

Comments
the exchange programme under the project "Equal dialogue" 19-30.05.2016
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Reduction

- BNH - Brun-Naryn tailings pond
- GGG – Globalgrind (Fund)
- SER – state environmental review
- DVMK – Jida molybden - tungsten plant
- KIT – the complex of innovative technologies
- KRS – krupnyi Horatii cattle (local residents)
- MNR - Ministry of natural resources of Russia
- NPA – normative legal acts
- NEU is the accumulated damage, ekologichni
- EIA – impact assessment on the environment
- POS - passive treatment facilities
- SMP – sub-micron dust (including nanopyl)
- TTM – toxic heavy metals
- TER – technical-economic calculation
- FTP – Federal target program

1. Questions (to which it is desirable to obtain written answers)

- 1.1 the cost of maintaining clean mine waters at Cuesta projected to infinity
Created to Fund/target contribution to the correct size (otherwise such treatment would not work) ?
- 1.2 funding of treatment facilities at the mine Empire provides for a target contribution of 50 million dollars.
How justified was this figure ?
- 1.3 Matt said vanadium is more dangerous than uranium, but it is not true for the Russian normativnym documents to the 1st class of danger
What data is at risk of vanadium in the uranium deposits (including regulatory documents in the U.S. and international?)
- 1.4 is it Possible to make a translation of a monograph prepared in the U.S. according to the results of 20 years study of the problem of SMP (the information about it have I. May)

2. Comments

2.1 the synergy of methodologies

The concept of subsoil use in the USSR was based on the assertion that what is common in different fields much more than special and good technique can replace in most cases a competent professional.
In the United States - on the contrary(?). And only the competent person may consider all of the features of each field that is needed to make the right decisions for the project.
Conclusion – the Russian experience MB . useful for evaluating risks from similar fields, experience in the United States - for individual, non-standard Scituate.
The example is useful to compare the experience of training and implementation (+ and -) the history of the Superfund for the adjustment of the Federal target program "elimination of NEU in the Russian Federation till 2020."

2.2 synergy legal acts

This is easier to do S. Chapaevo, as he lectures on this topic. And while the example project PIC on the Empire mine, which we have read 27.05.2016
This project would not pass examination in Russia - zero option, because the presentation is no data on the maximum allowable concentration levels of toxic elements in the waters of the Creek.

2.3 synergy cases/technology

2.3.1 Program of adaptation to external and uncontrolled risks for the environment and local communities in the U.S. and in Russia.

Example - the regional impact of global climate change - the concept of worst-case scenario with the program of adaptation of site-specific, ecosystem, region

2.3.2 the Exchange of innovation technologies of risk assessment the nature and population of objects of subsoil use (submicron dust, scale, products of metabolism etc.)

Example - in the southern cities for estimation of long-term air pollution TTM instead of snow survey can be used house dust

2.3.3 the Exchange of innovative technologies to improve the liquidity of the assets of subsoil use in conditions of crisis (Whales).

Example – use KIT-1 (gidrodobycha instead of an explosion, cavitation is crushing and abrasion, the centrifuge is gravity and flotation) could reduce production costs significantly and thus to ensure the liquidity of BNH and practicing in the context of the economic crisis by reducing prices hubnerite 3 times with the preservation of local employment in mono (Zakamensk).

USA Russia

USA

- 1) PIC to clean mine waters, polluted TTM
- 2) Technology of raising funds for the reclamation of brownfields (the experience of Superfund)
- 3) Technology assessment of the toxicity of SMP

Russia

- 1) Assessment of air pollution of premises for the home perennial dust
- 2) Use the KIT to enhance the liquidity of objects of subsoil use in conditions of economic crisis
- 3) the Experience of solving problems associated with the regional impact of global climate change

Comments to the table.

USA to Russia

- 1) Technology PIC used in the project of the 2nd phase "Elimination of waste from NEU DVMK
- 2) M. b. used for revision of regulatory documents of the Federal program "Elimination of NEU in Russia until 2020."
- 3) Needed to identify priority risks and evidence of harm to human health of the city of Zakamensk in the zone echobelly and corisca.

