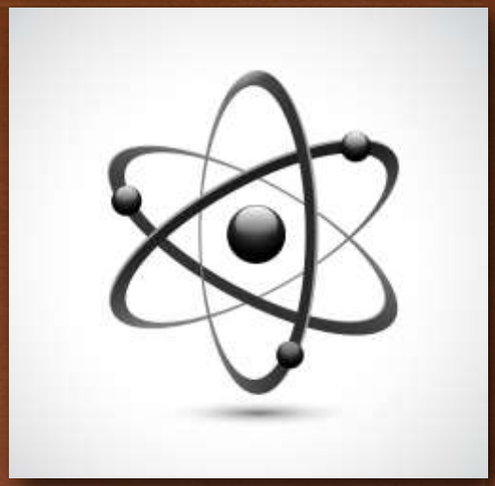


KAZAKHSTAN

ATOMIC INDUSTRY

YEGEUBAYEV & PARTNERS

AIDAR YEGEUBAYEV

ENERGY AND NATURAL RESOURCES LAW | 10 MARCH 2020

CENTRAL TO THE INDUSTRY

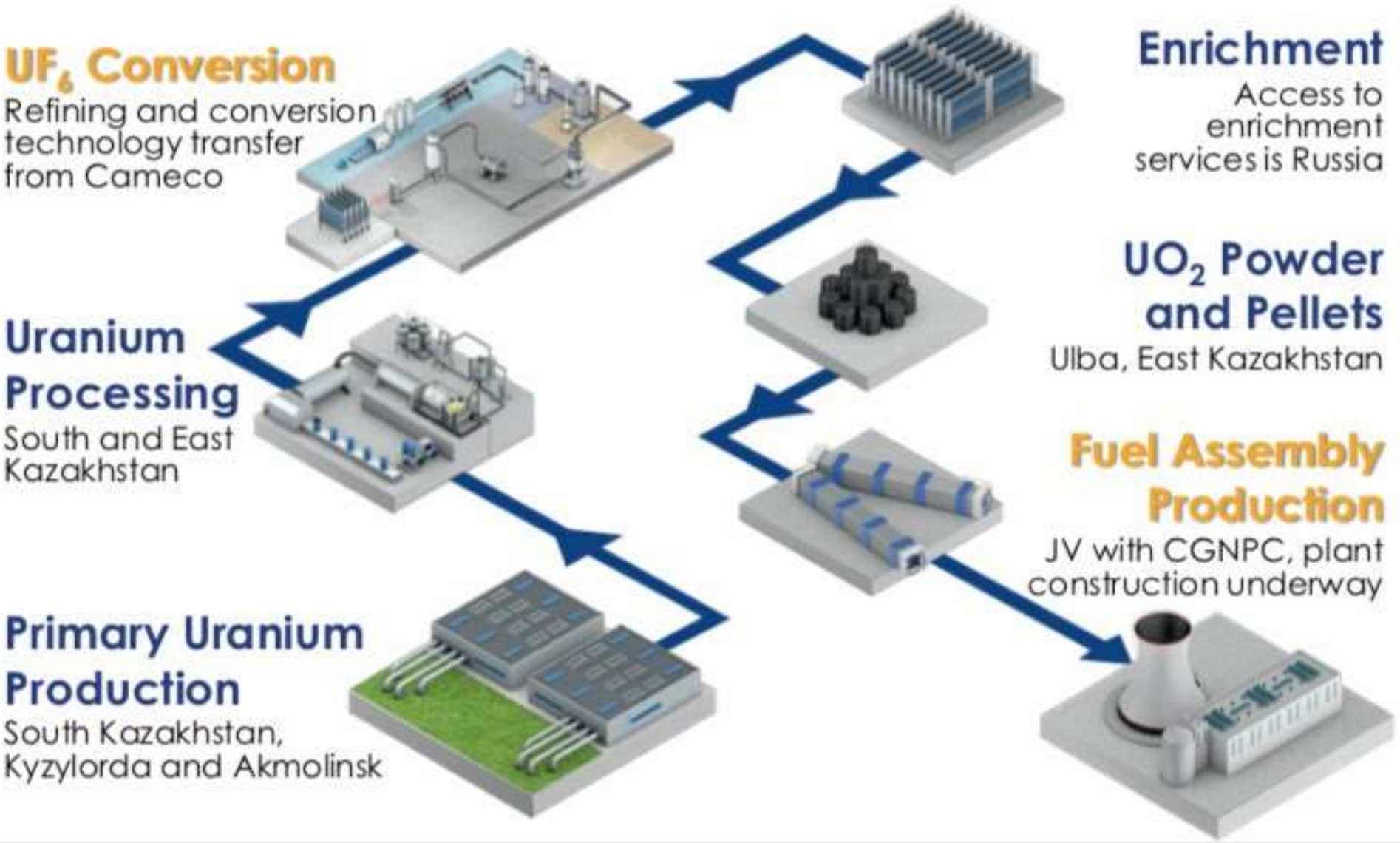
Ten Joint Ventures with nuclear industry leaders

