

UDC 613.6

Petryshchev A.S.¹, Pelivanova V.V.²

¹assistant professor NU «Zaporizhzhia Polytechnic»

²Student SN-123 NU «Zaporizhzhia Polytechnic»

RESEARCH OF THE FEATURES OF THE PROBLEM OF SAFETY, HEALTH AND LABOR PROTECTION AT INDUSTRIAL ENTERPRISES IN THE CONTEXT OF THE IMPLEMENTATION OF THE WORK OF VENTILATION AND AIR CONDITIONING SYSTEMS

It should be noted such harmful factors of the production environment in relation to microclimatic conditions as increased amount of industrial dust, humidity, noise, vibration and ultrasound, mechanical and electrical factors etc. The relevance of the study is to determine the relationship between negative factors of industrial production and the consequences of such factors for workers. The problem was determined by the need to systematize and logically present the impact of production factors on the human body. An analysis of the specifics and difficulties of ensuring occupational safety and hygiene at an industrial enterprise was performed. A list of hazards to which workers are exposed, whose professional activities are associated with the influence of dust, elevated temperatures, aggressive environments and other air pollution in the working area, was identified. For more stable

and comfortable working conditions, the use of axial high-pressure fans with relatively higher power was proposed. Some steps to optimize the system with central air conditioners consisted in providing additional equipment with air filtration and dehumidification systems. The list of the latest trends in improving meteorological conditions in the room includes equipping air conditioners with antibacterial systems that inhibit the appearance and development of bacteria. This will significantly reduce the risk of unpleasant odors from the ventilation system and possible allergic reactions in workers who will be in the room. A relative reduction in the noise level can be achieved by equipping the ventilation ducts with a layer of noise-absorbing material. At the same time, an additional reduction in the vibration level can be achieved by equipping the motor with a fan to the central air conditioner housing with rubber or spring vibration isolators. To ensure a higher level of heat and energy efficiency for the equipment of the premises, an air recovery system was proposed. Such a system uses heat exchangers, the task of which is to return the thermal energy lost through the ventilation system. That is, in the warm season, heated air does not enter the room, and in the cold season, cooled air does not enter. Such a solution, in turn, will allow significant savings on heating costs and will lead to a reduction in heat losses.