



Preview of the special issue, devoted to the 4th International Smart Grid Expo

Greeting speech to the participants of World Smart Energy Week and to the readers of the magazine:

- Greetings from E. Afanasiev, Ambassador Extraordinary and Plenipotentiary of the Russian Federation to Japan;
- Greetings from Yu. Sentyurin, Deputy Minister of Energy of the Russian Federation

Multiagent technology – a new approach to a common technological infrastructure management

Andrey CHEREZOV, Deputy Minister of Energy of the Russian Federation

“The development strategy for the United National Electric Grid (UNEG) approved April 3, 2013, as one of the ways to ensure long-term reliable, quality and affordable energy to consumers, involves creation of a smart energy system with an active-adaptive electric power grid – grid of new generation, customer-oriented and based on multi-agent management principle of operation and development. This approach seems reasonable in terms of the need for a unified technical policy, availability, reliability, efficiency, viability and sustainable development of power systems related to critical infrastructures”.

Development of Active-adaptive networks

Vladimir DOROFEEV, Head of the laboratory "Intelligent Energy" JIHT RAS, Deputy Chairman of the Architectural Committee for creation of smart grid at joint scientific and technical council of JSC UES FGC and Russian Academy of Sciences

“FGC UES in Russia for the first time, set fundamentally new approach to modernization of the technology base of domestic power system. The first step in this direction was the elaboration of a concept for development of intellectual power supply system with active-adaptive network (IPS AAS). The preparation of this document involved the analysis of work carried out in that regard”.

World Smart Energy Week will be held in Tokyo, Japan

Takeshi TANAKA, Show Director of World Smart Energy Week

“The 4th International Exhibition “Smart Grid Expo” is held within the scope of the World Smart Energy Week together with other events like the exhibition of rechargeable accumulator batteries (Battery Japan), exhibition of hydrogen and fuel components (FC Expo), exhibition of solar system (PV System Expo), exhibition of environmental-friendly construction (Eco House & Eco Building Expo), exhibition of solar power generation (PV Expo), exhibition of wind power (Wind Expo), exhibition of processing technologies (Enetech Japan). The shows do not compete with each other,

they actually complement each other by providing the opportunity for smart grid related professionals to meet and make business connections with different energy sectors”.

Integrated Technical Regulatory Framework at the Heart of Electric Power Industry Development

Alexander DZHINCHARADZE, Chairman of the Technical Committee for Standardization in the field of electric power industry TC 016, Professor, Doctor of Technical Sciences

“Nowadays Russia is one of the world’s major producers of electric power (more than 230 GW). The unified energy system (UES) of Russia includes about 600 power stations with generation capacity of over 5 MW each. However, notwithstanding such a great capacity of the energy system, Russia’s GDP energy intensity amounts to 0.4 tons of fuel equivalent per US\$1000 versus the average world index of 0.19 tons of fuel equivalent, while the energy intensity of products is 3–4 times as high”.

Innovation Suite of IT-Systems to Control Power Supply of Olympic Venues in Sochi

Andrey BADALOV First Deputy General Director, Dmitry GVOZDEV, Deputy General Director, Boris SHVEDIN, Chief Ontologist, Cand. of Psychological Sciences, CJSC “RTEC”, Leonid BUZAEV, Deputy Chief Engineer, JSC “FGC UES”

“The first-of-its-kind suite of IT-systems designed to control power supply in Sochi was commissioned in September of 2013. The main task of PSCC is monitoring and analyzing the general and operational situations at power facilities involved in external power supply of Olympic venues and infrastructure facilities in Sochi, as well as organization of interaction and coordination of efforts of all entities”.

Application of Grid Energy Storages in Power Systems

Denis ZHURAVLEV, Ph.D., VNIIR leading engineer

“Development priority of modern intelligent electric systems (IES) is to improve reliability of power supply, energy efficiency and environmental friendliness. Fulfillment of these tasks is often complicated by electrical network issues such as high equipment congestion, heavy losses and lengthy outages due to network accidents, complexity of RES-integrated network control due to intermittent power profile they generate. One of the best ways to solve these problems is the use of energy storage systems”

Pilot project for grid energy storage application in Unified National Power Grid (UNPG)

Alexander FEDOROV, Head of infrastructure projects, Ivan ILLYN, the team leader of special projects, the Department of JSC "FGC UES" infrastructure projects

“Creating intellectual electric network is a global trend. Work in this direction has been successfully carried out in many countries. In order to implement a number of elements that will provide UNPG with new properties it is necessary to create a technological basis, involving international experience, and to ensure in-home development and production of the state-of-art electrical equipment. One of these elements is Energy Storage Systems (ESS) based on high power batteries”.