



Tailings safety and related needs and challenges in Kyrgyzstan

State Committee for Energy, Industry and Subsoil Use of the Kyrgyz Republic

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* Tailings ponds of the Kyrgyz Republic



More than half of the territory of Kyrgyzstan is located at an altitude of more than 2500 m above sea level, and only 1/8 of the country is located below 1500 m above sea level. Almost 4% (8 thousand km²) of the territory of Kyrgyzstan is occupied by glaciers, which accumulate up to 650 billion m³ of fresh water.

The bowels of the mountains of Kyrgyzstan contain deposits of various minerals, the development of which makes a significant contribution to economic development. The share of gold mining in the country's GDP is about 11%, 40% in industrial production and 48% in export.

At the same time, all mining enterprises are classified as hazardous production facilities, of which the tailings ponds - objects for the storage of toxic and radioactive industrial waste, pose the greatest environmental hazard.

Tailings ponds, with the exception of the tailings ponds in Kadzhisay, are located in the basins of the Naryn, Mailusu, Chu rivers and have a transboundary character. The Kadzhisay tailing dump is located near Issyk-Kul Lake.

Of the 36 tailings, 31 contain radioactive waste, including: 28 - with uranium production waste (8.2 million m³); 3 - with the production of polymetals containing thorium. 5 tailings contains waste from the production of non-ferrous metals and toxic chemicals with a total volume of 5.15 million m³.

In the village of Sumsar, in the region of 3 tailings of the previously operating lead-zinc plant, according to the state sanitary and epidemiological surveillance authorities, the excess of cadmium content reached 320 MPC, manganese - 9 MPC.

When designing and laying tailings in the past, long-term measures to protect facilities from the effects of hazardous natural processes (landslides, floods and mudflows), anti-filter solutions, measures to protect the population (sanitary protection zones, etc.) were not provided.

As a result, there is currently a high risk of dangerous environmental disasters, which, in addition to the territory of the Kyrgyz Republic, may include areas of the territory of the Republic of Kazakhstan, the Tajik Republic and the Republic of Uzbekistan, with a population of up to 5 million people.

The Ministry of Emergency Situations, in accordance with the instructions of the Government of the Kyrgyz Republic, has developed and is currently implementing a Comprehensive Program of Priority Actions for Conducting Rehabilitation Activities in Tailings with Indication of Priority of Implementation. With the assistance of international financial organizations, certain work has already been carried out.

Currently, several programs and projects for the rehabilitation of inactive tailings in Minkush, Kadzhisay, Shekaftar and Mailuu-Suu are being implemented through the Ministry of Emergencies of the Kyrgyz Republic.

What are the main regulatory legal acts, instructional and methodological documents regarding design and operation that govern the requirements for assessing the status and safety of tailings in the Kyrgyz Republic

- * Law of the Kyrgyz Republic “On tailings and dumps”
- * Law of the Kyrgyz Republic “On industrial safety of hazardous production facilities”
- * Safety rules for the operation of tailings, sludge and dump facilities
- * Law of the Kyrgyz Republic “On production and consumption waste”
- * BR 33-01-2003. Waterworks. The main provisions.
- * BR 2.01-28-85. Disposal and disposal sites for toxic industrial waste. Design Guidelines.
- * RD 09-391-00. Methodology for calculating flood zones during hydrodynamic accidents at chemical waste storage facilities.
- * RD 03-607-03. Guidelines for calculating the development of hydrodynamic accidents on liquid industrial waste storage devices.
- * Also, in the Kyrgyz Republic, actions are currently being taken to implement the Guidelines and good practice for ensuring the operational safety of tailings, developed and recommended by UNECE

What is regulated by the Law of the Kyrgyz Republic “On Tailings and Mountain Dumps”

Section I. General Provisions. Includes article 3, giving interpretations of the terms and definitions used in the law.

