

<b>Project name, IRN</b>	AP26103223 Development of a methodology for reducing injuries based on the study of the psychophysiological qualities of employees of underground mines
<b>Completion date</b>	10.07.2025-31.12.2027
<b>Project supervisor</b>	Zhumadullaev Daulet Koshkarovich
<b>Report</b>	<p>Industrial injuries (hereinafter II) as a result of accidents and incidents have long been a pressing issue in all countries of the world. According to the International Labor Organization (ILO), more than 2 million people die from injuries every year, which is almost 5% of the total mortality rate on the planet, and 270 million people are injured. Today, the level of II in Kazakhstan, as one of the CIS countries, is an order of magnitude higher than similar indicators in such countries as Great Britain, Germany, and the level of fatal injuries at work in our country is 2.5 times higher than in the USA, 7 times higher than in Japan, 8.7 times higher than in England. In this light, the search for all possible ways to reduce the risk of injury during the work process (increase the level of industrial safety) is more than relevant, taking into account the specifics of domestic production, which is unthinkable without solid information and methodological support based on forecasting, assessing the risk of danger and preventing industrial injuries in various industries of the Republic of Kazakhstan, including the mining industry of the Republic of Kazakhstan.</p> <p>The main causes of injuries at mining enterprises are divided into 3 groups by factors: technical; organizational and psychophysiological. The issues of studying injuries at mining enterprises from the point of view of the impact of psychophysiological qualities of workers on injuries have not been studied at all. There are some works in the Russian Federation on the impact of psychophysiological qualities of workers on injuries, but there are no such studies applicable to workers at mining enterprises. In the scientific literature, many researchers have long established that 80-85% of the total number of causes of injuries are precisely the personal qualities of workers at industrial enterprises. Therefore, certainly, research into injuries from the impact of personal qualities of workers on them deserves attention and can significantly reduce the overall level of injuries at mining enterprises in the Republic of Kazakhstan. These studies are very relevant in our country due to the large number of victims in mining enterprises of the Republic of Kazakhstan at present. The practical significance of the results will be both the development and implementation of a method for reducing the overall level of injuries based on the psychophysiological characteristics of workers, and a methodology for psychophysiological professional selection of workers for hazardous professions in the main workshops of mining enterprises based on these qualities of workers, as well as the development of recommendations for supplementing annual medical examinations with studies on</p>

	<p>psychophysiological suitability for work in hazardous workshops of mining enterprises (underground mining).</p> <p>Against the background of the aggravation of the situation with industrial injuries in recent years in the Republic of Kazakhstan, associated with the deaths of dozens of people in hazardous industries, it is necessary to search for any methods and means aimed at preventing accidents and incidents.</p> <p>The use of research aimed at a real reduction in the level of injuries, and therefore the preservation of human life and health, is certainly a relevant scientific topic for any research, according to the Constitution of the Republic of Kazakhstan (Article 24.2).</p> <p>Thus, taking into account the above, research in this area will lead to an expected reduction in the injury rate by 9-10% in mining enterprises, which can certainly save someone's life from death or injury, and a significant social effect will be achieved in the fight against injuries in the mining industry.</p>
<b>Purpose</b>	<p>The goal of the project is to improve industrial safety in the mining industry by reducing injuries due to personal (psychophysiological) qualities of workers in hazardous shops of the Donskoy GOK. Ultimately, this is the achievement of the goal of a real reduction in the level of injuries in hazardous shops of the Donskoy GOK of JSC TNK Kazchrome by at least 9-10%.</p>
<b>Expected results</b>	<p>1) will be published:</p> <ul style="list-style-type: none"> <li>- at least 2 (two) articles and (or) reviews in peer-reviewed scientific publications indexed in the Science Citation Index Expanded and included in the 1st (first) and (or) 2nd (second) quartile by impact factor in the Web of Science database and (or) having a CiteScore percentile in the Scopus database of at least 65 (sixty-five) and at least 2 (two) articles or reviews in a peer-reviewed foreign or domestic publication recommended by the KOKNVO.</li> </ul> <p>One of the articles should be with the category - multidisciplinary (multidisciplinary or interdisciplinary practical application) on the tasks of enterprises from the real sector of the economy of Kazakhstan, as well as the results of the project should include design documentation prepared according to the ESCD. For domestic journals from the list 1 of the KOKNVO that do not belong to the multidisciplinary category, journals from lists 1 and 2 of the KOKNVO that are indexed in two or more categories are counted.</p> <p>One (1) Doctor of Philosophy (PhD) or doctor of the profile will be prepared (it is allowed to prepare together with students who have a license for postgraduate education in doctoral studies). At the same time, it is possible to defend a dissertation no later than 2 (two) years after the completion of the project.</p> <p>2) a psychophysiological method for reducing injuries will be developed with the achievement of a real reduction in the level of injuries by 9-10% in the studied workshops of the Donskoy GOK;</p> <p>3) obtaining patents in foreign patent offices (European,</p>

	<p>American, Japanese), Kazakh or Eurasian patent offices is not provided;</p> <p>4) development of a methodology for conducting a psychophysiological method for reducing injuries with comprehensive studies of the psychophysiological qualities of workers in dangerous professions in the main workshops of the Donskoy GOK;</p> <p>5) the results of the work will be distributed to all enterprises of the mining industry of the Republic of Kazakhstan;</p> <p>6) the results of the work can be used by the labor protection services of practically mining enterprises, leading underground mining operations, as well as for educational purposes in disciplines related to labor protection and industrial safety, technical universities and colleges of the Republic of Kazakhstan;</p> <p>7) the impact of expected results may be more significant for hazardous production facilities in terms of reducing injuries and thereby improving occupational safety;</p> <p>8) the psychophysiological method of reducing injuries can be used for commercialization purposes for large companies of the Republic of Kazakhstan that have a high level of injuries and accidents, in terms of its implementation of a real reduction in injuries and accidents, which certainly reduces the cost of owners to eliminate possible accidents and incidents;</p> <p>9) the psychophysiological method of reducing injuries certainly has, first of all, a social effect, that is, the preservation of the life and health of workers at hazardous production facilities and other enterprises where this method will be applied;</p>
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<b>List of published works</b>	