



The second meeting of the Working Group on
tailings safety and prevention of accidental water pollution in Kazakhstan
March 15, 2023, Astana

"Development of joint measures for the prevention and response to pollution of the Syrdarya River in emergency situations"



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OVERVIEW OF POTENTIAL SOURCES OF POLLUTION AND IDENTIFICATION OF ACCIDENTAL POLLUTION RISKS IN THE SYRDARYA BASIN

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International experts: Yerkin Orolbaev and Peep Mardiste - finalizing the report; Dmitry Rudakov - providing expert support to countries in relation to the inventory of tailings; Oleksandra Riedl - mapping hazardous industrial facilities, including tailings

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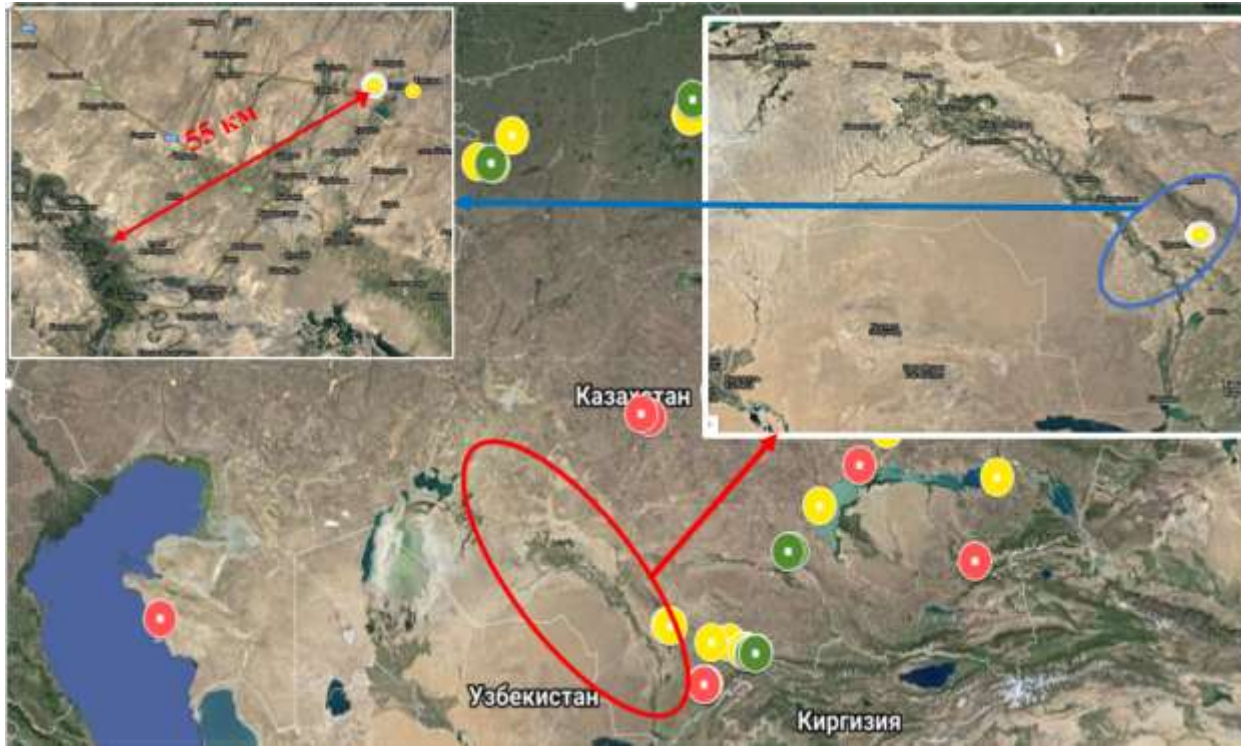


The purpose of the review: - to analyze the information collected during the inventory of existing and potential sources of pollution in the Syrdarya river basin (Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan), and propose recommendations for the adoption of coordinated measures by riparian countries to prevent pollution and respond to it in emergency situations . The review examines the risks of industrial pollution, including from tailings, and cross-border planning procedures for such situations, as well as man-made accidents caused by natural disasters (the so-called Natech accidents). It also addresses the state of water resources, water quality issues, and issues related to policies and institutions in water management, industrial safety and the prevention of accidental water pollution.

