

DECISION

OF THE GOVERNMENT OF THE REPUBLIC OF ARMENIA

No 985-N of 10 August 2017

ON DEFINING TECHNICAL REQUIREMENTS AND STANDARDS FOR THE MANAGEMENT OF MINING WASTE FACILITIES AND FOR MANAGING AND RE-PROCESSING MINING WASTE

In accordance with point 18 of part 2 of Article 15 of the Subsoil Code of the Republic of Armenia, the Government of the Republic of Armenia ***decides to:***

1. Define:
 - (1) the technical requirements and standards for the management of mining waste facilities, pursuant to Annex No 1;
 - (2) the technical requirements and standards for managing and re-processing mining waste, pursuant to Annex No 2.
2. This Decision shall enter into force on the tenth day following the day of its official promulgation.

**Prime Minister
of the Republic of Armenia**

K. Karapetyan

11 August 2017

Yerevan

Annex No 1
of the Decision of the Government
of the Republic of Armenia
No 985-N of 10 August 2017

TECHNICAL REQUIREMENTS AND STANDARDS FOR THE MANAGEMENT
OF MINING WASTE FACILITIES

1. For the purpose of ensuring security of mining waste facilities (hereinafter referred to as "the facilities") and safe management thereof, technical requirements and standards for their management shall be defined, which must be applied at all stages of the management processes of such facilities. The technical requirements and standards for the management of the facilities shall be presented in the design documents of the facilities.
2. The technical requirements for the management of the facilities shall be the following:
 - (1) ensuring seismic resistance of the facilities;
 - (2) ensuring stability and structural integrity of the facility and carrying out monitoring during the stages of operation and closure of the facility, in order to detect changes and prevent possible accidents;
 - (3) observation of the facility, controlling the slopes and stability of the covers, the quality of surface and underground water, the accumulation of underground water under and around the building;
 - (4) reduction of the amount of reagents used during enrichment (for instance automated systems for application of reagents, creation of two-story settling tanks, neutralisation of cyanides in the effluents using peroxides, etc.);

- (5) prevention of water erosion of the facilities (for instance construction of drainage system, application of mine technical or biological methods of stabilisation and recultivation of surfaces and inclinations of the facilities);
 - (6) application of modern safety management systems and equipment during the stages of operation and closure of the facility;
 - (7) development of a plan for emergency situations for the facility, including the main technical requirements and standards that will exclude unwanted cases of collapse;
 - (8) making calculation of possible silting areas in case of threat of dam failure of the tailing dumps or failure thereof.
3. The standards for the management of the facilities shall be the following:
- (1) sustainable management of industrial effluents (for instance application of circulating water systems, biological methods of effluent treatment);
 - (2) prevention or reduction of dusting from the facility surfaces (for instance application of automatically controlled sprinkler systems for pollination, stabilisation of dusting surfaces, using natural polymer compounds and composites, etc.);
 - (3) application of biological methods of recultivation of disturbed land plots, contributing to the restoration of soil fertility;
 - (4) mandatory implementation of environmental monitoring in the areas adjacent to the facilities by subsoil users with the best modern equipment and technologies.
 - (5) revision of the launch of the facility on an annual basis, actual assessment thereof, correction and implementation of the measures for risk reduction envisaged by the project;

- (6) where necessary, revision of the standards for the closure of the facility, as well as revision of the mining waste management plan at the operation stage, respectively;
- (7) application of modern information technologies for the analysis of the modern precision equipment and results during the observance of the facility.

