National report of the Kyrgyz Republic

"Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management"

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SECTION A

INTRODUCTION

INTRODUCTION

The Kyrgyz Republic acceded to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management on December 18, 2006 and ratified on March 18, 2007.

This report is the national Report of the Kyrgyz Republic for the 7th Convention Review Meeting, to be held in 2020. The report has been prepared in accordance with the Guidelines for the Form and Structure of National Reports (IINFCIRC / 604 / Rev.3, 31 December 2014) established by the Contracting Parties in accordance with Article 29 of the Convention.

There are no nuclear power plants or nuclear reactors in the Kyrgyz Republic.

GEOGRAPHY, ECONOMY AND HISTORY

Historical review

The Kyrgyz Republic (Kyrgyzstan) is one of the five states of Central Asia. The origin of the country dates back to ancient times: the earliest records of settlements date from the middle of the first millennium BC. In the 15th and 16th centuries, the Kyrgyz people settled in the region, now known as Kyrgyzstan. At the beginning of the 19th century, the Kokand Khanate ruled the southern territories. In 1876, Kyrgyzstan became part of the Russian Empire.

Soviet rules were established in the region in 1918, which led to the creation of the Kara-Kyrgyz Autonomous Region in 1924 as part of the Russian Soviet Federative Socialist Republic. In 1926, the region became the Kyrgyz Autonomous Soviet Socialist Republic, becoming a member of the Union of Soviet Socialist Republics (USSR) in 1936.

Post-war development was closely connected with the economic and military policies of the USSR. Between the 1950s and the 1990s, the Kara-Balta Mining and Processing Plant produced uranium ore concentrate from deposits in Kyrgyzstan and

Kazakhstan for the military and civil nuclear industry of the Soviet Union. The plant is in operation to this day.

Kyrgyzstan declared independence on August 31, 1991 and joined the Commonwealth of Independent States (CIS) in December of that year. In 1992, the country became a member of the United Nations and the International Monetary Fund and implemented the shock therapy economic program. She joined the World Trade Organization in 1998 and on August 12, 2015 joined the Treaty on the Eurasian Economic Union of May 29, 2014. Reforms of the last decade have helped to create a democratic state and led to social and economic changes.

Kyrgyzstan is a multinational state inhabited by Kyrgyz, Uzbeks, Tajiks, Russians, Ukrainians and Germans, as well as a small number of Uighurs, Dungans and Koreans.

Since independence, Kyrgyzstan has collaborated with international organizations such as the United Nations, the European Community, the World Bank, the European Bank for Reconstruction and Development (EBRD), the International Monetary Fund (IMF), and International Atomic Energy. Agency (IAEA), World Trade Organization (WTO), International Federation of Red Cross and Red Crescent Societies, United Nations Children's Fund (UNICEF), United Nations Industrial Development Organization (UNIDO), United Nations Educational, Scientific and Cultural Organization organization (UNESCO) and the World Health Organization (WHO) and others.

Kyrgyzstan is a party to many international, regional and bilateral agreements and international conventions, including the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). On November 1, 2011, a law was adopted to ratify the Additional Protocol to the Agreement between the Kyrgyz Republic and the International Atomic Energy Agency on the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons, which was signed on January 29, 2007 in Vienna.

Kyrgyzstan has been a party to the Convention on the Physical Protection of Nuclear Material since July 2015 and in 2016 ratified it.

Geography

Kyrgyzstan is located in the north-eastern part of Central Asia and borders with the Republic of Kazakhstan, the People's Republic of China, the Republic of Tajikistan and the Republic of Uzbekistan. The total area of the country is 198,500 km2, of which 5.5% is forest, 4.4% is water and 53.5% is agricultural land.

Kyrgyzstan is a mountainous landlocked country with diverse landscapes, flora and fauna. It has 1923 lakes with a total area of 6836 km2. Altitude varies from 401 to 7439 m above sea level. About 94% of the country's territory is located at an altitude of more than 1000 meters above sea level, of which 40% is located at an altitude of more than 3000 meters above sea level and is covered with large glaciers and constant snow. Kyrgyzstan has one of the largest glacial systems in the world, including modern mountain glaciers, covering 8,100 km2 or 4.2% of the country's territory. Three quarters of the territory covered by glaciers feed in the Syr Darya and Tarim basins, with the main glaciers concentrated in the Sary-Jaz river basin, where the largest glacial valley with glaciers South Engilchek and Kayyngdy (60.5 km and 29.0 km) is located. long respectively) and the mountains of Terskey Ala-Too, Kakshaal-Too, Ak-Shayryk and Chong-Alai. There are several flat glaciers in the Tien Shan mountains. As a result, fresh water reserves of 650 billion m3 are 12 times higher than the river water reserves in the country.

Kyrgyzstan has various types of resources, including energy, minerals, fresh and mineral water, and has great tourism potential.

The climate is continental, with large regional changes.

The geographical position of Kyrgyzstan and its active regional and international cooperation make it one of the leading states in Central Asia.

Economy

The national economy of Kyrgyzstan is based on agricultural and industrial production. Agriculture is a leading sector of the economy, accounting for about 40% of total gross value added, and it employs more than half of the workforce. Agricultural land occupies 53.9% of the country. The main agricultural sectors are livestock and crop production, as well as the processing of plants and livestock products.

The main industries are hydropower, non-ferrous metallurgy, mining, engineering, instrumentation, light industry and food industry.

1. Engineering is developing mainly in the north of the country, where the largest enterprises of light industry are also located. Most non-ferrous metallurgy enterprises are located in the south of the country in the Osh region. There are three large cement plants in Kyrgyzstan that export their products to neighboring countries. The food industry uses almost exclusively domestic raw materials for processing meat, butter and cheese, sugar, dairy and tobacco products, as well as others.

2. Kyrgyzstan is rich in mineral resources, it accounts for one fifth of the world's reserves of mercury, antimony, 12 large deposits of gold (including Kumtor - one of the ten largest reserves in the world) and the third largest coal reserves in the CIS. Other minerals include oil and gas, wollastonite, shale, iron ore, non-ferrous and rare earth metals, platinum, facing stone, sulfur, as well as deposits of sand and gravel. The development of hydropower resources has potential.

3. Due to its abundant water resources and mountainous terrain, Kyrgyzstan can produce and export large amounts of hydropower. The development of hydropower resources has the potential to develop a national economy. The main goals of the

construction and operation of the Kambar-Ata Hydroelectric Power Station-1 and the cascade of hydroelectric power stations in the upper Naryn River include satisfying domestic demand for electricity and its export to other countries.

4. Agricultural and light industry products, most of which are sold in the EAEU and abroad, make up the majority of the country's exports. As part of the implementation of NSDS, the government is creating trade and logistics centers, as well as training centers for the production of textiles and clothing.

SECTION B.

POLICIES AND PRACTICIES

Regardless of the fact that our country does not have nuclear power plants and research reactors, the Kyrgyz Republic carries out practical interaction with the International Atomic Energy Agency (IAEA) in priority areas from the point of view of realizing national interests. The key areas of cooperation are strengthening nuclear and radiation safety, preparedness and response systems in the event of a nuclear or radiation emergency, implementation of IAEA safeguards, the use of nuclear technology in medicine, and the restoration of uranium legacy sites.

The most significant and effective areas of cooperation with the IAEA in the field of radiation safety of the population and the environment are the following areas:

- Modernization of nuclear medicine and improvement of radiotherapy services. Supply and installation of new equipment for the National Cancer Center of the Ministry of Health of the Kyrgyz Republic for the treatment of cancer, as well as the modernization of radionuclide diagnostics.
- Establishment of a radioecological monitoring network at the uranium legacy sites of the Kyrgyz Republic.
- Assessment of the radiological situation and the exposure of the population living in the vicinity of former mining facilities in Kara Balta;
- Strengthening quality control in order to ensure radiation safety in diagnostic radiology, radiotherapy, nuclear medicine;
- Development of radioactive waste management.
- Strengthening the physical protection of ionizing radiation sources.
- Development of regulatory legal acts in the field of radiation safety.

It should also be noted that in the framework of cooperation with the IAEA, the following activities are carried out:

- Work is underway to restore nuclear medicine and improve the radiotherapy service. The issues of supply and installation of new equipment (linear accelerators)

for the National Center for Oncology and Hematology of the Ministry of Health of the Kyrgyz Republic (NTSOG MH KR) for the treatment of cancer, as well as the modernization of radionuclide diagnostics are discussed;

- On September 18, 2017, on the sidelines of the 61st IAEA Conference, a meeting of the delegation of the Kyrgyz Republic with representatives of the International Atomic Energy Agency, the European Bank for Reconstruction and Development, the European Commission, at which the “Strategic Master Plan” on environmental restoration was signed, was held Uranium legacy sites of Central Asia. This Plan has been developed with the aim of attracting investment from international donors for reclamation at the uranium legacy sites of the Kyrgyz Republic. The Plan sets out approaches for the reclamation of uranium legacy sites in the villages of Kaji-Sai, Kara-Balta, Mailuu-Suu, Min-Kush and Shekaftar.

- The Country Framework Program for Cooperation with the IAEA for 2018-2023 was approved and signed;

In addition, as part of the preparation of this report, information was used on the scope of activities with sources of ionizing radiation in the Kyrgyz Republic in the following areas:

- Medicine (radioactive sources and generators)
- Industrial enterprises (radioactive sources and generators)
- Airports (radioactive sources and generators)
- Mining industry (radioactive so

SECTION C

SCOPE OF APPLICATION

As previously mentioned, there are no nuclear power plants on the territory of the Kyrgyz Republic and there is no spent fuel, and with regard to the safety of handling a radioactive source, there are sealed sources in the Kyrgyz Republic in the following areas:

• Medicine (radioactive sources and generators);

• Industrial enterprises (radioactive sources and generators);

• Airports (radioactive sources and generators);

• Mining industry (radioactive sources and generators).

