

Abstract

The following dissertation contains the analysis of several nitric acid production technologies. The work conducted herein is a logical continuation of the Bachelor's degree work and has been practically applied in a form of scientific collaboration contract and the work contract with DCS manufacturer.

A Piping & Instruments Diagram has been designed and a structure of computer DCS has been designed.

The ammonia oxidation reactor has been also analyzed in this dissertation.

A research of operator error has been conducted herein. An analysis of possible reasons and solutions for this problem is also described. The operator training program has been also designed in this work.

Dissertation consists of an explanatory note (110 pages) and appendices (45 pages).

Explanatory note consists of 27 pictures, 4 tables, 6 appendices and 13 references in the works cited list.

Keywords: Nitric Acid, Safety, Operator error, Ammonia oxidation reactor, personnel training, personnel evaluation, emergency situation, flow diagram, algorithm.