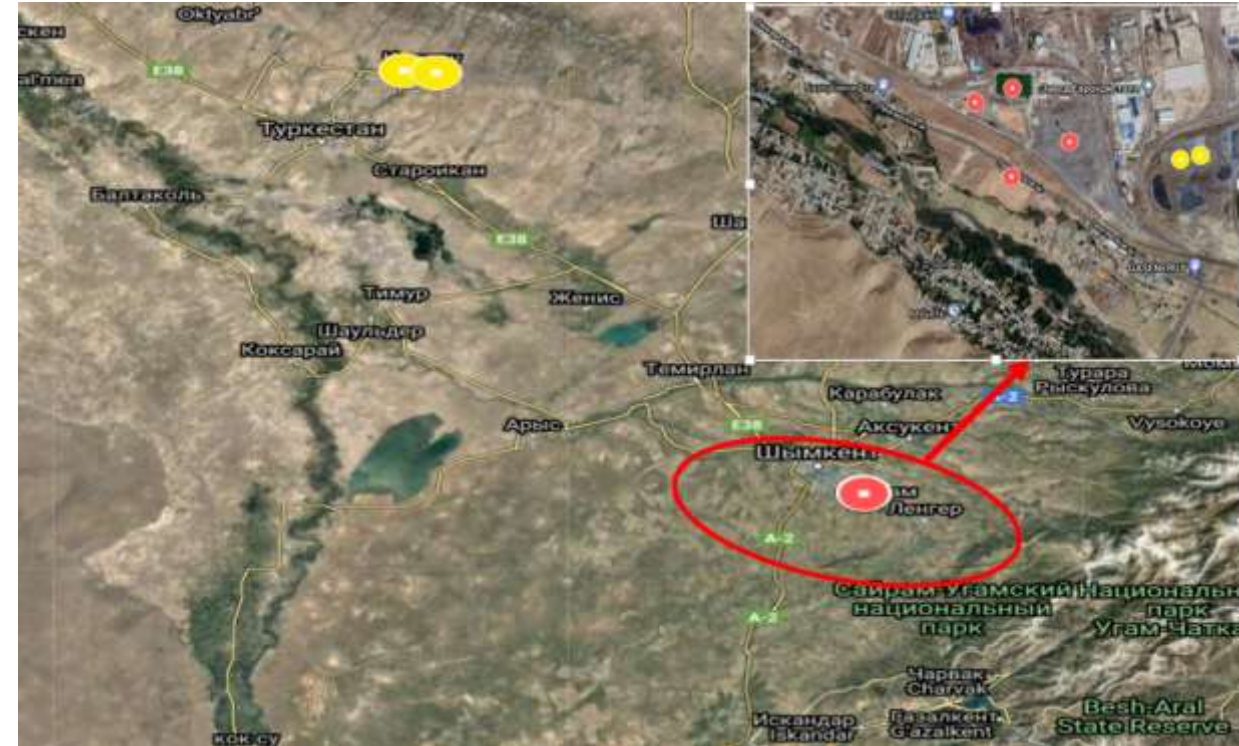




There are 6 sludge collectors and 3 tailing dumps in the Syrdarya river basin on the territory of Kazakhstan: Sludge collector No. 1 of Kainar LLP; Sludge accumulator No. 2 LLP "Kainar"; Sludge accumulator No. 3 LLP "Kainar"; Sludge accumulator No. 4 LLP "Kainar"; Sludge accumulator No. 5 LLP "Kainar"; Sludge accumulator No. 6 LLP "Kainar"; Bayaldyr tailing dump; Khantaginskoye tailing dump; Baizhansai tailing dump



Карта шламонакопителей в бассейне реки Сырдарья



Карта ближайших хвостохранилищ к реке Сырдарья



Analysis of the risks of pollution of the Syrdarya River from the tailings of the Republic of Kazakhstan

Conventions on the Transboundary Effects of Industrial Accidents

The following two placement criteria are used:

- a) within 15 km of the border for activities involving the use of hazardous substances that can cause a fire or explosion that can enter the air in the event of an accident;
- b) along or within the catchment area of transboundary rivers, transboundary or international lakes, or within the catchment area of transboundary groundwaters for activities involving the use of hazardous substances.

