

## Abstract

The diploma project is executed on "Automation of the production of ethylene oxide by direct oxidation of ethylene", the project consists of an explanatory note on 86 pages and 3 sheets of drawings. The drawings are presented: the scheme of automation, circuit diagram for remote control and emergency protection of electric motors, installation and switching scheme to remote management and technological locks.

The project aims to ensure the proper functioning of ethylene oxide production through the introduction of automation and control system development.

In the sections of explanatory note was done the analysis of the process of production; were developed the basic automation solutions; was obtained mathematical model of the absorber. Were investigated transients in a closed system with PI-regulator, was obtained controller parameters, that providing value set duration of the transition process and the level of overshoot.

Was done the analysis of the basic requirements for safety.

*Keywords:* ethylene oxide, automation, PI-controller, controlsystem.