ABSTRACT

The master's thesis contains: 182 pp., 72 figures, 22 tables, 5 annexes, 33 sources.

MODELING, MONITORING, CLEANING PROCESS MANAGEMENT, WATER FACILITIES, ORGANIC DYES, SOFTWARE AND LOGIC CONTROLLER, SIEMENS, STAR, SIMATIC S7-1500, STARTUP PROJECT

The object of the study is the process of purification of industrial wastewater from organic dyes.

The subject of the study is subsystems for monitoring and control of the process of industrial wastewater treatment from organic dyes.

The purpose of the work is to develop a monitoring and control subsystem for the process of industrial wastewater treatment from organic dyes.

The result of this work is a control subsystem developed in the Siemens TIA Portal environment that allows you to manage and monitor the process of industrial wastewater treatment from organic dyes. The startup project was developed and the economic and organizational calculations of the main technical and economic indicators of this process were carried out, as well as certain risks and methods of dealing with them.

Practical importance of the results obtained: the results of the work can be used in large companies involved in the treatment of sewage from dyes, as well as controlling organizations and non-governmental public organizations, as well as for the purification of water from other pollutants with small changes.

Relevance of work. Ukraine has developed a complex water-ecological situation caused by excessive anthropogenic load on the landscape structures of the catchment areas of most rivers. There is a need to solve the complex problem of ecological improvement of river basins, sewage treatment of industrial enterprises, supply of high quality drinking water to the population. Today, almost all the reservoirs for pollution have come closer to class III (contaminated), and the state of

treatment facilities, water treatment technologies have not changed. Therefore, it is important not only to monitor the change in dye concentration, but also to make management impacts to bring wastewater to the relevant accepted norms for discharge.

Testing the results of the thesis. The main results of the work were reported at the VII International Scientific-Practical Conference "Computer Modeling in Chemistry and Technology and Systems of Sustainable Development" (Kyiv, 2019), II All-Ukrainian scientific-practical Internet conference of students, graduate students and young scientists on the topic "Modern Computers computer systems and control networks ”(Kherson, 2019), as well as the publication of an article in the scientific and technical papers“ Water and Water Treatment Technologies ”(Kiev, 2019).

Publications. According to the materials of the master's thesis, 3 articles of papers were published in the conference proceedings.