There are no tailing dumps within 15 km from the Syrdarya River on the territory of the Republic of Kazakhstan.

2 closed tailings Bayaldyrskoe, Khantaginskoe are located in the vicinity of the city of Kentau, Turkestan region, at a distance of 55 and 62 km from the Syrdarya River, respectively.

1 Baizhansai tailing dump located near the village of Baizhansai, Turkestan region, has been reclaimed. The distance from the tailing dump to the Syrdarya River is about 140 km.

2 sludge collectors are closed, the sludge is extracted and processed by Kainar LLP, work is underway on 4.

These sludge reservoirs are located on the territory of the industrial zone of Shymkent at a distance of about 1 km from the Badam River, which flows into the Arys River at a distance of about 70 km from Shymkent, which flows into the Syrdarya River from this point at a distance of about 100 km.

The flow velocity of the Badam River before flowing into the Arys River is 0.7 m/s. The average speed of the Arys river is 2 m/s.

The risk of accidents with water pollution of the Syrdarya River, at the indicated tailings and sludge reservoirs is minimal



Accidents that occurred at the tailings of the Republic of Kazakhstan

On October 29, 2011, at the tailing dump of the mining enterprise LLP "Altai-Ken-Bayitau" in the village of Sekisovka, East Kazakhstan region of the Republic of Kazakhstan, during the production test of the treatment section No. 3 (tailing dump), the impervious screen ruptured, as a result of which the process water was drained, bypassing emergency barriers

On May 22, 2016, at the Talovsky tailing dump of the Ridder mining and processing complex of Kazzinc LLP in the East Kazakhstan region of the Republic of Kazakhstan, the structure of the recycled water removal system was destroyed, as a result of which there was an emergency discharge onto the terrain with further falling into the Filippovka River, then into the rivers Silent and Ulba.

The above tailings are located in East Kazakhstan, where the Syrdarya River does not flow



PREVENTION AND RESPONSE

SINCE 2001, KAZAKHSTAN IS A PARTY OF THE CONVENTION ON THE TRANSBOUNDARY EFFECTS OF INDUSTRIAL ACCIDENTS (CONVENTION ON INDUSTRIAL ACCIDENTS) AND THE CONVENTION ON THE PROTECTION AND USE OF TRANSBOUNDARY WATERCOURSES AND INTERNATIONAL LAKES (UNECE WATER CONVENTION).

THE MINISTRY OF ECOLOGY REPRESENTS KAZAKHSTAN IN THE WATER CONVENTION, THE MINISTRY OF ECOLOGY AND THE MINISTRY FOR EMERGENCY SITUATIONS REPRESENT THE COUNTRY IN THE CONVENTION ON INDUSTRIAL ACCIDENTS.

NATIONAL LEGISLATIVE FRAMEWORK FOR INDUSTRIAL SAFETY AT HAZARDOUS PRODUCTION FACILITIES

Конвенция ЕЭК ООН о промышленных авариях

- Принята в 1992 г., вступила в силу в 2000 г.
- 41 Страна, включая Казахстан
- Переговоры начались после аварии 1986 г. на предприятии Sandoz в Швейцарии, с трансграничным воздействием
- Направлена на защиту людей и окружающей среды от промышленных аварий (с трансграничным воздействием)
- Активное международное сотрудничество между Сторонами до аварии, в ходе аварии и после нее
- Хвостохранилища входят в сферу действия Конвенции



Конвенция ЕЭК ООН по трансграничным водам



- Подписана 17 марта 1992 г.
- Вступила в силу 6 октября 1996 г.
- Протокол по проблемам воды и здоровья принят в 1999 г., вступил в силу в 2005 г.
- Протокол по гражданской ответственности принят в 2003 г.



