FNCA

Forum for Nuclear Cooperation in Asia

COUNTRY REPORT

of the Republic of Kazakhstan

Nuclear Power Engineering Development is one of the most important directions of domestic and foreign politics of Kazakhstan

«... it is important to remember about prospects of nuclear power engineering development ... We must develop domestic production of fuel for NPP and construct nuclear power plants ... The Government ... should solve issues concerning NPP siting, investment sources and construction period.»

Address of the RK President, 17 January, 2014

Government of the Republic of Kazakhstan
State policy in the field of nuclear power use

Ministry of Energy

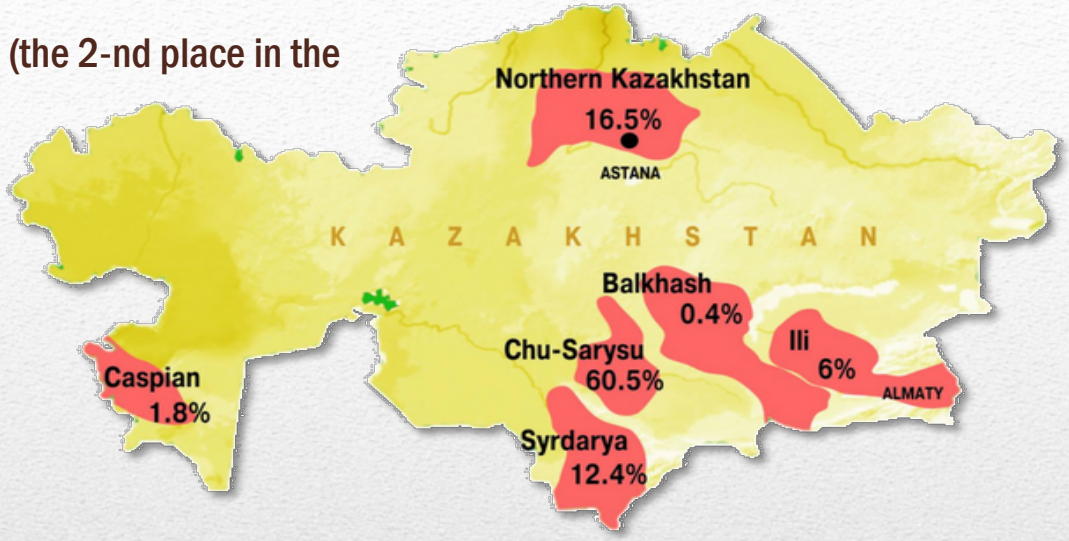
Committee of Nuclear and Power Supervision and Control
Supervision and regulatory functions

JSC SWF "Samruk-Kazyna" *Development strategy*
Assets management

RSE "NNC RK"	RSE "INP"	RSE "IGR"	JSC "PNT"	JSC "NAK KAZATOMPROM"	Management Company JSC "Kazakhstani Nuclear Power Plants"
National Nuclear Center	Institute of Nuclear Physics	Institute of Geophys. Res.	Park of Nuclear Tech.		
STS safety assurance *Scientific researches in nuclear sphere*	*Scientific researches in the sphere of nuclear and radiation physics*	*Seismic monitoring* *Nuclear tests inspection*	*Application of nuclear and radiation technologies in industry*	*Uranium exploration and mining* *Nuclear fuel production*	*NPP construction and operation*
Development programs implementation		*Projects realization*	*Safety assurance*		

RK Uranium Industry and Nuclear Fuel Cycle

- **Kazakhstan possesses considerable resources of Uranium** (the 2-nd place in the World).
- **Uranium Output in Kazakhstan in 2013 composed 22 500 t** (the 1-st place in the World).
- **Kazatomprom NAK JSC operates Uranium production in RK** (subsidiary and joint enterprises).



Kazatomprom NAK JSC performs the operation on creation of vertically integrated complex of nuclear fuel cycle (Uranium conversion and enrichment, fuel production).

URANIUM CONVERSION *Project with Canada*		Kazatomprom NAK JSC holds negotiations with Cameco Company on conversion project implementation – establishment of joint production on Uranium conversion.
URANIUM ENRICHMENT *Project with Russia*		Uranium Enrichment Center CJSC (50% – Kazatomprom NAK JSC) took up 25%+1 shares in concentration plant "Uralsk Electro Chemical Plant" JSC.
FUEL ASSEMBLY RODUCTION *Project with France*		Kazatomprom NAK JSC and "Areva" France Company are engaged in the field of project implementation on fuel assemblies production in UMP JSC.