Permit system

According to the Resolution of the Government of the Kyrgyz Republic "On increasing the efficiency of cooperation of the Kyrgyz Republic with international organizations, integration associations and international treaty bodies" dated December 2, 2015 No. 817, coordination of relations for the implementation of technical cooperation with the International Atomic Energy Agency (IAEA) is assigned to the State Agency environmental protection and forestry under the Government of the Kyrgyz Republic (hereinafter - SAEPF).

In accordance with the Decree of the Government of the Kyrgyz Republic dated May 7, 2014 No. 256, the Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health of the Kyrgyz Republic (DDPES) is assigned the function of issuing a “Sanitary and Epidemiological Opinion on the Right to Work with a Source of Ionizing Radiation”.

At present, a draft law “On Amending the Law“ On the License-Permitting System in the Kyrgyz Republic ”has been prepared, which provides for licensing issues regarding the use, storage, transportation and burial of an ionizing radiation source. This bill is under consideration by the Jogorku Kenesh of the Kyrgyz Republic.

Safety of radioactive sources at sites:

Responsible persons are appointed and approved by order of the administration of the organization in the following aspects:

- The responsible person for the accounting, storage and issuance of radioactive sources;
- Responsible person for radiation safety at the facility;
- Responsible person for radiation control;
- Instructions for safety and radiation safety;
- Emergency response plans;

2007-2009, an inventory of ionizing radiation sources (III) was carried out in the Kyrgyz Republic, during which 378 III were registered in 25 organizations. All III III closed. Based on the results of the inventory, a Database (register of sources) was created using the RASOD program developed with the help of the US Nuclear Regulatory Commission.

In 2012, an inventory of the Register of III was carried out. On 01-01-2020, 405 research institutes were registered in the Register, of which 222 sources are buried in PZRO, 183 sources are used in 23 organizations, including sources of the 1st category - 1st, 2nd category - 1st, 3rd category - 17. At the moment, with the help of the US Department of Energy, preparatory work is underway to conduct an inventory of the III Register and search for orphan sources.

SECTION D

INVENTORIES AND LISTS

OBJECTS FOR VERIFICATION OF THE EXISTING REGISTRY

Radionuclide	Chui Oblast	Issyk-Kul Oblast	Jalal-Abad Oblast	Osh Oblast	Batken Oblast	Total
Cs-137	71	27	25		7	**130**
Ra-226	30		2	4	5	**41**
Am-241	12	14	2		18	**46**
Pu+Be	5					**5**
Co-57	4					**4**
Co-60	12					**12**
Cf-252	2			1		**3**
Pu-238		1				**1**
Pu-239	108		4	10	1	**123**
Ni-63			3	1		**4**
Na-22			1			**1**
Pm-147					5	**5**
Sm-145					9	**9**
Cd-109					2	**2**
Sr-90/ Y-90				19		**19**
Total:	244	42	37	35	47	**405**

SECTION E

LEGISLATIVE AND REGULATORY SYSTEM

Legislative and regulatory base of the Kyrgyz Republic in the field of radiation safety

The legal basis of the Kyrgyz Republic in the field of radiation safety is based on the Constitution of the Kyrgyz Republic.

Current laws and other normative acts:

• Law of the Kyrgyz Republic "On Radiation Safety of the Population";

• Law of the Kyrgyz Republic "Technical Regulations on Radiation Safety";

• Law of the Kyrgyz Republic "On Public Health";

• Law of the Kyrgyz Republic "On tailings and dumps";

• Law of the Kyrgyz Republic "On Environmental Safety of the Population of the Kyrgyz Republic";

• The PP of the KR "On Approval of the Regulation on Conducting Radiation Control at the Border Crossing Points on the State Border of the Kyrgyz Republic" of October 26, 2011, No. 674;

• The PP of the KR "On Making Additions to the Resolution of the RCC No. 674 of October 26, 2011" of April 12, 2016 No. 207;

• PP "On Introducing Amendments and Additions to Some Decisions of the RCC" of August 10, 2015, No. 566.

• Law of the Kyrgyz Republic "On Accession to the Convention on the Physical Protection of Nuclear Material" No. 155 of July 14, 2015;

• The Law of the Kyrgyz Republic "On Ratification of the Amendment to the Convention on the Physical Protection of Nuclear Material of October 26, 1979, adopted on July 8, 2005 in Vienna" No. 110 of 9 July 2016;

• The Law of the Kyrgyz Republic "On Ratification of the Additional Protocol to the Agreement between the Kyrgyz Republic and the International Atomic Energy Agency on the Application of Safeguards in Connection with the Treaty on the Non-

Proliferation of Nuclear Weapons, signed on 29 January 2007 in Vienna" (INFCIRC/629/Add.1, INFCIRC/153 and INFCIRC/540) of 2 November 2011;

• Law of the Kyrgyz Republic "On Environmental Protection" of June 16, 1999 No. 53; Law of the Kyrgyz Republic "On Environmental Expertise" of June 16, 1999 No. 54;

• PP of the KR "On Approval of Guidelines for the Management of Radioactive Substances and Sources of Ionizing Radiation" of August 5, 2015, No. 558 (includes 8 normative acts approving qualification requirements, instructions and regulations)

Changes in the legislative framework according to the Government Decrees and the Action Plan for Radiation Safety

List of laws amended:

• Law of the Kyrgyz Republic "On Radiation Safety of the Population of the Kyrgyz Republic" of June 17, 1999, No. 58;

• Law of the Kyrgyz Republic "Technical Regulations" On Radiation Safety "" dated 29 November 2011 No. 224;

• Law of the Kyrgyz Republic "On Tailings and Dumps" of June 26, 2001, No. 57;

• Law of the Kyrgyz Republic "On Licensing and Approval system in the Kyrgyz Republic" of October 19, 2013 No. 195 (regarding the licensing of activities with radiation sources)

Newly developed laws and regulations:

• Law of the Kyrgyz Republic "On Radioactive Waste Management";

• Environmental Code (includes sections in the field of radiation safety (RB))

• Regulations on the industrial safety of personnel, on remediation measures in contaminated areas, on the decommissioning of facilities, on the management of medical radioactive waste

• Methodological instructions and instructions on the order of exploration in the areas in the construction sites, the order of exploration in coal deposits, construction materials, etc. (in relation to NORM)

In order to further analyze the requirements of national laws and regulations, Kyrgyzstan will review legislation and relevant laws to eliminate inconsistencies and to harmonize and develop a comprehensive and adequate legal framework in accordance with international legal standards, IAEA standards and guidelines.

Kyrgyzstan will also consider a possibility of adapting of relevant international legal documents issued under the auspices of the IAEA, to which it is not yet a party.

A comparative analysis of the requirements of national laws and regulations with the provisions of international legal instruments, standards and guidelines of the IAEA revealed the need:

- in the IAEA's new expert and advisory mission on the revision of the national radiation safety system;
- providing legal assistance to develop comprehensive national legislation covering security, safety and safeguards, in accordance with international legal provisions, IAEA standards and requirements;
- harmonization of national laws and regulations with international legal documents, IAEA standards and provisions;

On the regulatory body in the field of radiation safety

In order to effectively ensure environmental safety, including radiation, chemical and biological safety of the population and the environment, the Security Council of the Kyrgyz Republic adopted a Decision No. 2 dated February 12, 2009 on the establishment of the Center for Environmental Safety. In pursuance of this Decision of the Security Council of the Kyrgyz Republic, by the Decree of the Government of the Kyrgyz Republic "On the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic" dated December 18, 2009 No. 788, the "Center for Environmental Safety" was established.

By the Decree of the Government of the Kyrgyz Republic No. 123 dated February 20, 2012, on the basis of the Center for Environmental Safety, the Center for State Regulation in the Sphere of Environmental Protection and Ecological Safety of the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic was established (hereinafter - the Center) ... By the Resolution

of the Government of the Kyrgyz Republic dated August 2, 2012 No. 536, the Regulation “On the Center for State Regulation in the Sphere of Environmental Protection and Ecological Safety of the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic” was approved.

The Center, in accordance with its Regulations, carries out the functions of state regulation in the field of radiation, chemical and biological safety, regularly raises the issue of the need for priority solution of environmental problems at various international meetings and events.

- Until 2016, the Kyrgyz Republic did not assigned any state body as a main regulator in the sphere of radiation safety. In total, it was decided to assign five state organizations that would be involved in the work in the field of the radiation safety - the State Agency for Environmental Protection and Forestry (SAEPF), the DSES of the Ministry of Health of the Kyrgyz Republic, the Agency for Geology, the Ministry of Economic Development of the Kyrgyz Republic, the State Inspection of Environmental and Technical Safety (SIETS).
- In early 2016the Ministry of Economic Development was appointed by the Government Decree No. 100 as the main regulatory body. However in the same time, it was not taken into account that this state body does not have accordingly qualified staff.
- By the Decree of the Government of the Kyrgyz Republic No. 466-r dated 26.10.2016, the decrees No. 100-r of 14.03.2016 and 437-r of 05.11.2013 were declared invalid.
- In connection with the cancellation of decrees No. 100-r of 14.03.2016 and No. 437-r of 05.11.2013, and in accordance with the Regulation approved by the Government of the Kyrgyz Republic on February 20, 2012, No. 123, the SAEPF was appointed to carry out the state regulation in the field of environmental protection, nature sources utilization and ecological safety, including radiation, chemical and biological safety. In the same time, the Decree of the Government of the Kyrgyz Republic No. 817 "On Enhancing

the Effectiveness of Cooperation of the Kyrgyz Republic with International Organizations, Integration Associations and International Treaty Bodies", dated 02.12.2015, for the SAEPF was assigned in line with its competence for coordination with IAEA.