- **Canadian JV**
  JV Inkai, 60% (1996)
- **Chinese JV**
  Semizbai-U, 51% (2006)
- **French JV**
  Katco, 49% (1996)
- **Japanese JVs**
  Appak, 65% (2005)
  Baiken-U, 52.5%[1] (2006)
- **Russian/Japanese JV**
  Khorasan-U, 50%[1] (2014)
- **Russian JVs**
  Karatau, 50% (2005),
  Akbastau, 50% (2006), SMCC, 30% (2014)
  JV Zarechnoye, 49.98% (2001)

Kazakhstan: home to the IAEA uranium fuel bank

- https://www.youtube.com/watch?v=-norGSd3eIc Kazatomprom CEO interview

THE NUCLEAR FUEL CYCLE



Kazatomprom is present Projects in development

PRIMARY LEGISLATION

NUCLEAR SAFETY AND SECURITY

- Law *On the Use of Atomic Energy (12 January 2016)*– the legal basis and principles of regulating public relations in the use of atomic energy in order to protect the (1) life and health of people, (2) their property and (3) environment

- Law *On Radiation Safety of the Population (April 23, 1998)* regulates the field of radiation safety of people to protect them from harmful effects of ionizing radiation

- Law*On Permits and Notifications* (May 16, 2014) –In addition to the environmental permit/s, licences are required to operate or provide service to a nuclear\radiation hazardous facility

ATOMIC AND ENERGY SUPERVISION AND CONTROL

REGULATOR IN KAZAKHSTAN

Regulatory functions for safety, security and safeguards are assigned to the **Committee of Atomic and Energy Supervision and Control,** which reports to the Ministry of Energy.

The Committee is responsible for

- licensing of nuclear related activities,
- development of norms and
- rules related to radiation safety, emergency planning and
- supervision of compliance to the norms and rules

Chairman - Serik Suleimenov (started career as CLC at Kazkommertsbank)

The CAESC conducts additional screening and checks the purchaser against the **Black List and the List of Forbidden Countries** as adopted by the United Nations to confirm that the purchaser is not suspected in the development or proliferation of weapons of mass destruction

ATOMIC ENERGY LAW

CONTENT

1. licensing (Article 9),

2. construction of nuclear facilities and repositories (Article 12),

3. nuclear security (Article 13),

4. state accounting for nuclear material and sources of ionising radiation (Article 14),

5. export and import (Article

15), 6. transport (Article 6),

7. handling of radioactive waste and spent fuel (Article 17)

ATOMIC ENERGY LAW

CONTENT

8. decommissioning of facilities (Article 22),
9. emergency preparedness and response (Article 23),
10. safety and security reviews (Article 24) and
11. compensation (Article 27).
12. the types of expertise of nuclear, radiation and nuclear physical safety required for various types of facilities.

13.

ATOMIC ENERGY LAW

LICENSING

- Object with nuclear intensity above **threshold (exemption level)** require licensing

49 types including:

- atomic energy stations
- research nuclear reactors
- thermonuclear reactors
- storage for nuclear waste
- various medical X-ray equipment

ATOMIC ENERGY LAW

HAZARD CATEGORIES FOR NUCLEAR PLANTS

- 1 category – radiation may spread onto population outside of the plant's protection area
- 2 category – radiation is limited to the area of the protection zone
- 3 category – radiation is limited to the territory of its placement
- 4 category – radiation is limited to the premises or the working place where the nuclear energy is used.

