

## MAIN EDUCATIONAL PROGRAM OF POSTGRADUATE STUDIES

### 2.4.2. Electrotechnical complexes and systems

Energy Institute

Department of Electric Drive and Electric Transport

Normative period of study: 4 years

Full-time form of education

PURPOSE of the PhD program:

The program involves the training of scientific and scientific-pedagogical personnel in the field of designing and designing devices, installations, equipment complexes for electrical purposes, as well as mastering the totality of technical means, methods and methods of human activity for the use and conversion of electrical energy.

Training is conducted on the basis of the Department of Electric Drive and Electric Transport.

Research work is carried out on the basis of educational and research laboratories of the Department of Electric Drive and Electric Transport, equipped with modern electrical equipment from leading world companies - CHINT, Delta, Siemens, Danfoss, ABB, Schneider, OVEN, using mathematical and computer modeling.

The practice is carried out on the basis of specialized laboratories of the Department of Electric Drive and Electric Transport.

The results of mastering the postgraduate program:

☒ The results of scientific (research) activities are:

- revealed new knowledge, developed new science-intensive methods, techniques, equipment and systems obtained in the process of scientific research on an approved topic;
- scientific qualification work (dissertation) for the degree of candidate of technical sciences in the scientific specialty 2.4.2. "Electrotechnical complexes and systems";
- written and published scientific articles, protected objects of intellectual property, necessary and sufficient for the defense of the dissertation.

☒ The results of mastering disciplines are:

- acquired competencies that allow a postgraduate graduate to carry out the entire range of research work from the moment of formulating the purpose and objectives of the study, to obtaining scientifically based conclusions;
- practical skills of mathematical modeling of work processes of electrotechnological complexes and systems (ETKiS), as well as technological, test equipment, information-measuring complexes and expert systems;
- practical skills in designing, technical expertise and testing of ETKiS, their automated and intelligent systems and units.

☒ The results of mastering the practice is to obtain the skills and competencies of conducting experimental scientific research of ETKiS using modern research equipment, computer measurement systems, modern technologies, gaining experience in a creative team.

Organizations and institutions in which a postgraduate graduate in this scientific specialty can carry out professional activities:

☒ educational organizations:

- institutions of higher education that train bachelors, masters and postgraduate students in educational programs:

03/13/02 - Electricity and electrical engineering (bachelor);

13.04.02 - Electricity and Electrical Engineering (Master);

06/13/01 - Electrical and thermal engineering;

- educational institutions that train electricians;

☒ research organizations that carry out research in the field of design, operation, testing, certification and technical expertise of ETKiS;

☒ municipal and state organizations and services that solve the issues of planning, operation and technical safety of ETKiS;

☒ enterprises (polygons, factories, firms) conducting certification tests, technical expertise and design of ETKiS.