Functions of the Regulatory Body (Center)

In order to fulfill its duties stipulated by law, the Center determines the policy, principles of radiation and nuclear safety and related criteria.

1. Develops, distributes or approves rules and guidelines;
2. Reviews and evaluates reports submitted by operators on radiation and nuclear safety, observation reports and other reports prior to the issuance of official authorizations;
3. Performs the issuance, modification, suspension or cancellation of official approvals;
4. Ensures that corrective action is taken when unsafe or potentially dangerous conditions are identified;
5. Together with SIETS Center conducts inspections for regulatory purposes, takes necessary measures to apply sanctions in case of violation of security requirements;
6. Together with the Ministry of Economic Development and other state bodies, it coordinates the license for the import/export of radioactive sources and materials.

Activities of the regulatory body (Center)

In order to effectively perform functions of the state regulation in the field of radiation safety, the SAEPF:

- Developed a plan of measures to regulate matters in the field of radiation safety of the Kyrgyz Republic, which was approved by the Government of the Kyrgyz Republic on January 21, 2017, and was implemented during 2017;
- Drafted a Decree of the Government of the Kyrgyz Republic "On state regulation in the field of radiation safety". The draft is in the stage of clearance by ministries and state authorities;

- In order to effectively coordinate the activities of state bodies involved in ensuring radiation safety in the Kyrgyz Republic, a "Regulation on interaction between relevant ministries and departments, local authorities in the field of radiation safety" was developed, specifying the role and responsibilities of each state institution / ministry and providing details on how to interact with involved parties . The regulation is at the signing stage;
- Analyzes the regulatory legal acts of the Kyrgyz Republic in the field of radiation safety in accordance with the requirements of the IAEA standards for making changes and additions;
- Develops new regulatory provisions and introduces changes to existing NAPs in the field of radiation safety;
- Develops regulatory documents on RW management, IRS, radiation protection of personnel, radioecological monitoring aimed at assessing the compliance of radiation hazard facilities with established standards;
- Advises operators on activities in the field of radiation safety in accordance with regulatory requirements and inspection criteria;
- Establishes the criteria and safety requirements and the classification of radioactive waste (regulations, instructions and safety guidelines), with the help of which the operator's actions are assessed for safety standards for personnel, the public and the environment;
- Reviews reports and projects containing safety assessments, accident assessments, monitoring programs and monitoring results;
- Communicates with international organizations and governments of other countries (IAEA, European Commission, NRPA, Government of Japan, RF, Kazakhstan, etc.);
- Work is underway to update data in the IAEA's Radiation Safety Information Management System (RASIMS). The RASIMS system lacks information on radiation safety in the country since 2013. With the approval of Decree No. 437-r of 05.11.2013, the National Coordinator did not work with the RASIMS system, which

adversely affected the image of the country and the supply of equipment and sources of ionizing radiation for NCOs MH KR;

- Work is underway to provide quarterly and annual declarations pursuant to the Additional Protocol to the Agreement between the Kyrgyz Republic and the IAEA on the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons;

- A fruitful cooperation with the IAEA's financial department for the fulfillment of the country's financial obligations is carried out, due to which membership fees for the period 2012-2017 in the amount of 11675 US dollars and 20325 Euros were paid to the budget of this organization. These payments fully covered the debt of the Kyrgyz Republic to the IAEA on membership fees including 2017, which allowed our country to get the right to vote and to be withdrawn from the list of countries that do not have this right. The Kyrgyz Republic also paid 52404 euros in the framework of Technical Cooperation. As a result of it, in 2017, the TC projects for the cycle 2016-2017 which were frozen due to a late payment were commenced.

Functions of the Regulatory Body

In order to fulfill its duties stipulated by law, the regulatory body determines the policy, principles of radiation and nuclear safety and related criteria.

1. Develops, distributes or approves rules and guidelines;

2. Reviews and evaluates reports submitted by operators on radiation and nuclear safety, surveillance reports and other reports prior to the issuance of official authorizations;

3. Executes the issue, modification, suspension or cancellation of official permits;

4. Ensures that corrective action is taken when unsafe or potentially dangerous conditions are identified;

5. Together with SIETS conducts inspections for regulatory purposes, takes necessary measures to apply sanctions in case of violation of security requirements;

6. Together with the Ministry of Economic Development and other state bodies, it coordinates the license for the import / export of radioactive sources and materials.

• OJSC KGRK, specializing in the production of nitrous oxide of uranium (status - active);

• Low active waste (tailings and dumps) repositories of the former uranium industry;

• The point of burial of sources of ionizing radiation and radioactive waste (RADON) in Bishkek.

• NCO MH KR

Repositories of low active waste of the former uranium industry:

• 6 main waste disposal sites:

- Mailu-Suu - 2.845 million m3
- Khajisai - 0.4 million m3
- Min-Kush - 1.961 million m3
- Ak-Tyuz - 3.35 million m3
- Orlovka - 3.55 million m3
- Shekaftar - 0.7 million m3

In total, together with the KGRK site (about 39 million m3) and other small objects, 51.8 million m3 (at 35 tailing dumps) and 83.582 million m3 (in 37 mining dumps) have been accumulated in the republic.

SECTION F

OTHER GENERAL SAFETY PROVISIONS

Key IAEA Regulations and Acts:

• The Charter of the International Atomic Energy Agency, ratified by the Law of the Kyrgyz Republic No. 174 of August 1, 2003.

• Agreement between the Kyrgyz Republic and the IAEA on the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons, ratified by Law of the Kyrgyz Republic No. 252 of December 30, 2003.

• The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, ratified on March 18, 2007

• The Additional Protocol to the Agreement between the Kyrgyz Republic and the International Atomic Energy Agency on the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons was ratified on January 11, 2011.

• Convention on the Physical Protection of Nuclear Material, ratified July 14, 2015

• Adherents of the Code of Conduct on the Safety and Security of Radioactive Sources, since June 03, 2016

In order to further analyze the requirements of national laws and regulations, Kyrgyzstan will evaluate legislation and relevant laws to eliminate inconsistencies and harmonize them in order to develop a comprehensive and adequate legal framework in accordance with international legal documents, IAEA standards and guidelines.

Kyrgyzstan will also consider joining the relevant international legal instruments adopted under the auspices of the IAEA, to which it is not yet a party:

- Agreement on privileges and immunities of the IAEA;
- Vienna Convention on Civil Liability for Nuclear Damage;
- Convention on Early Warning of a Nuclear Accident;
- Convention on Assistance in the Case of a Nuclear Accident or Radiation Emergency;
- Protocol on small quantities to the Agreement between the Kyrgyz Republic and the International Atomic Energy Agency on the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons;

A comparative analysis of the requirements of national laws and regulations with the provisions of international legal instruments, standards and guidelines of the IAEA revealed the need:

- in the new IAEA expert and advisory mission to revise the national radiation safety system;
- Providing legal assistance to facilitate the development of comprehensive national legislation covering security, safety and safeguards issues, in accordance with international legal instruments and the requirements of the IAEA standards;
- harmonization of national laws and regulations with international legal documents, standards and instructions of the IAEA.

Radiation Safety By-Laws

Regulations in the field of radiation safety

Guidance on radioactive waste management

For the effective management of radioactive wastes, there was developed and approved by the Decree of the Government of Kyrgyz Republic #558 from August 5, 2015, the "Guidance on Radioactive Waste Management."

This "Guidance on Radioactive Waste Management" (hereinafter "Guidance") establishes the procedure on the state control and oversight in ensuring radiation safety during the handling with the radioactive wastes in the mining industry, medicine, scientific research and in other situations where goods or materials move to the category of radioactive waste.

The purpose of the Guidance is to establish elements of a management system for the safe handling of radioactive waste to achieve basic safety principles published in IAEA recommendations:

- the principle of justification;
- the principle of rationing;
- the principle of optimization.

The requirements of the Safety Guidance and criteria relate to the management of radioactive wastes of all types and cover the process from education to storage, including processing (collection, pre-treatment, processing, and conditioning), storage and transportation.

This Guidance fully meets the principle of process approach implementation within the framework of the radioactive waste management system.

In accordance with the Guidance, the classification of radioactive waste is used as a basis for the safe management of radioactive waste, according to which linked a relationship between the origin of radioactive waste, its composition, and activity with the degree of isolation of radioactive waste.

The dose limit is used as a quantitative criterion, determining the safety conditions during handling with the radiation-hazardous objects. An effective equivalent dose is used as a dosimetric value serving to express the criterion for ensuring radiation safety.

Limits of norms and dose limits for personnel and the public are established by the Law of the Kyrgyz Republic on “Technical Regulation “On Radiation Safety” and other normative legal acts of the Kyrgyz Republic.

In order to optimize protection and safety during occupational exposures and public exposures, the operator ensures the application of appropriate dose limits and limits for any particular source in the practice.

The criteria for determining the levels of safe conditions for other indicators related to the assessment of impacts on the population and the environment (for example, non-radiological chemical factors) are established by the regulatory legal acts of the Kyrgyz Republic.

Direct work with radioactive waste (collection, transportation, characterization, processing) can only be dealt by specially trained workers assigned to Group A personnel.

This Guidance is mandatory for implementation on the entire territory of the Kyrgyz Republic by persons engaged in activities related to the management of radioactive waste (RW).

The Guidance expands to organizations that generate radioactive wastes, and on organizations that collect, store, transport, reprocess and dispose of radioactive waste, as well as organizations that design and construct facilities where RW will be stored, stored, processed and disposed of.

