

## Summary

The diploma project has developed technical solutions for the modernization of the energy supply system for the industry and the population of the city of Aktobe. To accomplish this task, the replacement of the R-14-29/10 turbine and the installation of a steam turbine of the PT-29/35-3.0/1.0 type to increase the power of the main line and reduce the loads in the electrical network have been proposed.

In the section on life safety, an analysis of the personnel's work is presented and measures to reduce noise in the turbine shop are proposed.

The economic part of the project provides a calculation of the main technical and economic indicators of the station, subject to the implementation of the proposed measures.

In the special section, the issue of the automatic protection system of the PT-29/35-3.0/1.0 turbine is considered. The calculation and analysis of the automatic protection of the turbine unit.