ATOMIC ENERGY LAW

CONSTRUCTION OF NUCLEAR FACILITIES AND REPOSITORIES

- Decision is made by the Government provided that there is consent from local representative bodies

  Factors:

- economic need for the country and for the region

- compliance of conditions at the site

- lack of hazard to civil and military objects nearby

- compliance with ecological requirements

- potential social and economic consequences

- In the event of national security hazard the Government may cancel the decision to construct the facility

ATOMIC ENERGY LAW

STATE ACCOUNTING FOR NUCLEAR MATERIAL

- nuclear material and sources of ionising radiation are subject to state accounting
- procedure defines quantity of material present, transported and located
- the Committee and analyses and checks the data and enters it into the Register of sources of ionising radiation

ATOMIC ENERGY LAW / EXPORT CONTROL LAW

EXPORT AND IMPORT

- uranium/sources ionizing radiation export is licensed
- export quotas
- the Committee and analyses and checks the data and enters it into the Register of sources of ionising radiation
- permits from the Government
- limit export or event set an embargo on foreign countries that breach obligations to Kazakhstan or international organisations
- Kazatomprom is the national operator on export and import of Uranium
- requires covenant from the accepting party that safety measures comply with IAEA requirements
- In 1991 US (EU in 1992) introduced antidumping measures that were fully lifted in 1999. Later Kazatomprom became biggest uranium producer in the world

ATOMIC ENERGY LAW

TRANSPORTATION

- Requires licensing
- Includes all operations including production of packages, preparation, loading, transportation, storage, unloading and acceptance at final destinations
- Design of packaging materials is approved by the authorized agency

ATOMIC ENERGY LAW

HANDLING RADIOACTIVE WASTE

- Nuclear waste activity is licensed
- Only legal entities are allowed
- Burial should secure radiation safety for people and environment
- Safe burial must be envisaged by the project and exploitation documents of any activity that may produce nuclear waste.
- Must comply with Chapter 39 of the Ecology Code

ATOMIC ENERGY LAW

DECOMMISSIONING OF FACILITIES

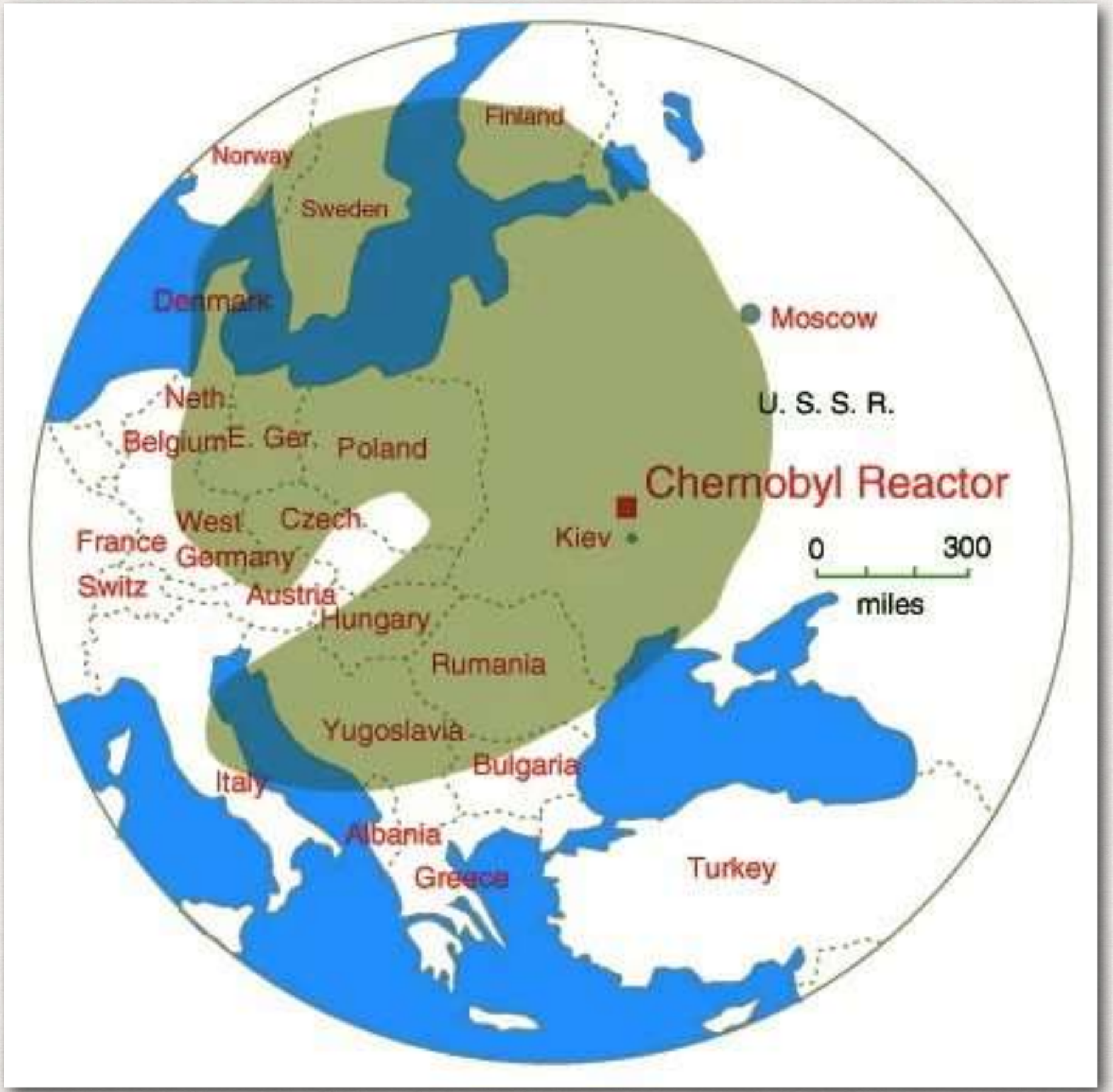
- Operator must envisage decommissioning plan for the nuclear station/ burial site at the stage of its design
- Such plan must include stages, methodology, cost and timing, necessary resources, measures for nuclear and radiation safety, site characteristics after the decommissioning
- The plan must be regularly updated with new technologies, if any
- Operator may make decision to stop using the nuclear station at any time with prior notice of the Committee
- Burial site can be closed upon decision of the Government provided necessary measures are taken (cleaning the site, measuring radiation, archiving all relevant data)