KAZAKHSTAN IS AN ACTIVE MEMBER OF THE JOINT GROUP OF EXPERTS ON WATER PROBLEMS AND INDUSTRIAL ACCIDENTS (JGE), CREATED UNDER THE AUSPICES OF THE CONVENTIONS ON THE TRANSBOUNDARY EFFECTS OF INDUSTRIAL ACCIDENTS (CONVENTION ON INDUSTRIAL ACCIDENTS) AND THE CONVENTION FOR THE PROTECTION AND USE OF TRANSBOUNDARY WATERCOURSES AND INTERNATIONAL LAKES (WATER CONVENTION) OF THE UNECE

INTERSTATE COUNCIL OF THE COMMONWEALTH OF INDEPENDENT STATES (CIS) ON INDUSTRIAL SAFETY, PLAYING THE LEADING ROLE IN DETERMINING THE POLICY IN THE FIELD OF PROTECTION OF THE POPULATION AND TERRITORIES FROM INDUSTRIAL ACCIDENTS

In 2018-2019 UNECE IMPLEMENTED A PILOT PROJECT TO IMPROVE THE SAFETY OF MINING INDUSTRIES, INCLUDING TAILS IN KAZAKHSTAN AND OTHER CENTRAL ASIAN COUNTRIES. INVENTORY AND MAPPING OF HAZARDOUS SITES, INCLUDING THOSE THAT MAY HAVE A TRANSBORDER IMPACT, IS CARRIED OUT



- основана в 1998
- в рамках Конвенции по вопросам воды и Конвенции о промышленных авариях
- с целью работы над вопросами, касающимися предотвращения аварийного загрязнения воды, что впадает в интересы обеих Конвенций



Основным бенефициаром проекта был **Казахстан**, его компетентные органы и операторы.

Результат: проведение национальной инвентаризации 121 хвостохранилища, включая с трансграничными путями воздействиями, и разработка карты опасностей с указанием хвостохранилищ с водными путями воздействия.

Проект завершен



There are more than 8.5 thousand enterprises in the Republic of Kazakhstan, including more than 220 thousand hazardous production facilities.

High risk enterprises:

- Kyzylorda Region : **29**
- Turkestan Region: **36**

In 2020, 28 accidents were registered at hazardous production facilities in the country, and 20 accidents were registered in 2021.

The main reasons are:

- weak control over the state of industrial safety on the part of engineers, unsatisfactory organization of ensuring safe working conditions on the part of management;
- non-compliance with industrial safety requirements in the performance of work;
- moral and physical deterioration of dangerous technical devices.





RECOMMENDATIONS

1

SIGNING OF AN AGREEMENT BETWEEN 4 COUNTRIES ON COOPERATION IN THE FIELD OF EMERGENCY PREPAREDNESS AND THE ESTABLISHMENT OF A JOINT COMMISSION TO FURTHER IMPROVE WATER QUALITY

DEVELOPMENT OF A JOINT ACTION PLAN FOR THE PREVENTION AND RESPONSE TO INDUSTRIAL POLLUTION OF THE SYRDARYA RIVER IN EMERGENCY SITUATIONS

2

3

DEVELOPMENT OF A METHOD FOR ASSESSING THE HAZARD OF PRODUCTION FACILITIES IN VARIOUS FIELDS OF ACTIVITY

MAPPING AND CONDUCTING A DETAILED ANALYSIS OF POSSIBLE ACCIDENTS AT HAZARDOUS PRODUCTION FACILITIES LOCATED IN THE SYRDARYA RIVER BASIN

4

5

DEVELOPING MEASURES, WHERE NECESSARY, TO REDUCE THE RISK OF POLLUTION FROM ACCIDENTS AT HAZARDOUS PRODUCTION FACILITIES LOCATED IN THE SYRDARYA RIVER BASIN

REGULAR INDUSTRIAL AND STATE MONITORING OF THE STATE OF INDUSTRIAL SAFETY AND JOINT EXERCISES AT HAZARDOUS PRODUCTION FACILITIES WHICH ARE OPERATING WITH THE RISK OF WATER POLLUTION OF THE SYRDARYA RIVER

6

7

CLEAR DISTRIBUTION OF FUNCTIONS FOR STATE SUPERVISION OF TAILS AND SLUDGE TANK BETWEEN THE AUTHORIZED STATE BODIES IN THE FIELD OF INDUSTRIAL SAFETY AND IN THE FIELD OF ECOLOGY