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HYGIENIC ASSESSMENT OF LABOUR CONDITIONS OF WORKERS IN THE MAIN OCCUPATIONS OF THE MINING INDUSTRY

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Introduction

The leading place in the structure of general pathology in the workers of mining industry, especially underground mines belongs to diseases of cardiovascular system. In terms of prevalence, severity of course, complications, cardiovascular diseases are one of the main causes of disability, disability, premature death of men of working age.

Unfavourable conditions of industrial environment against the background of socio-economic well-being have a negative impact on the state of health of the working population of the republic. Bronchopulmonary system pathology still occupies the leading place in the structure of occupational diseases. In the last decade, the highest levels of occupational morbidity are observed among workers in the mining industry.

Materials and methods of research. The working conditions of the main occupations of underground subdivisions of the mines Razvedochnaya, Kairagach, Semguron and Samarchuk were studied. A total of 240 workplaces were studied, where 649 people work. Of all employees 433 people work in underground conditions in contact with harmful production factors exceeding the norms. To

identify harmful production factors, to establish the level of these factors, 53 workplace certification cards (2018), protocols of laboratory-instrumental measurements performed within the framework of scientific research of the laboratory of diagnostics, treatment and prevention of occupational diseases of the Research Institute of Sanitary Hygiene and Occupational Diseases of the Ministry of Health of the RUz were analysed. Hygienic assessment of working conditions at 240 workplaces was carried out to identify priority risk factors. As a result, the following factors were identified at each workplace:
production factors present at each workplace, in accordance with GOST 12.1.012-90 'System of labour safety standards'.

Research results. The loading machine operator, drilling rig operator and loading and delivery machine operator of underground mine sites are affected by a complex of factors, the priority of which is dust containing silicon dioxide, actual level 3.4 mg/m3 (MPC 2.0), hazard class 3.1. The class of harmfulness of labour conditions by chemical factor is 2. Noise level 92 dB (MPC 80), hazard class 3.2, local vibration 114 dB (MPC 112), hazard class 3.1, general vibration 107 dB (MPC 101), hazard class 3.1. Labour process severity - stereotypical working movements (number per shift). At regional load (at work with predominant participation of arm and shoulder girdle muscles) - hazard class 3.1. Hazard class of general assessment of labour process severity 3.2.
Working conditions at the fastener: concentration of fibrogenic dust at the workplace is 2.6 mg/m3 (MPC 2.0), labour conditions class 3.1. Local and general vibration at the workplace of the fixer is absent, noise level is below the norm (MAC 80) 72 dB. General severity and intensity of the labour process 3.3 class of working conditions. At the workplace sinker the main hazardous factors are considered to be silica dust, its concentration at the workplace sinker 3.5 mg/m3 (MPC 2.0), hazard class 3.1, noise level 95 dB (MPC 80), hazard class 3. 2, when working with a jackhammer on the hands and shoulder girdle is affected by local vibration, its level 112 dB (MAC 109), hazard class 3.1, the overall assessment of the severity of the labour process at the sinker 3.4 class of working conditions, and the intensity of the labour process is 4 class of working conditions. Working conditions of a miner of underground

mines under study were characterised by priority exposure to increased concentration of silica-containing dust 2.8 mg/m3 (MPC 2.0), working conditions class 3.1, noise level does not exceed the norm and is 78 dB, working conditions class 2.0, the total severity and tension of the labour process is 3.4 class of hazard. Explosives workers of underground mine sites are exposed to increased concentrations of silica-containing dust 3.1 mg/m3, 3.1 hazard class. There is no vibration at the blaster's workplace, and the noise level is below the norm and is 72 dB, the overall assessment of the labour process corresponds to 3.4 class of hazard, the intensity of the labour process is 4.0.

Conclusions

According to hygienic criteria it is established that the classes of working conditions at all workplaces of the above mentioned professions correspond to harmful (class 3.1 - 3.4 - 4.0). The production factor for which the class of working conditions is classified as harmful is silica-containing dust, parameters of severity and intensity of the labour process. Parameters of chemical factors correspond to maximum permissible values. The level of local and general vibration exceeds the permissible level for drivers of PPM, PDM, drilling rig driver, and the level of local vibration is higher than the norm for a tunneller.

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