ATOMIC ENERGY LAW

EMERGENCY PREPAREDNESS AND RESPONSE

Government has approved National Plan to react to nuclear and radiation accidents (Resolution No. 467 dated 19 August 2016, applicable when:

- when the hazard of nuclear accident expands over the envisaged site
- cross bordering accidents when the hazard includes territory of Kazakhstan
- Each operator of the nuclear site must also have its own reaction plan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Poland
U. S. S. R.
Chernobyl Reactor
Kiev
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Czech.
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Yugoslavia
Bulgaria
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ATOMIC ENERGY LAW

SAFETY AND SECURITY REVIEWS

Government has approved National Plan to react to nuclear and radiation accidents (Resolution No. 467 dated 19 August 2016, applicable when:

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- cross bordering accidents when the hazard includes territory of Kazakhstan
- Each operator of the nuclear site must also have its own reaction plan

ATOMIC ENERGY LAW

EMERGENCY PREPAREDNESS AND RESPONSE

- Expertise check shall be made for plants with hazard level of Categories 1 & 2 throughout the exploitation phase / each 3 years
- Documents for the expertise shall be filed by the operator of the nuclear energy object

Expertise is also made on with regards to Categories 1 & 2:

- Design documents for choosing the site
- Design documents for exploitation and transportation packages
- Technical modernization and transportation packages
- Design documents on decommissioning

PERMITS AND NOTIFICATIONS LAW

TYPES OF LICENSING

1. works related to the life cycle of nuclear facilities,

2. activities related to radioactive waste management,

3. activities related to the special training of personnel responsible for ensuring nuclear and radiation safety,

4. provision of services in the field of the use of atomic energy,

5. handling radioactive substances, devices and installations containing radioactive substances,

6. transportation, including transit, of nuclear materials, radioactive substances, radioisotope sources of ionizing radiation, radioactive waste within the territory of Kazakhstan,

7. physical protection of nuclear installations and nuclear materials,

8. handling nuclear materials.

ENVIRONMENTAL CODE

NO 212-III, 9 JANUARY 2007

- primary environmental protection law, with most recent amendments made in December 2019

- The Environmental Code includes a number of generic requirements applicable to mining projects but these can be superseded by specific requirements within the asset's environmental permits or other legal agreements. Non-compliance could lead to suspension of operations.