The Guidance also applies to the tailing dumps and uranium mining dumps and other industries that are operated and decommissioned or projected and put into operation, where it is planned to store or stored wastes containing natural radionuclides concentration of which exceeds the levels of exemption from regulatory control.

The Guidelines do not apply to irradiated nuclear fuel and to the disposal of liquid radioactive waste into deep geological horizons (reservoirs).

This Guidance should lead operators, regulator and the body responsible for the environmental and technical oversight of radiation safety.

The subjects of supervision and control over radiation safety and safe management of radioactive waste are:

- compliance with the legislation of the Kyrgyz Republic in terms of ensuring radiation safety for the population, personnel, and environment;
- compliance with norms and rules that establish requirements for ensuring radiation safety;
- compliance with the established safety requirements for RW management;
- compliance with the conditions of validity of licenses issued in accordance with the legislation of the Kyrgyz Republic;
- RW accounting system;
- minimization of RW generation;
- the presence of a radiation monitoring system;
- ensuring the required level of qualification of employees engaged in the management of the safe operation, maintenance of the technological process and ensuring departmental (production) control over radiation safety;
- control of operating conditions of enterprises for receiving, processing and storage of radioactive wastes;
- physical protection in places where RW is received, processed and stored;
- optimization of protection, development, and implementation of measures to protect personnel and public in case of radiation accidents at radioactive waste reception, treatment and storage facilities;

SECTION G

SAFETY OF SPENT FUEL MANAGEMENT

The Kyrgyz Republic acceded the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management on 18 December 2006 and ratified on 18 March 2007, despite the fact that there are no nuclear power plants and nuclear reactors in the Kyrgyz Republic, there are radioactive waste and sources of ionizing radiation/

SECTION H

SAFETY OF RADIOACTIVE WASTE MANAGEMENT

Uranium mining and processing activities have been carried out in Central Asia, in particular in the mountainous regions above the Syr Darya and Ferghana Valley, where the Kyrgyz Republic and the Republic of Kazakhstan, Tajikistan and Uzbekistan meet since the mid-1940s.

In the 1990s, after the collapse of the Soviet Union, this activity was largely discontinued, leaving behind a legacy consisting of abandoned uranium mining and processing sites with waste rock dumps and poor ores and tailings.

These uranium legacy sites are located in a region where future development depends on the availability of water resources.

The Syr Darya River is one of the region's main rivers, and the ethnically diverse Ferghana Valley, which is home to 14 million inhabitants, is a fertile agricultural area of 22,000 km2, which grows cotton, cereals, tobacco, vegetables and fruits. It is also a seismically active region prone to earthquakes and related landslides. Mountain streams and rivers can be quite fast and can cause flooding, especially in the spring after snow melts. This can lead to erosion and the formation of mudflows, and these events as a result of climate change become more frequent.

Uranium legacy sites in the Kyrgyz Republic are located in a seismically active region, prone to earthquakes and related landslides. Rapid flows often occur in mountain streams and rivers, which can cause flooding, especially in the spring after snow melts. This can lead to erosion and the formation of mudflows, and these events as a result of climate change become more frequent. In some cases, population growth has been observed in the vicinity of legacy sites to provide enterprises with labor. Over time, after the closure of these facilities, a decrease in the population was observed, as people, especially young people, left to look for work in other places. These territories are often economically poor with high unemployment rates, where people rely on subsistence farming. Other legacy sites

are in close proximity to large crowds, for example, in the area of large Khujand, more than one million people live.

Before the closure of mines and mining and processing enterprises, some protective measures were carried out. Since then, only minor remediation activities have been carried out at abandoned facilities and waste sites. Where some measures were taken, as a rule they did not meet the current standards of good international practice. Often mine shafts, tunnels and adits remained open and accessible to the local population and livestock. Rainwater once it enters mine systems can also be contaminated and then used for irrigation and / or human consumption. Dumps of waste rock and poor ores and tailings often remain uncovered or barely covered and subject to adverse weather conditions. Materials from such dumps were used and continue to be used for the construction of local public and private buildings.

Tailings were used to store uranium ore processing waste. Tails are produced in the form of sludge and are usually discharged behind a dam of a certain structure with a drainage system that allows shrinkage and removal of water from the sludge and reduces and / or prevents the ingress of water from the outside. Often abandoned tailings are readily available and have no coatings or have minor coatings. Their drainage systems may no longer perform their functions, which may pose a risk to

the stability of dumps and / or possible pollution of surface or groundwater. There is also the possibility of destruction of structures or dams due to erosion or caused by events such as floods, earthquakes, landslides or mudflows.

These legacy sites pose serious environmental and public health risks. It also includes physical risks to humans or animals (e.g., falling into mines or karst craters, falling into a trap as a result of a tunnel collapse) and radiological and toxicological risks associated with living in the vicinity of radioactive and toxic materials remaining at the facility. This can occur as a result of direct exposure to materials, by inhaling contaminated dust or radon emissions, and by consuming contaminated water or food (obtained from livestock grazing on contaminated land, or a crop grown on this land). Local residents often view legacy sites as a potential useful resource that provides, for example, building material, valuable scrap, pasture land, etc., as well as a source of concern about existing and perceived health risks. Rock dumps, and especially tailings, also pose local and wider risks at the regional level due to possible destruction of structures, which can lead to widespread and transboundary dispersion of radioactive material through the Syr Darya river system. Legacy sites left without restoration for a long time will be a source of increased exposure to radioactive and toxic materials for future generations with a corresponding effect on their health and well-being. If reclamation is not carried out at legacy sites, the discharge of radioactive and toxic waste into rivers is inevitable. The question is not whether this will happen or not. The question is when this will happen. Such emissions, depending on when and where they will occur, and on their scale, may require a long-term restriction on the use of water for drinking and irrigation downstream and / or its purification in order to reduce levels of radioactive or toxic materials to acceptable values. The introduction of such restrictions or the organization of sanitation will have serious consequences for the health and economic well-being of the population of the Ferghana Valley, where agriculture is the main source of GDP and national food supply. Waste emissions can also affect stability and security in the region. Therefore, these legacy sites pose serious risks to the environment and public health, including physical risks to humans or animals

and the radiological and toxicological risks associated with living in the immediate vicinity of contaminated materials remaining at the sites. The waste disposal sites also pose local and wider risks associated with the possibility of structural damage due to erosion or floods, earthquakes, landslides or mudflows. This in turn can also lead to the spread and transboundary dispersion of radioactive and toxic materials through the Syr Darya system.

Legacy sites left without restoration for a long time will be a source of increased impact of radioactive and toxic materials on one generation after another with a corresponding effect on their health and well-being. If reclamation is not carried out at legacy sites, the discharge of radioactive and toxic waste into rivers is inevitable. The question is not whether this will happen or not. The question is when this will happen. Such discharges may require long-term restrictions on the use of water for drinking and irrigation downstream and / or its purification in order to reduce levels of radioactive or toxic materials to acceptable levels. The introduction of such restrictions or the organization of treatment can have serious consequences for the health and economic well-being of the population of the Ferghana Valley, where agriculture is the main source of GDP and national food supply. Waste discharges can also affect stability and security in a region if radioactive or toxic materials cross national borders.

A tailing dump is a complex of special structures and equipment intended for storage or burial of radioactive, toxic and other dump waste of mineral processing.

Typically, tailings are built a few kilometers from the mining and processing plant, in depressions: basins, gorges and glens. A dam is washed from the tails, which encloses the tailing dump. During sedimentation, there is a separation into the sedimentary solid phase of the tailings and water. Water is reused or purified and discharged into drains.

Types of tailings according to the terrain: Plain, ravine, floodplain, quarry, mine, slope.

According to the existing State Cadastre of Mining Industry Wastes of the Kyrgyz Republic, 92 facilities with toxic and radioactive mining waste are located on the territory of the republic.

Of these, 60 objects are under the jurisdiction of the Ministry of Emergency Situations, including 33 tailing dumps, 27 mining dumps with a total volume of waste of 11.54 million m3 (5.84 million m3 - radioactive, 5.7 million m3 - toxic).

According to the estimates of international and national experts, additional financial resources are needed for the primary restoration work of waste disposal sites and the rehabilitation of tailings.

The tailings were closed between 1966-1973. All these facilities were located within settlements, in the basins of transboundary rivers, except for the Kaji-Sai tailing dump. When designing and laying tailings, long-term measures to protect against the effects of natural processes were not taken into account.

The ongoing climate change is accompanied by an exacerbation of dangerous natural manifestations, in particular mudflows and floods, the development of landslide processes in the areas where radioactive waste storage facilities are located and, accordingly, threats of their destruction with catastrophic, environmental consequences of a transboundary scale are growing.

At present, the Kyrgyz Republic does not have sufficient financial and technical capabilities to ensure proper maintenance and rehabilitation of radioactive waste storage facilities in contaminated areas.

In this regard, the Government of the Kyrgyz Republic regularly raises the question of the need for a priority solution to this problem at various international meetings and events.

According to international and national experts, financial means worth more than $ 47 million are needed for priority restoration work of waste disposal sites and the rehabilitation of tailings, including EUR 100.0 million needed for uranium tailings.

Tailings ponds are located in the settlements of Mailuu-Suu, Min-Kush, Kaji-Sai, Shekaftar, Sumsar, Sovetskiy. These wastes were generated during mining activities during the Soviet era. In order to reduce risks to public health and the environment,

as well as to ensure radiation safety, it is necessary to carry out rehabilitation and monitoring of these tailings:

Mailuu-Suu city: On the territory of Mailuu-Suu city, Jalalabad region there are 23 tailing dumps (total volume of waste - 2 million m3) and 13 mining dumps (total volume of waste - 1 mln.m3) with uranium production waste.

