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THE NUCLEAR POWER CHALLENGES IN UKRAINE

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For the production of electricity from nuclear power Ukraine is among the top eight countries, and on the contribution of electricity produced in the total amount of electricity the country is among the top five nations. Nuclear power in Ukraine is an important component of the total fuel and energy complex and holds leading positions in the electricity supply of the country. Today almost half of domestic electricity is produced by nuclear power plants.

What is nuclear energy? Usually for nuclear energy generation nuclear chain reaction of nuclear fission of uranium-235 or plutonium is used. The nucleus is divided when hit by a neutron to give the new neutrons and fission fragments. Fission neutrons and fission fragments have a high kinetic energy. As a result of collisions with other atoms fragments this kinetic energy is converted into heat .

During the period of 1990-2005 the generation of electricity at nuclear power plants in Ukraine increased from 76.2 to 88.78 billion kWh, while in thermal power plant decreased from 201.8 to 73 billion kWh. Thus, in this difficult period for Ukraine the nuclear power was the only sustainable source of electricity. In the Energy Strategy of Ukraine till 2030 nuclear power generation plays an important role.

In order to maintain the power of nuclear energy at the current level over the next six years, it is necessary to extend the life of nine other power blocks. The second problem is an increase in power output, primarily from western regions. This will be done during 2014 and 2015 years by the construction of high-voltage power lines of 750 kV from Rivne nuclear power plant to Kyiv. Particular attention should be paid to the development of new, guaranteed safe nuclear energy. Energoatom company is exploring the possibility of power export to Poland and Hungary with the second block of Khmelnytsky nuclear power plant.

Thus, there should be drawn the following conclusions:

1. Today nuclear energy is an essential component of the energy complex of Ukraine.
2. There is no long-term strategy of development of nuclear energy in Ukraine.