

# The improving of the safety level of the equipment working under excessive pressure

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## ABSTRACT

The systematic data on the frequency and causes of crashes and refusals at one of the oil refineries in the Republic of Belarus for the period from 1969 to 2018 are presented in the article. Data are based on documents of official statistics. The ranking of the number of crashes and refusals at departments, types of processing equipment, causes and types of effects is given. Has been determined the dynamics of the time factor and the causes of crashes and refusals. The results of the analysis of the service life of equipment operating under excess pressure at the Belarusian oil refinery are presented, directions for improving industrial safety when working with this type of equipment are proposed in this study. It has been established that fittings with conditional passage up to DN100, the base metal and metal of the welds of the equipment body are the most wearing parts during the service life. Frequent replacement of fittings with a small conditional passage is connected with a small margin between the executive and rejection thicknesses of fittings' nozzles. The

average service life of equipment operating under excessive pressure at the studied enterprise was established: types of equipment used the longest are columns (38.6 years), vessels (34.8 years), reactors (32.8 years) and the heat exchangers (31.2 years).