The average gamma radiation power on the surface of tailings is 30-60 μR / hour, in abnormal areas up to 500 μR / hour.

In order to solve the problems associated with uranium tailings in Mailuu-Suu, the World Bank's Emergency Prevention project was implemented in the period 2004–2012.

Minkush village: There are 4 tailing dumps and 4 dumps with radioactive materials in this region with a total volume of 1.95 million3. The ore complex was operated from 1958 to 1969. After the closure of uranium production, all tailings were mothballed.

Destruction of protective structures, uneven settlement of the surface of the tailing dump occur, and local closed depressions are formed that do not provide runoff of surface water, the protective coating is disturbed in some places by excavations, fences and prohibition signs are destroyed.

Of particular concern is the situation in the area of the Tuyuk-Suu tailing dump, where there is a threat of landslide to form a dammed lake, which, as it is filled, will threaten the stability of the tailing dump and lead to its erosion and the removal of tail material into the Kokomeren river and through the Toktogul reservoir along the Naryn river into the river Syr Darya.

Kadzhysay settlement: The tailing dump and mountain dumps are located 3 km east of the Kadzhisay settlement of the Ton district of the Issyk-Kul region, 1.5 km south of the coast of Lake Issyk-Kul. The tailing dump was operated from 1952 to 1966. the volume of accumulated tailings (industrial waste) is about 400 thousand m3.

Currently, surface slopes adjacent to the tailing dump are eroded with surface waters, the base of the ash dump, the protective coating of the tailing dump surface and rock dumps. Tailings fencing destroyed, groundwater monitoring network missing.

Shekaftar settlement: In Shekaftar settlement there are 8 dumps with a volume of 700 thousand m3 of weakly radioactive rocks and substandard ores. All dumps are located in close proximity to residential buildings, the school. The average power of the exposure dose of gamma radiation is 60-100 μR / hour, in abnormal areas - up to 150 μR / hour. The dumps are not reclaimed, the lack of vegetation on the surface contributes to the development of wind erosion and surface washout of the material of dumps and their spread to the territory of the village.

Sumsar village: 3 tailing dumps with a total volume of 4,1 million m3 are located. Tailings No. 1 and 2 are mothballed.
The main polluting elements: salts of heavy metals (lead, zinc, cadmium and antimony). At present, the hydraulic engineering structure of tailing dam No. 1 is destroyed, and intensive erosion and removal of tailing material into the Sumsar River and further into the Ferghana Valley are occurring.

Kan settlement (Sovetsky): In the immediate vicinity of the settlement there are 2 tailing dumps with a total volume of 1.6 million cubic meters, containing salts of heavy metals. The tailings storage facilities have not been mothballed. It is exposed to washout of tailing material by surface waters and pollution with salts of heavy metals in the territory of the village.
Kyzyl - Zhar: 1 mountain dump (radioactive 37.0 thousand m3).
Tuya-Moyun: 1 mountain dump (radioactive 3.0 thousand m3).

Kyrgyz chemical and metallurgical plant in the urban-type settlement Orlovka. (KHMZ)

In the area of the industrial area of KHMZ there is a mothballed Buurdinskoye tailing dump, an operating storage facility for non-decontaminated industrial effluents of chemical and metallurgical production and maps of storage tanks for clarified industrial effluents.

The Buurdinskoye tailing dump was built in 1954, intended for storing waste from the Buurdinsky processing plant, has an area of 31.2 thousand m2, the volume of waste is 62.4 thousand m3 (polymetallic ores, rare earth metals).

Kyrgyz Chemical - Metallurgical Plant in the urban settlement Orlovka. (KHMZ)

In the area of the KHMZ industrial area, there is a mothballed Buurda tailing dump, a functioning drive for non-disinfecting industrial waste streams of chemical and metallurgical production, and a map of storage tanks for clarified industrial waste streams.

The Buurdin tailing dump was built in 1954 and was intended for the storage of waste from the Buurdin concentration plant, has an area of 31.2 thousand m2, the waste volume is 62.4 thousand m3 (polymetallic ores, rare-earth metals).

Kara-Balta Mining Plant (KGRK)

In terms of volume, one of the largest radioactive waste storage facilities in the world is located on the territory of the Kara-Balta mining and ore complex. The main polluting component is the uranium series of elements. To date, about 39 million m^3 of tailings from the processing of uranium-containing ores have been stored at the KGRK tailings dump.

The KGRK tailing dump was designed, built and operated as a class I facility. The upstream tailing dump is located at a distance of 1.5 km from the city of Kara-Balta, and consists of three cards No. 7, 8 and 9 (previously in operation alternately), and one filling card - "sludge tank".

Radioactive waste deposited in the "silt map" of the tailing dump with an area of 27.5 hectares has an activity of 3752.4 curies. The main polluting component is the uranium series of elements.

Ore storage after processing was carried out alternately on one of the cards, starting from 1955. To date, the tailings dump has stockpiled about 39 million m³ (54.4% of the total volume) of tailings from processing uranium-containing ores. The tailing dump area is 268 hectares. None of the maps have been washed up to the design marks.

The land plots of JSC “KGRK”, located on the territory of the city of Kara-Balta, with a sanitary protection zone and tailing dumps (exclusion zone) are 531.5 hectares.

The base of the tailing dump maps is represented by layers consisting of loam, gravel-pebble and ash. Today, it does not provide reliable waterproofing of the map bed, as a result of which the material of the tailing dump maps is infiltrated into the underground aquifers.

Over the entire period of operation, a certain level of pollution of the tailing dump area has been established. Radioactive radiation on the surface of the tailing dump reaches at some points, up to 15 μSv / h. On the territory of the sanitary protection zone, the exposure dose rate of gamma radiation is 0.21-0.70 μSv / h.

In addition, on the territory of the KGRK there are factory buildings and structures, pipelines, containers, slurry pipelines, radioactively contaminated scrap metal, etc.

On December 14, 2019, the President of the Kyrgyz Republic signed the Law "On Prohibition of Activities Related to Geological Exploration of Subsoil for the Purpose of Searching, Exploration and Development of Uranium and Thorium Deposits in the Kyrgyz Republic."

This law prohibits on the territory of Kyrgyzstan:

- any activity related to the geological study of the subsoil for the purpose of prospecting and prospecting for uranium and thorium deposits;
- development of uranium and thorium deposits;
- development of radioactive tailing dumps, mining dumps and their transfer to private individuals for the purpose of further development and maintenance.

The import of uranium and thorium ores, raw materials and waste into the territory of the Kyrgyz Republic is also prohibited.

KGRK is specialized in the processing of uranium concentrates, since 1955 it has been operating a tailing dump, which is an integral part of the technological process. In the post-Soviet period, due to the absence of its own mineral resource base, the plant processed tolling raw materials from uranium mining enterprises from Kazakhstan.

Over the past 5 years, JSC "KGRK" has been idle due to lack of raw materials, the enterprise is under the threat of bankruptcy. The enterprise does not have the funds to carry out reclamation work. In the event that the enterprise is declared bankrupt, the tailings storage facility with a volume of 39 million cubic meters. m, will be a heavy burden on the shoulders of the state. With the current budget deficit, this will lead to environmental risks, environmental pollution and poisoning of public health. In February 2016, the Kara-Balta mining plant completely stopped production. The workers were dismissed on unpaid leave without pay.

Bishkek city.

A radioactive waste disposal facility (RWDF) is located 35 km north of Bishkek, near the Manas airport.

Faced with very complex inherited problems, our country does not have the means to solve them in the foreseeable future. As formally recognized in the United Nations General Assembly resolution in December 2013 and numerous IAEA General Conference resolutions, it is the duty of the international community to assist them in reclaiming heritage sites and thereby preventing serious risks to health and the environment, stability and security. In view of this, many donors have expressed a desire to help our country fight the problems of the uranium legacy. In this regard, practical steps have been taken to improve the situation at heritage sites, one of which is the Interstate Target Program “Reclamation of the territories of states affected by uranium mining”. (within the CIS) (2013–2023).

The purpose of this program is to reduce the risks of emergencies with radioecological consequences, to work out the means and technologies for reclamation work to ensure safe living conditions and social rehabilitation of the population in these regions of Kyrgyzstan and Tajikistan.

Within the framework of this Program, it is envisaged to reclaim the tailing dumps of the settlements Min-Kush and Kajti-Sai.

The Program is implemented in two stages:

At the first stage (2013-2016), priority facilities were selected to be rehabilitated for the selected facilities: engineering surveys were performed and design documentation for the reclamation of facilities in the Kyrgyz Republic was developed; positive opinions of the Kyrgyz and Russian expertise and the developed project documentation were received.

As part of the second stage of the Program (2017-2023) in the town. Kadzhi-Sai, the contractor completed reclamation work at the tailing dump and carried out state acceptance of the facility in accordance with the Regulations

May 2008, No. 252.

In the village. Min-Kush is carrying out preparatory work (construction of temporary buildings and structures, a technological road) for construction and installation work on reclamation.

Within the European Union:

The law of the Kyrgyz Republic of July 19, 2016 No. 123 ratified the project of the European Union; "KG 4.01 / 14 Conducting a comprehensive environmental impact assessment and feasibility study for the safe handling and reclamation of the uranium legacy complex in Mailuu-Suu, Kyrgyzstan." Project implementation period 2017-2020

The aim of this project is to carry out a Comprehensive Environmental Impact Assessment and prepare a Feasibility Study in the area of Mailuu-Suu for future reclamation work.

The project is being implemented by the Consortium (contractor) "Vizutek" (Germany), which was selected by the European Union as a result of a tender.

