

tions; 97 cogeneration plants, eight wind power stations, and small hydro power stations, etc.; trunk networks of Ukrenergo National Energy Company; and distribution networks that are operated by power supply companies.

The 220-750 kV trunk and interstate networks ensure that the Ukrainian grid operates as an integrated technological unit. In the recent years, the Company has begun implementing the network development programmes.

The overhead transmission lines such as a 750 kV line from the Southern-Donbas substation to the Donbas substation and a 330 kV line from the Khmelnitsky nuclear power station to Khmelnitsky City were constructed in 2003. Also in that same time frame, there was completed a 330 kV overhead transmission line project from the Rivne nuclear power station to the Northern-Luts'k substation. The above projects have increased a capacity factor of the Zaporizhia, Rivne and Khmelnitsky nuclear power stations.

In 2004, an overhead line from the Rivne nuclear power station to the Western-Ukrainian substation changed over to 750 kV, which ensured the commissioning of power unit No.4 at the Rivne nuclear station; and the 500 kV Novodonbas substation was commissioned and connected to the 500 kV Donbas-Novodonbas overhead transmission line, which provided more secure power supply to electricity consumers in the Lugansk Region.

The refurbishment project at the Western-Ukrainian 750 kV substation was completed in 2005. In 2006, there were completed and started the following projects: the Melitopol-Simferopol 330 kV overhead transmission line terminals were commissioned at the 330 kV Dzhankoi substation; substations in the Crimean power system were equipped with static capacitor banks of 120 MVA total capacity; the Kyiv 750 kV substation construction project was started; and terminals of a 330 kV overhead transmission line from the Dniester hydroelectric power station to the Ladyzhyn thermal power station were started to be installed in the Dniester pumped-storage station.

An upgrading and refurbishment project for the Artsyz 330 kV substation was completed in 2007. The project provided for installation of the second 330/110 kV autotransformer.

For the Ukrainian IPS to operate synchronously with the European grids Ukrenergo will create a diverse set of projects, from new emergency control systems to organizational and technological measures aimed at upgrading and developing the whole grid and attaining higher generation and transmission performance with minimum environmental impact in compliance with the UCTE¹ requirements.

The following construction projects are planned for completion after 2010:

- 1) *750 kV Southern Main Line consisting of:*
 - A 750 kV overhead transmission line between the Kakhovka and Prymorsk substations.
 - A 750 kV overhead transmission line from the Prymorsk substation to the Dniester pumped-storage station.
 - A 750 kV overhead transmission line from the Dniester pumped-storage station to the Khmelnitsky nuclear power station.
- 2) *750 kV Northern Main Line comprising the following lines:*
 - 750 kV overhead transmission line between the Kyiv and the Northern-Ukrainian substations.
 - A 750 kV overhead transmission line between the Northern-Ukrainian and the Kharkiv substations.
 - A 750 kV overhead transmission line from the Kharkiv substation to the Donbas substation.

The development strategy for major electricity networks will have been maintained by 2030. The strategy provides for the 330/750 kV networks to retain their backbone functions, with the 750 kV ones assuming more importance. To attain the goal, it is necessary:

- to create new and improve currently existing backbone interconnections both in individual power-supplied areas and with the Ukrainian regions and the grids in other countries;
- to ensure power generation by both operating power stations and those under construction or reconstruction;
- to ensure safe electricity supply to heavy power-consuming facilities in some regions.