Russia to USA

- 1) a multi-year Study of house dust (attics) allows to obtain information about the possible negative impact on the health of the population in the past, which cannot be obtained under the conditions of high dynamism of pollution, at the expense of existing approaches and techniques.
- 2) Increased liquidity will reduce the risk bankrostva mining companies with the advent of new abandoned fields
- 3) In Russia, this effect is faster and stronger and the experience of solving such problems will be obtained before other countries

3. The proposals in the outcome document of the exchange

3.1 the Problem of mine water-project 2 phase of elimination of waste from NEU DVMK Zakamensk)

Recommendations for the management of mine waters in the project DVMK 2 queue "Eliminate adverse impacts from waste DVMK.

Zero option – the money was given for the project and not the development will continue the pollution Motorcylce for a long time

Geographic alternatives

Construction of a factory for the collection and purification of mine waters

The project includes the construction of sewage treatment plants - cascade different types of barriers - on the handles. GOJIRA and West galleries (the other galleries are not included in the project and will not be cleaned for his money)

But the designers believe that Kudirka treatment is not needed, because of the impact of objects in the pool of the Creek there, and after its confluence with the manual. Bergensen there is a natural dilution of contaminants below the MPL.

Gallery Exploration and the North are in the territory of the mining allotment CJSC Zakamensk and can't log in to the project of liquidation of accumulated environmental damage.

Ie, the collection of water from different facilities under the project of elimination of NEU is not possible, and for Western pieces with its meager flow rate of mine water factory purification is not needed. Technically quite passive treatment facilities, but they most likely will not work for economic reasons.

Technological alternatives

POS on Western PCs.

Drainage of the Western pieces are not the priority factor in the impact on surface water, because vegetable-anii to the town of Zakamensk is diluted to below Mac

In the city, and downstream again in contamination of Modonkul higher than the MPC, but from BNH drains, which are priority and influencing factor.

It manifests itself in very high TTM content in the cattle manure, which is apparently due to the fact that the cattle drink the contaminated water from Motorcylce.

The priority is to not risk the completion of the project, abandoned because the production of dangerous current because there is no one to ensure his safety.

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The priority is to not risk the completion of the project, abandoned because the production of dangerous current because there is no one to ensure his safety.

Western treatment plant on PCs should be built and FOREVER for their service needs to be created source of funding FOREVER

The experience in the United States on the mine Empire created such a source - target contribution, the interest from which funded the maintenance of treatment facilities.

For cleaning PCs have 3 possible options:

a radical solution is to find funds to target the contribution of the desired value (RUB billions in crisis),

premiumone solution for the period until the resumption of the gallery - to find a solution without maintenance costs.

alternative solution – disposal of liquid effluent mine waters TTM

Annual maintenance costs – 24 thousand rubles, with a 10% rate Deposit Daut 240 million And with discounting 100 years adjusted for inflation and devaluations of the ruble – RUB billions

It is obvious that to find such means not real and is not acceptable to the customer of the project (MNR) and the option of plugging the adit.

Risks and damages to nature and population for the period up to resume office work, PCs Western (at higher prices for tungsten) require expert evaluation (but this is obviously not billions).

In addition, the option of plugging allows you to save 90% of cost of construction of treatment facilities and use them in the liquidation priority of impact factor – BNH.

According to preliminary estimates by Western PCs all generation (TDG 15. km) will be filled in 20 years –the expected time of the resumption of Western PCs.

During this time, when the flow of rain water and enriching them with the drainage for 200 meters to the level of Western PCs content liquid TTM will increase approximately in 2 times

With the resumption of the mine you can take them and realize, why the need for expert assessment of various technologies TTM extraction from mine waters.

And the water MB. used for the reverse vodosnabzhenie concentrator ore Kolatselga and Encourage fields.

T. O. and risks will be neutralized at the right time and the problem can be converted into a resource in the future, but its value and reality requires calculation

3.2 the Problem of the priority pollutant for the city of Zakamensk –BNH.

Otsenka situation.

BNH is the main source of zagryazneniya R. Motorcylce on the territory of Zakamensk (with risks a watering hole for local cattle) and further in the river Dzhida, Selenga and lake Baikal (in the period of flood pollution transport)

As well as air pollution SMP - toxic contamination (according to Matt). Since the time of deposition of nanofil very large, then the delay of deposition by increasing the temperature in a daily course nanopyl will not settle ever, and its impact was irreversible (data Gameboy) and required the transfer of the city at a safe distance (proposition A. Rogalev)

Zero option

Design work life BNH – 30 years and not addressing the problem will prolong the negative impact on this period that is not acceptable

Geographic alternatives

Transfer BNH at a safe distance from the town of Zakamensk

According to the results of the public hearings of the materials of the project 2 stage waste DVMK (02.03.2016 in the city of Zakamensk) prepared a summary conclusion, OEE, where the main recommendation is to migrate the main source of air pollution and surface water near the town of Zakamensk BNH at a safe distance from the town of Zakamensk.

