SPIEF\)](#), SO UPS Chairman of the Management Board Mr. Fedor Opadchiy presented the key trends in the electric power industry development and advanced technologies for the power system operation.

“Since long investment cycles are specific for the industry and they must keep up with the changing landscape, the power system requires predictability and resilience in development. The power industry performs in ever-changing environment as it is constantly undergoing transformations both on the part of consumption and on the part of electricity generation, including those associated with the emergence of new technologies”, as SO UPS Chair noted during his presentation at “Power industry in the transition period” session.

Fedor Opadchiy focused audience attention on the actual factors of the power industry operation and development, related to the transformation of the consumption structure. The emergence of new “growth points” is associated with the implementation of major projects, such as the “Eastern Polygon” project, and with changing needs of existing consumers. The Kuban Power System was also set as the example, where in recent years the maximum consumption (demand) at summer has increased significantly and the load peak has shifted from evening to daytime. Among the most important drivers of changing consumption behavior are the tourism development and the growth of air conditioning load. In his view, such changes require constant development of the energy system and it becomes especially important to improve the procedures of long-term development planning with respect to longstanding nature of the investment projects in the industry. In the near future SO UPS will focus on improving the efficiency of long-term planning procedures - this task is assigned to the company in compliance with the amendments to the Federal Law on Electricity Industry adopted in June 2022.

As of changes in generation mix, Fedor Opadchiy noted that increased share of variable renewable energy resources, first of all solar and wind, significantly impacts the development of the power industry. Even today, intrahour fluctuations in the RES load in the IPS of South reach 300 MW and the change in power from hour to hour reaches 1000 MW.

With the increase in renewables share these figures will grow. Deviation offset will require the maintenance of appropriate volumes of high price “fast” reserves. That is why “flexible resources” are of particular value, that is, the ability to rapidly change power generation or consumption at the operator’s request as well as the development of tools for RES forecasting.

The need to enhance flexibility drives the mechanisms uptakes aimed at consumers voluntary participation in balancing the energy system. Thus, the value of the demand response providers within implementation of the Demand Response pilot project in the UPS of Russia already gets around 1.1 GW. Referring to Mr. Opadchiy, the DR target model worked out under the pilot project will be introduced in the industry after the amendments to the Federal Law on Electricity comes into force. This model intends full integration of DR mechanisms in the wholesale electricity market as a new type of service and at the same time its capacity may reach up to 5 GW by 2025.

In respect of the mechanisms that provide additional flexibility resources and dynamic development of the power system that meet current challenges it’s important to underline that even today the SO UPS is implementing technologies that allow to increase the transmission capacity of networks without building new transmission lines - these are primarily stability margin monitoring systems. Also, Mr. Opadchiy noted that the technologies for remote control of the power facilities operations which are actively implemented in the UPS of Russia by SO UPS in cooperation with industry entities are seen as an important development course and systems flexibility enhancement.

SPIEF - One of the biggest and most important business events in the world. Over the past 25 years, the Forum has cemented its status as a leading international event focusing on key issues on the global economic agenda. It provides a platform for participants to exchange best practices and expertise in the interests of sustainable development. SPIEF has been held annually since 1997. Since 2005, it has been held under the auspices of the President of the Russian Federation, who has also attended each event. As in previous years, the business programme will focus on the global and Russian economies, social issues, and technological development.

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