УДК 621.316.1

Comparative analysis of the efficiency of application software products for placement of vacuum reclosers in the distribution channel

AV Gai, Ph.D., OA Zavodovsky student, PV Petrov, general director of "TAVRIDA ELECTRIC UKRAINE"

The comparative analysis of efficiency of application software products for placement of vacuum reclosers in the distribution network. The examples and the task of further research.

Keywords: vacuum reclosers, software products, effective placement.

The issue of increasing the reliability of electricity consumers devoted a significant amount of scientific works and practical developments, but the reliability of modern systems for electricity consumers is too low and does not meet the generally accepted European state. One aspect of improving reliability is the automatic partitioning electrical networks using vacuum reclosers.

The purpose of research - a comparative analysis of the effectiveness of software for placing vakkumnyh reclosers in the distribution networks.

Materials and methods of research.

To determine the efficiency of installing vacuum reclosers there are two software tools and Telarm Optyum PCL. Will assess the effectiveness of their application.

Telarm (Tavrida Electric Automated Relay Manager) - the software that goes together with vacuum reclosers series RVA / TEL production "Tavrida Electric". This software allows you to customize setpoint triggering relay PC and simulate the operation of electricity networks which installed reclosers, calculate indices of reliability (SAIDI, SAIFI etc.) Before and after the installation of reclosers, functional testing on typical accident of place crash the network. Telarm able to remember the electric network settings to be remembered on the database server.

To find the optimal number and places the installation of reclosers used application software "Optium PCL" (rozrobleny ceredovischi in Delphi 6.0). This

program offers the following objects that make up the scheme of the distribution network: the main switch 10 kV; Air \ cable line; load 10 \ 0,4 kV. The main switch has the following parameters that can be adjusted: the presence of ATS - yes \ no; price points partitioning UAH; the frequency of outages, accidents / year / 1 km; time emergency shutdown; ratio of planned outages; frequency of planned outages; a scheduled shutdown. Air \ cable line - you can change the length of the line of 10 kV. The object load 10 \ 0.4 kV can be changed as follows: apparent power kVA; power factor, cos φ; the load factor; specific damages.

The results of research. It simulates these options in the software «Telarm», and choose the best case on the basis of indicators SAIDI and SAIFI and analyze the results.

So, there have been a description and comparison of calculation results in software products «Telarm» and «Optium PST", and show that both programs are determined the same effective accommodation option vacuum reclosers. It was pointed out the inefficiency of the installation of four or more reclosers for the scheme.