The kick-off meeting of the project dango was held on November 22, 2017 in Bishkek, where the scope of work was presented, tasks were set, and the Project Inception Report was prepared and agreed upon.

The consortium, together with the Ministry of Emergency Situations of the Kyrgyz Republic, held a public meeting on the implementation of the project, with the participation of local residents and representatives of local and regional authorities.
In addition, in the city of Mailuu-Suu and the village of Min-Kush of the Naryn region in the period from September 12-13, 2018, training courses were held on measuring the local dose rate inside buildings, with the involvement of specialists from various government agencies.
From November 2017 to December 2019, experts of the Vizutek Consortium carried out 23 missions in Mailuu-Suu to carry out research work, engineering surveys, and systematic water and soil sampling.
In accordance with the Terms of Reference of the project, 10 main tasks were envisaged. The consortium submitted reports on tasks No. 1-4 ("design, technical specifications and supervision of installation of portable and stationary equipment for risk assessment at uranium production heritage sites in the Kyrgyz Republic", "Assessment of the current state of the Mailuu-Suu site"), which agreed with the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic, the Ministry of Health of the Kyrgyz Republic, the State Inspectorate for Environmental and Technical Safety under the Government of the Kyrgyz Republic.
In 2014, in June, at the second meeting of the Coordination Group on the Legacy of Uranium Production (CGULS) in Kyrgyzstan (Cholpon-Ata), representatives of the European Commission and the European Bank for Reconstruction and Development (EBRD) spoke about the creation of a multilateral trust fund to address the problems of uranium legacy for the countries of Central Asia (Kyrgyz Republic, Republic of Tajikistan and Republic of Uzbekistan). In order to mobilize financial resources, the Regulation on the Environmental Remediation Account for Central Asia was developed, which describes the management system of the Fund and the rules for its functioning. In January 2017, a Framework Agreement was signed between the government of the Kyrgyz Republic and the EBRD to conduct an operation on the Environmental Remediation Account for Central Asia in the Kyrgyz Republic. In

June 2017, this Framework Agreement was ratified by the Jogorku Kenesh of the Kyrgyz Republic. Within the framework of the adopted Framework Agreement, the EBRD intends to provide funding on a gratuitous basis from the resources of the Account for financing or co-financing projects implemented in order to rehabilitate former uranium mining sites in the Kyrgyz Republic, as well as measures to increase the capacity of the Kyrgyz Republic in the field of eliminating the consequences of uranium ore mining, including transboundary impacts;- Strategic master plan for the rehabilitation of uranium legacy sites in Central Asia. From 2016 to mid-2017, the main working group of the Coordination Group for Former Uranium Objects (CGULS), which included representatives of the IAEA, EBRD, EC, Russian Federation, Kyrgyz Republic and the Republic of Tajikistan, developed a Strategic Master Plan for Uranium Legacy Reclamation in Central Asia.

- In Kyrgyzstan, the Strategic Master Plan was approved by the Resolution of the RCC of September 18, 2017 No. 406-b. Also, the NSR was approved by the decision of the CIS Economic Council. The Strategic Master Plan includes two main elements:

- a strategy that must be approved and implemented during the reclamation of uranium legacy sites.

- master plan for its implementation.

Kyrgyzstan’s uranium legacy sites included in the Strategic Master Plan: Kaji-Sai, Kara-Balta, Kyzyl-Dzhar, Mailuu-Suu, Min-Kush, Shekaftar, Tuya-Muyun.

The principles of effectiveness of the Strategic Master Plan:

1. Ownership - partner countries manage policies / development strategies and coordinate actions.

2. Alignment - supporting the donor base in strategies, institutions, procedures, etc.

3. Harmonization - donor actions are harmonized, transparent and collectively effective.

4. Results - focus on resource management and improving the decision-making process in order to achieve results.

5. Mutual accountability - partners and donors are accountable for results;

- A country framework in collaboration with the IAEA for the period 2018-2023. approved by the order of the Government of the Kyrgyz Republic No. 316 p dated September 12, 2018

The main works within the framework of the above projects within which various types of work are carried out:

1. Conducting preventive ABP at facilities in the village of Min-Kush concreting of the mudflow channel at site No. 21;
2. Conducting emergency recovery operations at tailing dump No. 13 in Mailuu-Suu;
3. Conducting radioecological monitoring of sites.

It is important to note that the beneficiary of the above projects is the Ministry of Emergency Situations of the Kyrgyz Republic.

In order to ensure environmental safety, the Ministry of Emergency Situations of the Kyrgyz Republic, together with the relevant state bodies, takes measures for the rehabilitation of tailings:

- carries out monitoring;
- emergency recovery work;
- attracting international assistance.

I would also like to note that one of the most important measures aimed at stabilizing the situation that has arisen around legacy sites is the Update of the Resolution of the UN General Assembly "The Role of the International Community in Preventing the Radiation Threat in Central Asia."

At the 62nd plenary session of the UN General Assembly at the UN headquarters in New York, the draft resolution “The Role of the International Community in Preventing the Radiation Threat in Central Asia”, initiated by the Kyrgyz side, was unanimously adopted.

Previously, the draft resolution was considered and adopted by the Second Committee of the UN General Assembly. The UN resolution submitted by the Kyrgyz Republic was co-sponsored by 40 UN member states - Australia, Austria, Armenia, Belarus, Canada, Qatar, Czech Republic, Finland, Greece, India,

Indonesia, Spain, Ireland, Japan, Kazakhstan, Luxembourg, Mongolia, Norway, Poland, Portugal, Romania, Russia, Singapore, Slovakia, Tajikistan, Turkmenistan, Uzbekistan, Vietnam, Benin, Bulgaria, Cyprus, Estonia, France, Hungary, Iceland, Latvia, Lithuania, Moldova, Turkey, USA.

The adoption of the resolution of the UN General Assembly was the practical result of the initiative voiced by President of the Kyrgyz Republic S. Jeenbekov at the General Debate of the 73rd session of the UN General Assembly on September 25, 2018 in New York.

SECTION I

TRANSBOUNDARY MOVEMENT

The transport of radioactive materials is a complex activity from an organizational and technical point of view in the field of nuclear energy, which consists of many stages: preparation, loading, unloading, transportation, including transit storage, unloading and acceptance of batches and packages of radioactive materials at the final destination. At the same time, radioactive material must remain under constant regulatory control when it is outside nuclear installations or fixed installations for the management of radioactive waste and other radiation sources and is transported long distances.

Currently, the following regulatory documents are in force in the Kyrgyz Republic to manage the process of transporting radioactive materials:

- Law of the Kyrgyz Republic Technical Regulations "On Radiation Safety" [4],

- REGULATIONS on the procedure for the implementation of export control over controlled products in the Kyrgyz Republic. Resolution of the Government of the Kyrgyz Republic dated October 27, 2010 No. 257 [15],

- The Law of the Kyrgyz Republic on state regulation of foreign trade activities in the Kyrgyz Republic, dated July 2, 1997 N 41 [16]

- Qualification requirements for activities related to the transportation of nuclear materials, radioactive substances, radioisotope sources of ionizing radiation, radioactive waste, in Appendix 6 of the PPKR dated August 05, 2015 No. 558 [17]

- Requirements for radiation safety instructions for organizations carrying out activities related to the handling of radionuclide sources and radioactive materials, as well as devices generating ionizing radiation, in Appendix 7 of the PPKR dated August 05, 2015 No. 558 [18]

- Regulations for the carriage of dangerous goods by road, PPKR dated April 11, 2016 No. 198 [19]

In the future, there is a need for the Kyrgyz Republic to develop regulatory documents, for example:

- Rules "Fundamentals of safe transportation of radioactive substances in the Kyrgyz Republic" (Appendix 2)

- Procedure for the transportation of radioactive materials through the territory of the Kyrgyz Republic

- Regulation on planning measures and actions in case of accidents during the transport of radioactive materials,

- Procedure for issuing certificates on the safe transport of radioactive materials

Safety requirements and conditions (licensing conditions) for the transport of radioactive materials

- Reference material to the Rules for Nuclear and Radiation Safety in the Transport of Radioactive Materials

The rules "Fundamentals of the safe transportation of radioactive substances in the Kyrgyz Republic" are necessary to establish the functions and responsibilities of organizations involved in the transportation of radioactive materials, as well as government and regulatory bodies, as well as their interaction on the territory of the republic; emergency response and intervention requirements for emergency preparedness of organizations involved in the transport of radioactive material; rules of liability insurance of legal entities engaged in the transportation of dangerous goods in case of adverse consequences during the transportation of dangerous goods.

Transportation of radioactive materials in the Kyrgyz Republic is carried out by rail, road and air transport.

Railroad transport is currently used to transport raw materials and finished products of uranium production. So JSC "Kara-Balta Mining Plant" (Appendix 1) up to 2015 carried out transportation from the Republic of Kazakhstan to Kyrgyzstan and back uranium-containing products of underground leaching in 5 ton containers and uranium oxide in 0.5 t barrels loaded in 20 t sea containers. Transportation, labeling and radiation control were carried out in accordance with the requirements

of the IAEA Safety Standards: TS-R-1 "Rules for the safe transport of radioactive materials". The requirement to comply with the Rules for the Safe Transport of Radioactive Materials when Moving Radioactive Cargoes across the State Border is established in the Law of the Kyrgyz Republic, Technical Regulations "On Radiation Safety" [4].

In 2019, Kara-Balta Mining Plant OJSC considered the possibility of using railway transport to move uranium-thorium ore concentrate from the Kyzyl-Ompul deposit across the territory of the Kyrgyz Republic. At present, these plans remain incomplete and unclear, since the Government of the Kyrgyz Republic and the Parliament, due to the sharply negative attitude of the population of the Issyk-Kul region to the development of this uranium deposit, adopted the Law on the Prohibition of Uranium Mining and it was signed by the President on December 14, 2019.