- Environmental Code defines the procedure of obtaining environmental permits, which is a document certifying environmental emission rights of individuals and legal entities. Permits must be renewed when working project documentation or technological processes change.

ENVIRONMENTAL CODE

EIA OR OVOS

- The mandatory environmental impact assessment - "**EIA**", an impact assessment process must be undertaken and the OVOS report must be approved by regulatory authorities

- OVOS is required not only for new projects but it is also required for variations. Mining operations have many OVOS reports covering new developments, technology changes and infrastructure alterations. There is a requirement for public hearings for each OVOS project.

- The industrial environmental monitoring programme establishes a mandatory list of parameters to be monitored (including air, soil, groundwater and other), duration and frequency of the measurements, and instrumental or computational methods used.

ENVIRONMENTAL CODE

REPORTS

- The emissions permitting system in Kazakhstan is a "*pay-to-pollute*" system wherein the developer pays for the 'right' to make emissions to the environment in accordance with the permit.
- There are also maximum permissible concentrations (sanitary norms) that apply on the boundary of sanitary protection zones around hazardous facilities.
- Emissions fees are paid quarterly. Fees for standard emissions are paid based on fixed rates, while multipliers (up to 10 times) are applied to fees for releases in excess of the permit limits or sanitary norms.

ENVIRONMENTAL CODE

REPORTS

- EC also provides for regulation of the use of radioactive materials, nuclear energy and radiation safety alongside specific laws on these subjects

- EC covers environmental damage, economic evaluation of damage and damage payments

- Environmental Codes regulates greenhouse gas emissions and provides for the Kazakhstan Emissions Trading System ("**KAZ ETS**") The KAZ ETS was launched in 2013, was temporarily suspended in 2016 and became operational again in January 2018.

SUBSOIL USE CODE

29 JUNE 2018

- Mining law has been updated recently, the "**Subsoil Law**" (No291-IV 24 June 2010, amended 24 May 2018) was superseded by "**Subsoil Code**" in 29 June 2018.
- The Subsoil Code provides that previously issued Mining Contracts will remain in force.
- Permission to mine is given by means of a mining contract, with a limited validity period. At the end of this period, a new contract must be arranged or the site must be handed back to the Government.

SUBSOIL USE CODE

COMPETENT AUTHORITIES

Depending on the category of minerals, there are three Competent Authorities

- Ministry of Industry and Infrastructure Development (solid minerals);
- Ministry of Energy (oil, gas, coal and uranium); and
- regional akimats (sand and clay).

The Ministry of Industry and Infrastructure Development also supervises the mining industry through its sub-ordinate Committee on Geology and Subsoil Use (the "**Geology Committee**").

SUBSOIL USE CODE

MINING CONTRACTS

Mining contracts in Kazakhstan generally contain requirements related to environmental and social aspects. These include general statements about the need to meet legislative norms and specific requirements pertaining to:

- Annual payments for the **social and economic development of the region and its infrastructure** (amount varies depending on contract);
- Annual investments into **education of employees** that are citizens of Republic of Kazakhstan, generally in the order of 1% of annual operating expenditure;
- Annual financing of **research and development works of Kazakhstan producers** of not less than 1% of annual operating expenditures; and
- Annual payments to the **liquidation fund** (amount varies depending on contract).

SUBSOIL USE CODE

CLOSURE

- According to Article 54 of the Subsoil Code, mines and associated auxiliary facilities must be closed when the term of right for subsoil use has expired.

- Under the Subsoil Code, the aim of the liquidation is health and safety of the population and environmental protection. U

- Under the Subsoil Code, the aim of the liquidation is health and safety of the population and environmental protection.

- Legislation has requirements pertinent to closure (relating to clean up of pollution, remediation of disturbed land and revegetation):

  - the Environmental Code (Law No 212-III, January 2007, as amended);
  -Instruction for land reclamation projects development (Decree No346, 17 April 2015);
  - the Land Use Code (Law No 442 II ZPK, 20 June 2003, as amended);
  - the Water Use Code (Law No 481, 09 July 2003, as amended); and
  - the Forest Use Code (Law No 477-II 08 July 2003, as amended).