Section II. Ensuring safety when handling tailings and dumps. Includes articles on security practices:

установлением нормированного порядка обращения с отходами;

- * the establishment of a standardized procedure for waste management;
- * the implementation of waste transportation by organizations that have the appropriate permit;
- * the exception of unauthorized and uncontrolled accumulation of waste in operating organizations;
- * ensuring mandatory isolation of tailings and dumps from the human environment;
- * the prohibition of the commissioning of operating and specialized organizations in the absence of technical capabilities for handling tailings and dumps;

What is regulated by the Law of the Kyrgyz Republic “On Tailings and Mountain Dumps”

- * prohibition of discharge into natural and artificial reservoirs, into underground aquifers of wastes containing radioactive and toxic substances in any form.

Article 7 regulates the requirements for storage and disposal of waste:

only in storages specially designed for these purposes, accepted for use by the state commission in accordance with the developed project;

- * only in storages specially designed for these purposes, accepted for use by the state commission in accordance with the developed project;
- * while ensuring their reliable isolation;
- * with constant monitoring of the status of tailings and dumps.

The import and disposal of radioactive and toxic waste from other states into the territory of the Kyrgyz Republic is prohibited.

What is regulated by the Law of the Kyrgyz Republic “On Tailings and Mountain Dumps”

Article 8 regulates the requirements for the territory allotted for the storage and disposal of waste:

- * The territory allocated for the storage and disposal of waste is a strict regime zone where any types of economic activity are prohibited.
- * The territory allocated for the storage and disposal of waste shall be transferred to the jurisdiction of the local state administration or local government only after reclamation that meets the requirements established by regulatory documents.
- * Operating and specialized organizations are obliged to provide access to subordinate territories to representatives of specially authorized bodies in the field of tailings and mining dumps and public associations.

It should be noted that the Kyrgyz Republic is a party to the UNECE Convention on Impact Assessment in a Transboundary Context, according to which, when planning hazardous activities that can have a transboundary impact, it consults with the affected party, provides it (the party) with the information on the national EIA for review and making proposals , holds public hearings both at home and on the territory of the affected party.

The Kyrgyz side notified the Republic of Kazakhstan for the 3 planned mountain sites that include tailings, and for 2 of them (in the Talas oblast), the EIA was carried out taking into account the proposals of the affected side, including the public, adjustments were made to the design documentation . For one transboundary facility in the Chui Oblast, the Kazakh side refused to participate in a transboundary EIA.

Of these 3 mountain objects, one object was built and put into operation, the second is under construction, it was decided to abandon the construction of the third.

Taldybulak Mine tailing dump Left-bank (flotation), Orlovka, Chuy region



Spilling of cyanide-containing pulp in the tailing dump of the Kumtor Mine, Issyk-Kul Oblast



The state pays great attention to ensuring the sustainability of tailings, preventing emergencies on them, and the safety of the population living in the areas of their location.

In order to ensure the consolidation of efforts of the state, civil society and business, to take prompt effective measures aimed at ensuring national security in the field of subsoil use, creating an effective management system for the mining industry, and developing new approaches to the development of this sector of the economy at a meeting of the Security Council on January 30, 2019, a decision was made to conduct a complete inventory of all tailings and dumps located on the territory of the Kyrgyz Republic. An interdepartmental commission was formed, which to date has completed this inventory.

Currently, according to its results, analytical work is being carried out to determine and take the most effective measures to comprehensively improve the situation and reduce threats.

In this context, the possibility of practical application of the methodology for improving the safety of tailings, already tested by colleagues in a number of countries, and especially in the neighboring country, the Republic of Kazakhstan, is very relevant for us.

In this regard, we express an active interest in the implementation of such a project in our country.

In the case of the implementation of a training project to improve the safety of tailings in Kyrgyzstan by the competent state authorities of the country, SCIESU, MES, SIETS, all necessary steps and efforts will be taken to ensure the implementation of the activities of both tailings operators and the relevant regulatory authorities of this methodology to determine the hazard index of tailings in the practice of both tailings operators and the relevant regulatory authorities.

Thanks for your attention