Research Reactors Conversion

Fuel conversion with enrichment 36% to 19,75% upon Uranium-235

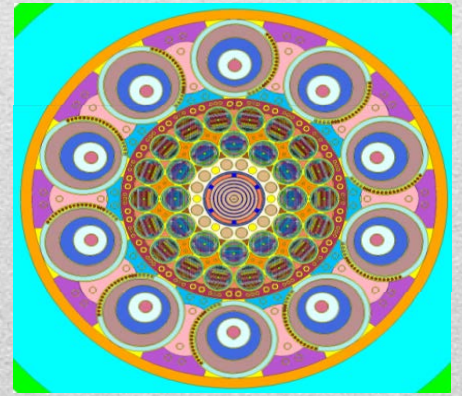
2012
- conversion of critical stand with LEU

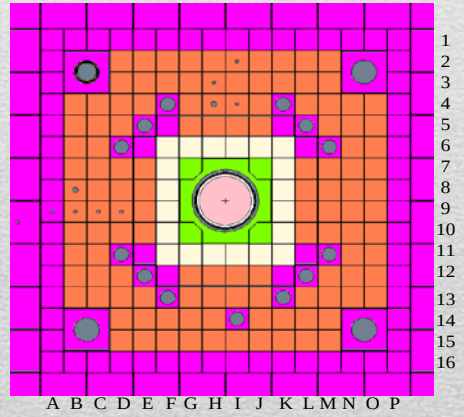
2013
- test assemblies with LEU were tested

2014
- postreactor researches of test assemblies with LEU
- Report on safety analysis
- production of equipment for control and protection system

2015
- physical start-up of reactor with LEU fuel
- conversion completion

Fuel conversion with enrichment 90% to 19,75% upon Uranium-235 under Contracts with DOE, ANL, Batelle Energy Alliance (USA) and FSUE "SRI SIA "LUCH" (RF)





Calculation models of reactors with LEU fuel (cross-sections)

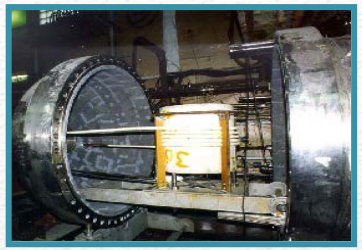
International Bank of Low Enriched Uranium of IAEA

- IBLEU has been establishing under the aegis of IAEA to provide guaranteed nuclear fuel supplies to NPP of IAEA member-states.
- IBLEU is a storage of low enriched uranium (basic material for fuel production), located in one of the member-states of IAEA in containers with international certification.
- Nuclear material and IBLEU will be owned by IAEA and under its jurisdiction.

IBLEU Establishment in Kazakhstan

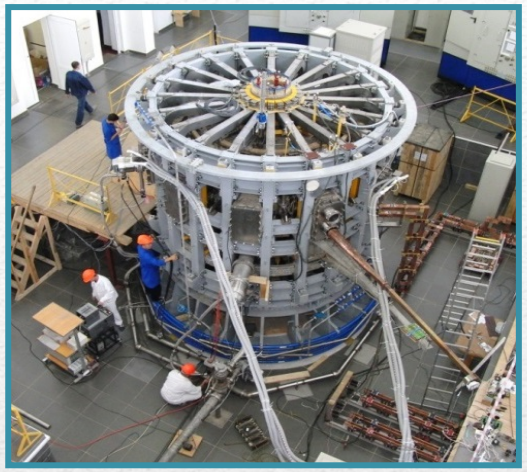
- April 6, 2009 The President of RK, N. Nazarbayev announced that Kazakhstan could consider the possibility to host IBLEU on its territory.
- May 31, 2011 IAEA confirmed criteria for IBLEU host country and forwarded invitation to IAEA member-states.
- July 29, 2011 RK's official proposal was submitted to IAEA with the purpose to participate in IBLEU Project.
- Kazakhstan's proposal to host IBLEU on the territory of UMP was supported by IAEA.
- Country Agreement Project between RK and IAEA on IBLEU establishment is currently under preparation.

National Nuclear Center of the Republic of Kazakhstan



ANGARA Test-Bench

EAGLE Test-Bench



Tokamak KTM

The operations on security of the former Semipalatinsk Test Site (STS)

STS Monitoring

THANK YOU
FOR ATTENTION!