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### **Situation analysis in the field of control and management of uranium tailings in Kyrgyz Republic.**

The basic sites for control in Kyrgyz Republic are:

- ✓ HMP PC «KGRK», specialized on uranium oxide production (status operating) RSH;
- ✓ Storage for low-activity waste (tailings and rock piles) former uranium industry;
- ✓ Site for disposal of ionizing radiation sources and radioactive waste (WDS) Bishkek city;
- ✓ Ionizing radiation sources;
- ✓ Medical institutions (X-rays diagnostics, radiotherapy);
- ✓ Natural anomaly (local sites with high radiation background);

In Kyrgyz Republic there are 6 basic sites for waste location:

- ✓ Maylu-Suu site – 2,845 million m<sup>3</sup>
- ✓ Kajisay site – 0,4 million m<sup>3</sup>
- ✓ Min-Kush site – 1,961 million m<sup>3</sup>
- ✓ Ak-Tyuz site – 3,35 million m<sup>3</sup>
- ✓ Orlovka site – 3.55 million m<sup>3</sup>
- ✓ Shekaftar site - 0,7 million m<sup>3</sup>

In total there are 48,31 million m<sup>3</sup> (in 35 tailings) and 83,582 million m<sup>3</sup> (in 37 rock piles) are accumulated in the republic together with «KGRK» site and other non-big sites.

Kyrgyz Republic became full International Atomic Energy Agency (IAEA) member from September 2003. From March 2006 State agency on environmental protection and forestry under the KR Government is executive body on technical cooperation of Kyrgyz Republic with IAEA and in parallel regulator in the field of radiation safety, which stipulates for works necessity on ensuring adequate legislative basis since many documents related to recultivation and remediation of tailings are not fully elaborated.

Basic principles of radiation safety are laid in Constitution of Kyrgyz Republic, according to which republic's citizens have the right for favorable environment for their life and health and compensation of damages caused to their life or property by activities in the field of nature management (article 35). This constitutional provision is fully described by technical regulation on «Ecological safety», KR Law on «Environmental protection», KR Law on «Radiation safety of Kyrgyz Republic's population», according to which Kyrgyz Republic's citizens have the right for ecological, including, radiation safety. This right should be ensured by carrying out complex of measures on impact prevention of harmful factor on human body (including ionizing radiation).

KR Laws on: «Uranium tailings and rock piles», «Sanitary epidemiological wellbeing of population», «Environmental protection» - are establishing legislative basis for control and in the field of tailings and rock piles management consolidating state guarantee in implementing constitutional rights

of citizens for health protection and favorable environment, makes a demand for compliance with established norms and rules during radioactive and toxic materials management.

By KR Governmental Decree from 20 February 2012 №123 «About State Agency on environmental protection and forestry under KR Governemnt»:

is state body of executive authority on policy implementation and relations control in the field of environmental protection, ensuring ecological safety and nature management.

Control fuctions:

- ✓ Carries out state control in the field of environmental protection, nature management and ecological safety, including: chemical and radiation safety;

In accordance with KR Governmental Decree dated 23 March 1999 №161 tailings and rock piles of former mining enterprises belongs to Ministry of Emergency Situations and Civil Defense of KR. Ministry of Emergency Situations is assigned as state body responsible for maintenance, control and remediation of tailings and rock piles of former mining enterprises.

In the framework of cooperation with Norwegian radiation protection authority (NRPA) the following were considered and defined:

- ✓ Threat assessment which allowed compiling investigations of national infrastructure and legislative basis against existing condition of radioactive waste storage sites and thus revealing basic problems in the system.
- ✓ Basic gaps in regulatory scheme in the field of safe management of radioactive waste: leading documents – inadequate and not always correct legislative basis.
- ✓ Regulating system non-harmonized in compliance with IAEA safety requirements.

Conclusions:

- ✓ In existing legislative basis there is a necessity to amend requirements for accepting regulatory provisions on radiation safety;
- ✓ It is necessary to continue working on combination of country's policy and strategy with Fundamental Safety Principles and with International instruments, agreements, codes which were ratified by State;
- ✓ Legislative basis documental hierarchy on radiation safety issues is not a complete system, significant number of gaps are defined (more than 60 % from the whole system), basically, related to low stages of hierarchical structure (rules, norms, regulations, instructions and etc.).
- ✓ It is necessary to review existing leading documents with the purpose of inaccuracy correcting, especially in the field of safety statements (especially, it relates to new basic regulation on radiation safety, where contradicting to each other criteria are available, mixing to one «pile» the concepts of «dose threshold» and «dose limits», incomplete and scrappy RW classification, absence of instructions on ionizing radiation sources (IRS) categorization and etc.

Priority fields for regulations development.

- ✓ Regulatory authority strengthening (rights actualization, responsibilities and duties of regulator).
- ✓ Waste management methods improvement (inspection control, rights actualization, responsibilities and duties of operator, monitoring).
- ✓ Improvement of legislative and regulatory basis for control of sites and activities.
- ✓ Carrying out remediation works on sites.
- ✓ Regulating system of radiation safety is complex multistage system which includes different directions requiring attention to each regulatory instrument and adequate funding.
- ✓ Considering existing system of regulations in KR, it is possible to state, that there are enough big areas for improvement and strengthening in the system.

Complex approach is required on waste management strategy development and strengthening issues, and for which it is necessary, in the first place, to implement coordinated activities of different bodies on occupational, public and environmental nuclear and radiation safety issues, as well as to elaborate and approve a national program on Governmental level.