**Chief of Staff of the Government
of the Republic of Armenia**

V. Stepanyan

Annex No 2

to Decision of the Government of the Republic of Armenia No 985-N of 10 August 2017

TECHNICAL REQUIREMENTS AND STANDARDS FOR THE MANAGEMENT AND RE-PROCESSING OF MINING WASTE

1. Re-processing of mining waste (hereinafter referred to as "the waste") shall derive from the need to protect the environment from pollution, as well as to increase the economic efficiency of production.
2. The main policy principles in the field of waste management shall include:
 - (1) protection of human health and environment from the harmful impact of waste;
 - (2) maximum direct use, reuse or alternative use of waste of industrial value;
 - (3) ensuring appropriate use of material and energy resources;
 - (4) combining ecological, economic and social interests of the society in the field of waste management.
3. The standards for re-processing of waste shall be the following:
 - (1) re-processing, the basis of which must be the circulation of raw materials, goods and waste consciously organised by a human;
 - (2) development and introduction of fundamentally new technological processes aimed at reducing the amount of waste;
 - (3) the waste of a geographically close organisation may serve as raw material for the other organisation;

- (4) reduction of the number of technological units (stages and equipment) of the new technological process, in order to reduce waste and raw material losses in the intermediate stages of the process;
 - (5) application of continuous schemes, technologies and processes (closed technological cycles);
 - (6) intensification of production processes, automation and optimisation thereof;
 - (7) introduction of high-efficiency cleaning methods, fundamentally new equipment combining a number of processes;
 - (8) use of new structural materials which allow to increase the durability of devices.
4. The technical requirements and standards for the management and re-processing of waste shall be the following:
- (1) regular inspection and maintenance of all structures which is required for preventing the leakage of pollutants;
 - (2) in case of temporary storage of non-inert waste:
 - a. for the purpose of preventing pollution of water under control, carry out temporary storage of waste in impermeable areas or areas with low permeability;
 - b. condense temporarily stored waste in order to promote flows;
 - c. collect temporarily stored waste flows before their leakage,
 - (3) in case of re-processing of waste:
 - a. if the waste is not inert, for the purpose of protecting underground water, collection basins or settling tanks must be constructed in order to exclude the leakage of polluted water from the area of temporary storage of waste;

- b. if the basins are used to accelerate the separation of residues from solution or if the waste contained therein is hazardous, basins must be waterproof in order to prevent pollution of surface and underground water by hazardous and non-hazardous substances,
- (4) the measures for dust settling in relevant places shall be the following:
- a. in case of dust generated due to traffic, cover the flow surface with bituminous coating or concrete;
 - b. place low speed signs in the vicinity of the waste facility with the aim of reducing dust from the roads of the facility;
 - c. sprinkle water on roads and operational areas during dry weather,
- (5) for the purpose of controlling the formation of mud on the roads as a result of work with waste, implement the following measures:
- a. wash the wheels according to the instructions of the producer;
 - b. ensure that the polluted water discharged from road culverts is treated through sludge settling processes before removing it;
- (6) the measures for reducing the surface water polluted by non-inert waste from waste facilities shall include the following:
- a. the area from which materials may be blown must be minimised as much as possible by filling inactive areas with inert piles;
 - b. restore vegetation in closed areas;
 - c. create a properly designed surface water drainage system(s);
- (7) the volumes of hazardous substances entering the surface flow must not exceed the permissible limit concentrations of such substances;
- (8) in the case of solid, non-inert waste, in the presence of hazardous and/or non-hazardous substances, for the purpose of protecting underwater, it

may be required to create barriers with low permeability in waste facilities with the aim of preventing their penetration into underground water.

5. The technical requirements and standards for the management and re-processing of waste shall be presented in the design documents on management and re-processing of waste.
6. The requirements for raw materials and materials during waste re-processing shall be the following:
 - (1) when organising waste re-processing, it is necessary to fully use raw materials;
 - (2) compliance of the quality of raw materials and materials with the level of the technological process;
 - (3) preliminary neutralisation of raw materials;
 - (4) replacement of highly toxic materials with less toxic materials;
 - (5) replacement of traditional types of raw materials with non-traditional types;
 - (6) complex use of all components of raw materials;
 - (7) maximum use of secondary raw materials and replacement of primary raw materials with secondary ones.

**Chief of Staff of the Government
of the Republic of Armenia**

V. Stepanyan