

**Seminar on Good Practices & Lessons learned in Implementing the UNECE Convention  
on the Transboundary Effects of Industrial Accidents**

**February 3-4, 2022**

**Special Session of the Working Group on Implementation  
Session 3 - Decision-making on Siting and Land-use Planning**

## **Planning of Andash Deposit Development (Orebody #1)**



**Ministry on Natural Resources, Ecology and Technical Supervision  
of the Kyrgyz Republic**

**Directorate of Industrial Safety Regulation  
Gulfia Shabaeva, Chief Specialist**

# Location of Andash copper-gold-ore deposit



# View of the Kyrgyz ridge

## Location of the deposit





## General data on the location of the deposit

- The distance from the deposit to the nearest settlement, i.e. Kepure-Bazar village, is 2.5 km; to Talas city, the oblast center, it is - 75 km and it is - approximately 300 km to Bishkek.
- The distance to the Kyrgyz-Kazakh border is 2.5 km, to the nearest Kazakh settlements it is 30-40 km, and 176 km to Taraz city (Republic of Kazakhstan).

A decision to classify this type of activity as an activity capable to have a transboundary impact has been made on the basis of:

The deposit is located near the state border with the Republic of Kazakhstan.

The deposit is located in the close proximity to Karakol river being the beginning of transboundary Talas river (the Republic of Kazakhstan).

Since 2001 both the Kyrgyz Republic and the Republic of Kazakhstan are Parties of UNECE Convention on Environment Impact Assessment in a Transboundary Context.

## A procedure of conduction of transboundary EIA by the Party of origin (KR)

- The Kazakh affected Party was notified about activities planned in our country that might have a transboundary impact in accordance with Article 3 of UNECE Convention on Impact Assessment in a transboundary context.
- A response was received about the consent of the Kazakh Party to participate in EIA.
- The investor was officially notified about the necessity to submit EIA documentation to the Kazakh.

## Concise description of technological processes at the deposit

- Development of Andash copper-gold-ore deposit (Orebody #1) is envisaged in the 1<sup>st</sup> turn by an open-cut method with a productivity of 2 million tons of ore per year.
- A method of ore processing is flotation with production of copper gold-bearing flotation concentrate.
- Reagents used in ore processing:
  - butyl potassium xanthate (hazard class 1);
  - sodium sulfide, soda ash (pH regulator), T-80 (hazard classes 2, 4).

# Alternative options of a tailing dump location (1)

4 options were considered:

Option 1 - 4 km from a Processing Plant on the right bank of Karakol river:

(+) crossing of the river with industrial pipelines is excluded, compactness;

(-) proximity to the village (overhanging the village), high stay of groundwater, year-round pastures, availability of geological raptures.

Option 2 - 3.5 km from a Processing Plant on the left bank:

(+) small hilliness, availability of construction materials;

(-) proximity to arable land and irrigation system, openness from the village, absence of natural barriers, deep tectonic fault.



## Alternative versions of a tailing dump location (2)

Option 3 - 4.5 km from a Processing Plant in a natural mountain hollow on the left bank of Karakol river (**accepted as a basic one**):

(+) the land is not used for pastures, closed for the village and remote from it; remoteness from arable land, less seismicity, possibility to expand the tailing dump capacity, possibility to localize an inrush wave at an emergency situation, absence of avalanche and mudflow hazard;

(-) crossing of the river with industrial pipelines.

Option 4 - 5 km from a Processing Plant on the left bank:

(-) proximity to arable land, small volume of a bowl, impossibility to ensure emergency measures.

# Prevention of emergency situations (1)

## Main measures on prevention of emergency situations at tailing facilities:

### On slurry pipelines:

Two runs of the slurry pipeline (operating and backup ones) are assembled of steel pipes;  
Slurry pipelines are laid in reinforced concrete chutes with waterproofing;  
An overpass with a length of 160 m is foreseen when crossing the river; each run of the slurry pipeline on the overpass is laid in a metal case (pipe in pipe);

### On the tailing dump:

The tailing dump is located in a natural mountain hollow:  
It refers to a drainless type with return of clarified water to the technological process;  
An impervious screen is foreseen with a calculated structure (geomembrane, Dornit geotextile, loamy interlayer);

## Prevention of emergency situations (2)

### Main measures on prevention of emergency situations at tailing facilities:

#### On slurry pipelines:

At lower points of the slurry pipeline route - emergency tanks are provided for pulp flowing down the chutes;

Anticorrosive insulation and measures against freezing and icing in cold seasons are foreseen.

#### On the tailing dump:

A downstream face of the dam is made of gabion structures of “Terramesh” system (they improve strength properties of the dam and form a “bond beam”);

Drainage of clarified water through a bottom collector - tails are dewatered (not spread);

Monitoring of the dam state with control equipment (filtration, motions, etc.).

# Assessment of the impact of the mine on the main watercourse of the deposit area

The following factors will promote the reduction of probable transboundary impact:

- measures on prevention of emergency situations;
- significant length of Karakol (Talas) river to the state border (about 138 km);
- significant number of rivers and streams flowing into Talas river, increasing the dilution capacity of the river;
- drainless mode of operation of the tailing dump;
- high diluting capacity of mountain watercourses;
- a significant volume of Kirov reservoir allows it to act as a natural clarifier and sedimentation basin – buffer for water of Karakol river.

## Informing the affected party of the Republic of Kazakhstan (RK) about the planned activity (transboundary EIA)

- All the EIA documentation was transferred to the Ministry on Environmental Protection of RK and Jambyl Territorial Environmental Protection Agency, as well as to Kazakh NGO “Eco-Forum” for distribution among NGOs via the information network of RK.
- Public hearings and a round table were held in Taraz city of RK Jambyl oblast with participation of representatives of the Ministry of Water Management, Ministry on Environmental Protection, Ministry of Emergency Situations, NGOs and local activists; comments, remarks and proposals were expressed.
- State bodies of the Party of origin (KR) and the investor undertook to take into consideration all proposals and remarks of the Affected Party (RK) including appeals of the local community.
- State Agency on Environmental Protection of KR and Ministry on Environmental Protection of RK came to mutual agreement concerning further cooperation, development of a Program of joint monitoring of Talas river, harmonization of national procedures of cooperation, methods of analyzing water samples, hygienic standards of water pollution.





*THANK YOU  
FOR THE ATTENTION*