The main condition for ensuring safety in the transport of radioactive materials in accordance with Article 18 of the Law of the Kyrgyz Republic "On Radiation Safety" [4] is to limit the radiation levels from packages and vehicles, from radioactive contamination of their surfaces and the release of radioactive substances from packages. However, the Law does not establish that the shipper is directly responsible for the safe transportation of radioactive materials.

The current Regulations for the carriage of dangerous goods by road [19] establish the procedure for the transportation of all dangerous goods, including radioactive materials, along the roads of the republic.

The carrier must agree on the route of transportation with the Ministry of Internal Affairs of Kyrgyzstan (Main Department of the Patrol Police). When choosing a transportation route, you must be guided by the fact that:

- the transportation route, if possible, should not pass through settlements, near industrial facilities, water protection zones and strips, recreation areas, natural reserves and architectural monuments;

- in the case of the transportation of dangerous goods within large settlements, the transportation route should not pass near entertainment, cultural, educational,

educational, preschool, medical institutions, markets, etc., for which a scheme of the route of the vehicle is drawn up with the definition of roads and streets, which it should follow;

- in the scheme of the transportation route, places of parking, refueling and dangerous sections of roads are indicated (dangerous sections of roads are indicated by a division of the Ministry of Internal Affairs of Kyrgyzstan, with which the route is coordinated).

To obtain confirmation of the route, the carrier sends the following information to the Ministry of Internal Affairs of Kyrgyzstan:

- Technical name of the transported dangerous goods.

- Class, subclass of dangerous goods.

- Fire hazard, explosion hazard. Danger to living organisms.

- Emergency code and hazardous substance number.

- Transportation period (start and end dates).

- The mass of dangerous goods transported on one vehicle; the number of vehicles carrying cargo at the same time.

- Initial, main intermediate and final settlements of the route.

- Maximum permissible travel speed.

- Availability of a cover car and a backup car.

- Whether transportation is allowed in difficult road conditions.

- Places of proposed stops, parking, fueling.

Within 10 working days after receiving this information, the competent authority sends the carrier a confirmation of the transportation route, which must contain the following data:

- The name of the settlements and their streets, through which vehicles with dangerous goods are allowed to proceed.

- The name of roads outside settlements, along which vehicles with dangerous goods are allowed to proceed.

- Limited travel speed.

- Restrictions on stopping and parking.

- Other driving conditions.

- The duration of the transportation route.

On the basis of the data contained in the confirmation, the carrier fills out the carriage route form.

The completed and approved route form must be kept by the driver.

3. When agreeing on the route, the Ministry of Internal Affairs of Kyrgyzstan determines the need and type of escort by special vehicles. Escort can be carried out by a patrol car of the Ministry of Internal Affairs or a cover car. In the case of transportation of explosive materials by cars with an open body on mountain roads and in settlements by cars with any body, regardless of the amount of explosive materials, escorting by a cover car is mandatory.

4. When transporting dangerous goods of classes 1, 6, 7, 8 and 9, the carrier must also develop conditions for safe transportation in accordance with Appendix 10 to the Rules. The conditions are approved by the carrier in agreement with the Kyrgyz competent authorities:

for the transportation of explosive materials - with the authorized bodies in the field of road safety (Ministry of Internal Affairs of Kyrgyzstan) and the authorized body in the field of industrial safety regulation; validity period of agreement - 3 years;

- for the transportation of potent toxic substances - with authorized bodies in the field of road safety, industrial safety regulation, health care, environmental protection and Civil Protection;

- for the transportation of radioactive substances with a specific activity of more than 7.4 × 103 Bq / kg or 0.002 μCi / g - with authorized bodies in the field of road safety, health care, environmental protection, Civil protection.

5. In addition, for the carriage of explosive and highly toxic substances, which are defined in Appendix 2 to the Rules, a special permit from the Ministry of Internal Affairs of Kyrgyzstan is required (General Directorate of Public Security, tel. Of the Department of Licensing and Permitting Work: (996) 312-26-60-13). A permit is issued for one or more identical transportations, as well as for a consignment of

dangerous goods transported along a certain route, for a period not exceeding 6 months. For its registration, the carrier presents, in particular, an agreed route plan and conditions for safe carriage (see above). The driver must have a copy of the permit.

6. According to unconfirmed information, certificates of admission of a vehicle and driver corresponding to the standards established by the Rules are also required, which can be issued by the Kyrgyz competent authorities simultaneously with the coordination of the route and conditions of safe transportation. There is also information that when transporting explosive materials and potent toxic substances, it is necessary to register a vehicle with an authorized state body in the field of environmental and technical safety.

7. Appendix 9 to the Rules establishes the form of the information system emergency card, which is on board the vehicle.

8. In Kyrgyzstan, civil liability insurance of the carrier of dangerous goods is compulsory (Law of the Kyrgyz Republic of 04.08.2008 No. 188). An insurance policy can be purchased at the border.

Functions and tasks of SRCEPES under SAEPF in matters of transportation of radioactive materials

After the adoption of amendments to the Law of the Kyrgyz Republic "On the licensing and permitting system" and new licensing conditions, the procedures for agreeing in the Government of the Kyrgyz Republic a new regulation on the regulatory body in the field of nuclear and radiation safety will continue.

In accordance with the future new Regulation on the regulatory body in the field of nuclear and radiation safety of the Kyrgyz Republic, SRCEPES under the SAEPF GKR will be responsible for: development and implementation of principles, provisions and guidelines, official permits (licenses for the transport of radioactive materials, permits for international transportation radioactive material, certificates of approval), regulatory audits and assessments, inspections and enforcement measures for the safe transport of radioactive material.

At present, Center under the State Agency for Environmental Protection and Forestry of the GKR:

- issues permits for the import / export of radiation sources and industrial generators and participates jointly with the Ministry of Economic Development in issuing a license for the import / export of radioactive sources,

- participates in the work of the interdepartmental commission in case of detection by the customs and border services of exceeding the permissible limits established for goods transported across the state border of the republic,

- considers instructions on radiation safety developed by organizations whose activities fall into the field of regulation of the Central State Agency for Environmental Protection and Environmental Protection under the State Agency for Environmental Protection and Forestry,

- considers routes for the transportation of radioactive materials and issues a permit for them,

- develops requirements for quality control of transportation of radioactive materials from the point of view of nuclear and radiation safety;

- develops requirements and conditions (licensing conditions) and determines the list of documents to be submitted for obtaining a license for the transport of radioactive materials (since the initiator of amendments to the Law on Licensing [5] is SRCEPES, then SRCEPES should also develop licensing conditions);

- issues permits for international transport of radioactive materials;

In future actions, SRCEPES, together with the URB SIETS, is planned to:

- issue conclusions on compliance with the requirements of nuclear and radiation safety and physical protection of transport operations in the event of export, import, temporary export, temporary import, re-export and transit of radioactive materials that can be used for the production of nuclear weapons;

- to license the activity of transporting radioactive materials;

- jointly with SIETS carries out supervision and inspection of transport operations.

SECTION J

DISUSED SEALED SOURCES

Disused sealed sources are disposed of at the Radioactive Waste Disposal Center in accordance with the "Guidelines for Radioactive Waste Management" approved by the Resolution of the Government of the Kyrgyz Republic No. 558 dated August 05, 2015.

The Guidelines for Radioactive Waste Management (hereinafter referred to as the Guidelines) establish the procedure for exercising state control and supervision over ensuring radiation safety in the management of radioactive waste in the mining industry, medicine, scientific research and in other situations where goods or materials are transferred to the category of radioactive waste.

The purpose of the Guide is to establish the elements of a management system for the safe management of radioactive waste in order to achieve basic safety principles. The Safety Guide requirements and criteria relate to the management of all types of radioactive waste and cover the process from generation to storage, including its handling (collection, preprocessing, treatment and conditioning), storage and transportation.

The manual fully complies with the principle of implementation of the process approach within the framework of the radioactive waste management system.

Qualification requirements for activities related to radioactive waste management (approved by the Resolution of the Government of the Kyrgyz Republic No. 558 dated August 05, 2015).

Qualification requirements for radioactive waste management activities include: the applicant's organizational structure; production and technical base in accordance with the requirements of the rules and technical regulations on radiation safety; the technological regulations for the performance of the claimed work approved by the applicant; systems for measuring and accounting for personnel exposure doses; services for radiation safety and ensuring production radiation control at workplaces; systems for accounting and control of radioactive waste; instructions on radiation

safety approved by the applicant, instructions and plans for the prevention and elimination of possible accidents in accordance with the requirements of technical regulations and rules on radiation safety; qualified staff of technical managers, specialists with appropriate education and practical experience; design documentation for a temporary storage facility, long-term storage or disposal of radioactive waste, including infrastructure; personal protective equipment for personnel; etc.

Qualification requirements for activities related to the handling of devices and facilities generating ionizing radiation (approved by the Decree of the Government of the Kyrgyz Republic No. 558 of August 5, 2015).

