Innovative developments of the Department of Electrical Power Engineering and Equipment at the Institute of Energy and Transport Systems (IETS)

The Department of Electrical Power Engineering and Equipment at the Institute of Energy and Transport Systems is involved in numerous projects: more than 100 unique technologies have been developed in the last 20 years, many of which have been patented.

One of such projects is aimed at replacing high voltage equipment made of glass and porcelain with that made of light polymers. V.Ya. Frolov, Director of the Department of Electrical Power Engineering and Equipment, explained that, “glass and porcelain insulators are not efficient because they weigh a lot and are often vandalized”. The University and the company Streamer Inc. have developed a technology enabling the production of less expensive but at the same time more durable dischargers. This innovative technology is applied not only in Russia, but also in Canada, Brazil and China.

In addition, the issue of losses in transformers is also being studied at the Department and forecasts concerning their work are being compiled. “When a consumer starts to operate certain equipment, they should be aware of how to use it properly. It may be not economical without our methodology. This is very important for distribution networks”, emphasized Vladimir Yakovlevich.

Another development from the staff of the Department is a protective coating for the bronze elements of historical monuments in St. Petersburg, such as the sculpture of an angel on top of the Alexander Column, the Bronze Horseman (a statue of Peter the Great, the founder of the city) and bronze sculptures on top of the Senate and Synod buildings. “Our scientists have developed a special coating technology which works with the help of a plasma generator. Tests have proved that with this coating the monuments will be preserved for at least 100 years more”, explained V.Ya. Frolov.