There are 3 main reasons\resource to transfer BNH (proposal I. Kremenetsky)

1) There is a potential funding source

Technological treatment alternative to on PCs. Zapadnya (plugging of the adits on the experience of such a solution for Grodnenskogo fields), creates the opportunity to profilaktirovat transfer (site selection, scoping studies, EIA, SER, FER and the project is due to savings in the amount of 650 thousand rubles(as an alternative to collecting and treating contaminated water from the workings DVMK on common breakage soorujeniya appropriate as to collect and purify sovместno is actually nothing)

Updating the risks from BNH nature and population

The owner BNH in the near future may go bankrupt (in terms of falling prices for tungsten in 3%, and the richest mining sections BNH) and the risk of destabilization of the GTS BNH (enclosing his dam) in terms of negative regional impacts of climate change (aridization and increased precipitation dynamics will be inevitable and require preventive solutions for their control and minimization.

And such a solution might be. only transfer BNH at a safe distance from the town of Zakamensk.

3) the technical feasibility of such a decision

- the project is not submitted for state examination

- the designers and the owner BNG no fundamental objections

- the customer (Ministry of natural resources) this will give the resource accounting indicator (the area of re-cultivated areas) and will lead the design of the current impasse (lack of funds for maintenance of POS).

Place to transfer is located in the valley of the Dzhida river, the lintel of the Selenga 500 km above its confluence into the lake, which eliminates the risk of negative impact on him.

Valley and Russian olive trees in this place were dirty for 70 years the waters of the river Modonkul with TM from factories for the enrichment of DVMK.

The location of the new tailings thicker valley basalts with a capacity of more than 30 m. prevents contamination of groundwater and makes simple protection for these same basalts from external influences (flooding, etc.)

Objections to this option are of an emotional nature and not based on any research or regulatory documents.

To implement such a proposal (in the absence of reasoned objections) M. b. useful recommendation on the exchange Technological alternatives

- KIT - 1 (gidrodobycha+cavitation disintegration of tailings + water innovative enrichment at the centrifuge)
- The fundamental possibility of 100% recycling of sand (quartz + mica for the manufacture of heating panels, feldspars for reclamation of acidic agricultural soils, sulfide concentrations in securities of TTM - liquid product),
- Remediation with proven technology of hydroseeding within 1 year – in case and after the implementation or not of reality 2 sentences above

3.3 Possible new topics for exchanges in 2017

3.3.1 Climate adaptation business and local communities

- 1)- the regional impact of global climate change and adaptation programs business and local communities
- dynamics of regional geochemical andami in a changing global / regional climate
- alternatives to carbon-free zone in Siberia V.

- 2) Systematic approach to solving problems of subsoil use (3 points)

KIT-1 – optimization of mining and ore processing of various types

KIT-2 – the establishment of new settlements in the process and the place of mining

KIT-3 – complex of measures for remediation and including the creation of an asset using renewable energy

- 3) Suggestions for the program of creating a carbon-free zone V. Siberia in 2016 and the Year of Ecology of Russia 2017

3.3.2 training of graduate students with the evaluation of innovative techniques using the analytical laboratory capabilities Ali

3.3.3 Exchange of developed technology landscaping, utilities

- heat pump
- gas furnace
- solar air collector

3.3.4 Comments on inspected facilities in the United States

Pecos

Because mnogoletnih data meteorologen in the district hvostohranishcha no, as the medium-term forecast of the regional impacts of global climate izmeneniya a suitable expert assessment of the worst case (for phases a little extreme and high water availability).

Cuesta

Worst-case scenario in terms of regionalnogo effects of global climate change

Considering the full volume of waste water - evaluation of extraction liquid TTM (zinc and copper) with the use of innovative technology and malozatratnye including factory cleaning)

Spanish valley

Worst case scenario

Recycling of iron and manganese in the pool at the mouth of the adit with the use of air solar concentrator to obtain ochre as a component for the manufacture of paints (arsenic MB neutralized PEREVODOV it into insoluble\to form an oxide – scorodite)

Mine Empire

Worst-case scenario

Recycling of iron and manganese in ground pool (see Spanish valley)