Qualification requirements for activities for the handling of devices and facilities generating ionizing radiation include the presence of:

1) the organizational structure of the applicant, in the form of a graphical scheme or text description, which defines the hierarchy of officials and persons responsible for ensuring radiation safety - for all subspecies of activities within the scope of this type of activity;
2) production and technical base in accordance with the requirements of the rules and technical regulations on radiation safety necessary for the performance of the claimed work (specialized production buildings, engineering facilities, machinery, equipment) - for all subspecies of activities within this activity;
3) approved by the applicant of the technological regulations for the implementation of the claimed work, determining the basic methods of work, the sequential order of operations, limits and conditions of work - for all subspecies of activities within this activity;
4) a system for measuring and accounting for personnel exposure doses (premises, instruments and means, measuring techniques) or a contract with a legal entity or an individual that provides for individual dosimetric control of personnel - for all subspecies of activity within the scope of this activity;

5) service for radiation safety and production radiation control in workplaces (order and position on the service, radiation monitoring schedule, measuring instruments) - for all subspecies of activities within the scope of this activity;
6) approved by the applicant instructions for radiation safety, instructions and plans for the prevention and elimination of possible accidents in accordance with the requirements of technical regulations and rules for radiation safety and in the field of emergency prevention - for all subspecies of activities within this activity;
7) documentation on the procedure for ensuring the recording, control and storage of devices and facilities generating ionizing radiation (instructions, inventory records, issuance, accounting and storage logs) - for all subspecies of activities within this activity;
8) qualified personnel of technical managers, specialists with relevant education and practical experience in the work submitted and approved (by the order of the applicant) in accordance with the requirements of technical regulations and rules on radiation safety for the implementation of the declared works - for all subspecies of activities within this activity;
9) a program to ensure the quality of safety in the implementation of the declared activity in accordance with the requirements of technical regulations and rules for radiation safety - for all subspecies of activities within this activity;
10) means of individual protection of personnel admitted to radiation-hazardous work, in accordance with the requirements of technical regulations and rules for radiation safety - for all subspecies of activities within this activity;
11) the sanitary-and-epidemiologic conclusion on devices and facilities generating ionizing radiation, - for all subspecies of activity within the limits of the given kind of activity;
12) documentation on the quality control of devices and facilities generating ionizing radiation (schedules and protocols of conduct, measuring instruments), or contract with a legal or physical person authorized to perform

quality control - for working with medical devices and installations generating ionizing radiation;

13) documentation on maintenance and repair of devices and facilities generating ionizing radiation (maintenance schedule, repair reports, measuring instruments) or agreement with a legal or natural person authorized to carry out maintenance and repair work - for all subspecies of activities in the scope of this activity;

14) contract on compulsory insurance of civil liability of the employer for causing harm to the life and health of the employee in the performance of his labor (official) duties - for all subspecies of activities within the framework of this type of activity;

15) contract on compulsory insurance of civil liability of owners of facilities whose activities are connected with the danger of causing harm to third parties - for all subspecies of activities within the framework of this type of activity.

SECTION K

GENERAL EFFORTS TO IMPROVE SAFETY

During 2019, the Kyrgyz Republic worked to improve and bring into compliance the regulatory framework and national legislation in the field of radiation safety.

As part of this initiative, a Comprehensive Security Plan has been prepared at the approval stage and will provide:

1. Consideration of international legal documents and national legislation in the field of nuclear and radiation safety;
2. Conducting a national hazard and risk assessment;
3. Strengthening the system of physical protection of III, nuclear material, facilities and facilities;
4. Creation and maintenance of a national registry / inventory of III and nuclear materials
5. The application of an optimized approach in the development and maintenance of appropriate systems and measures of physical protection of III, nuclear materials and facilities in order to prevent unauthorized removal and sabotage;
6. The application of an optimized approach in the development and maintenance of appropriate and effective measures of physical protection of III and nuclear materials in the process of use and storage;
7. Application of an optimized approach in the development, maintenance of appropriate and effective measures of physical protection of III and nuclear materials in the process of domestic or international transportation;
8. Development of an optimized approach in the field of detection of III and nuclear material and prevention of unauthorized actions;
9. Identification of needs for the organization of work at the scene of a radiological crime and nuclear forensics;
10. Enhancing technical and personnel potential in the field of nuclear and radiation safety.

The main goal of the Plan is to protect human health and the environment, as well as to protect the population from the harmful effects of sources of ionizing radiation (hereinafter - III), as well as to prevent malicious and unlawful actions against them.
The objective of the Plan is:
- reduction of risks from the impact of III;
- ensuring the security of III against illegal actions;
- Strengthening control and response measures with respect to III during their transportation, storage and handling;
- increasing the capacity of relevant government agencies.
This Plan contains a documentary description of the measures for planning and implementing the necessary measures to ensure nuclear and radiation safety in the Kyrgyz Republic, including the interaction of various state bodies involved in the system of ensuring national and radiation safety with the involvement of law enforcement agencies.
The plan was developed in collaboration with experts from the International Atomic Energy Agency in order to assist participating States in efforts to ensure effective safety in areas where nuclear and other radioactive materials are used, stored or transported, as well as to ensure an effective response to threats arising from them.
The plan is one of the key components for determining the necessary actions aimed at strengthening the effectiveness and sustainability of the national nuclear and radiation safety regime.
The structure of the plan consists of 5 functional areas:
• Strengthening the legislative and regulatory framework;
• Prevention of harmful effects from III and malicious acts;
• Detection of III, which is out of regulatory control;
• Response to incidents with III;
• Improving the human resources of relevant government agencies.
The plan also covers the tasks under clauses 7, 8, 10, 17 and 20 of the National Action Plan of the Kyrgyz Republic for the implementation of resolution 1540, approved by the Government of the Kyrgyz Republic No. 443 dated July 24, 2017.

The plan provides confirmation of compliance with the requirements for ensuring the safety of ionizing radiation sources, a description of general administrative and technical measures aimed at implementing measures to prevent unauthorized access to III for illegal purposes, unauthorized actions, sabotage, loss and theft, unauthorized transfer of III.

The need for the plan is also determined by the growing number of incidents of malicious and illegal trade in nuclear and radioactive materials, which, according to the IAEA database on incidents and illicit trafficking of sources, total 3153 incidents in 1990-2017.

SECTION L

ANNEXES

ATTACHMENT 1

A list of hazardous facilities containing highly toxic radioactive substances in the territory of the Kyrgyz Republic.

BATKEN REGION

Khaidarkan mercury plant.

The tailing dump of the Khaidarkan concentration plant has been in operation since 1967. The design capacity of the facility is 5,750 thousand m3 of sand; in fact, about 3,000 thousand m3 of sand was laid in it.

Kadamzhay antimony plant.

The tailing dump of the Kadamzhay enrichment plant was built in 1971 with a design capacity of 2600 thousand m3. In fact, 2114 thousand m3 were laid.

JALAL-ABAD REGION

In total, 32 tailing dumps with burials of radioactive and chemically hazardous substances are located in the region. The number of dumps is 21.

SJSC “Crystal”, Tashkumyr.

In the case of the start-up of the plant (a former plant of semiconductor materials), hydrofluoric acid and liquid chlorine will be used in the technological cycle. The greatest danger is chlorine. The plant has a large storage facility for storing liquid chlorine.

c. t. Kyzyldzhar (Mailysay).

Until the end of the 60s, uranium ore mining operations were carried out in the territory adjacent to the village (500-700 meters). There is one dump and a mothballed mine. The volume of the dump is more than 1000 m3. The area is more - 1000 m2. Reclamation of the dump was not carried out. There are no warning signs or fences.

urban area Tereksay.

The Tereksaysky mine has 3 tailing dumps on its balance sheet, two of which are mothballed, and No. 3 is now operational. The stored waste contains heavy metals: copper, antimony, gold, as well as arsenic. Previously worked tailings and current No. 3 are considered as technogenic deposits and are warehouses of industrial products and in the future, in order to prevent the loss of gold reserves, they will probably be involved in the production process.

Combine "Makmalzoloto".

Since 1986, in the area where the plant has been operating, a tailing dump of the processing plant has been operating, built according to the design of the VNIPIgortsvetmet institute.

In the area of the Makmal open pit there are two rock dumps and one for poor ores with a total rock mass of about 6.5 mln.m3. Dumps are operated according to the design.

OSH REGION.

Radium field Tuya-Moyun. In the Osh region there are dumps of the Tuya-Moyun mine, located at the junction of the administrative territories of Nookat and Aravan regions.

Work on the field was carried out at the beginning of the last century. Mainly for scientific purposes, work was carried out on the deposit for the production of radioactive material and the mineral of the uranium series Tuyamuyanit was first discovered and described.

Dump adit No. 2 - radioactivity reaches a maximum of 400 mcr / h. Pollution is located in foci of 2-3 m2 at the mouth of vertical mine shafts and a horizontal adit, which is apparently due to the presence of separate fragments of uranium ore under the soil layer. In the “Big Baritova Cave”, (natural monument) located on the Nookat-Aravan road behind the pass, not reaching the slope where adit No. 2 is located, the radioactivity is in the background.

ISK-KUL REGION.

Kumtor mine.

The tailing facility of the Kumtor mine is located in the Arabel Valley (right side of the Kumtor River Valley), consists of a bowl and a tailing dam dam, industrial sewage treatment plants, two drainage channels designed to prevent surface runoff and natural watercourses from entering the tailing bowl, two main slurry pipelines (one reserve) and eastern distribution slurry pipeline.

The tailing dump is located 6.7 km from the mill and is connected with it by a slurry pipeline.

A tailing dam with a length of 3000 m and a maximum height of 34 m, is constructed from local pebble material. A dam of a trapezoidal section, with a minimum width of 10 m along the crest and a slope of 3: 1. The entire surface of the dam, starting from the upper edge of the upper slope to its lower edge and further for 100 m towards the tailings, will be 87.7 million cubic meters.

TALAS REGION.

There are no radioactive and toxic substances in the region.

With the commissioning of the Jeruy gold ore deposit, it is possible to apply a technological enrichment scheme similar to the Kumtor and Makmal mines.

CHUI AREA.

Aktuz

The tailings ponds of the Aktuzsky ore management located in the Kichi-Kemin valley along the Kichi-Kemin river are repositories of wastes from the processing of polymetallic ores with radioactive thorium minerals.