



ROSATOM

STATE ATOMIC ENERGY CORPORATION "ROSATOM"

Cooperation of ROSATOM and Czech companies within the MBIR Project

«Atomex-Europe 2013» Forum

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General Overview of MBIR

Top intended mission:

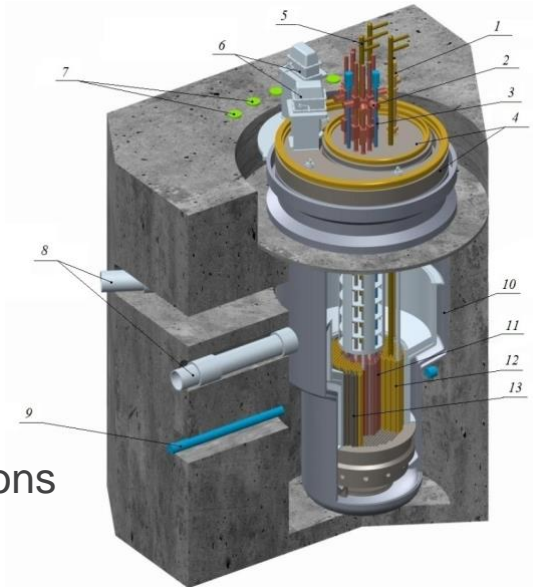
- enhancement of international R&D infrastructure for future innovative nuclear power system

Basic parameters & Experimental capabilities:

- Thermal power 150 MW
- Max neutron flux $5.5 \cdot 10^{15}$ n/(cm²·s)
- Lifetime 50 years
- Production of wide range of radioisotopes for different applications
- Generation of modified materials (radiation-doped Si etc.)
- Medicinal use of neutron beams

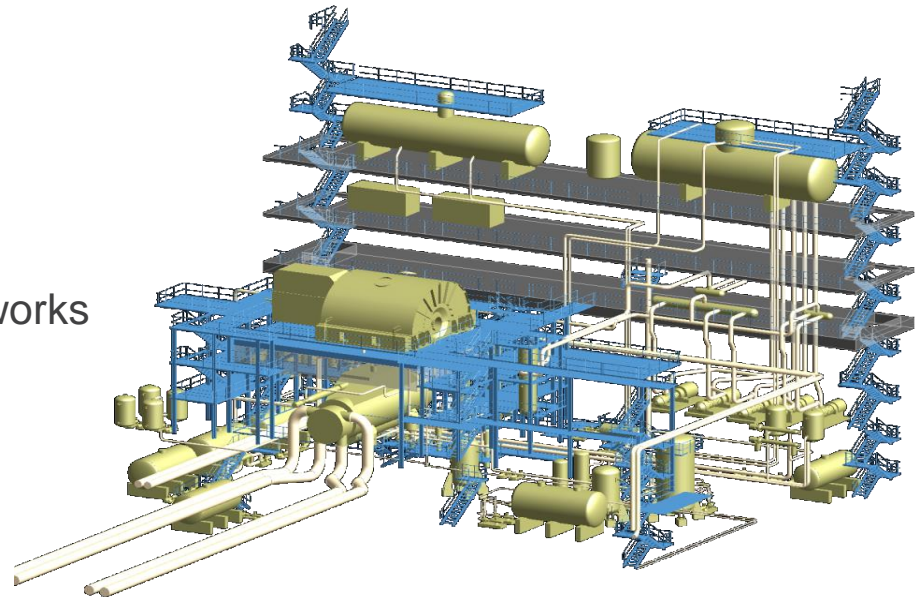
MBIR experimental capabilities correspond with tasks & programs for creation of innovative reactor projects:

- independent experimental loops with various coolants
- experimental channels for irradiation devices and / or channel-loop facilities
- instrumented in-core cells
- horizontal and vertical experimental channels



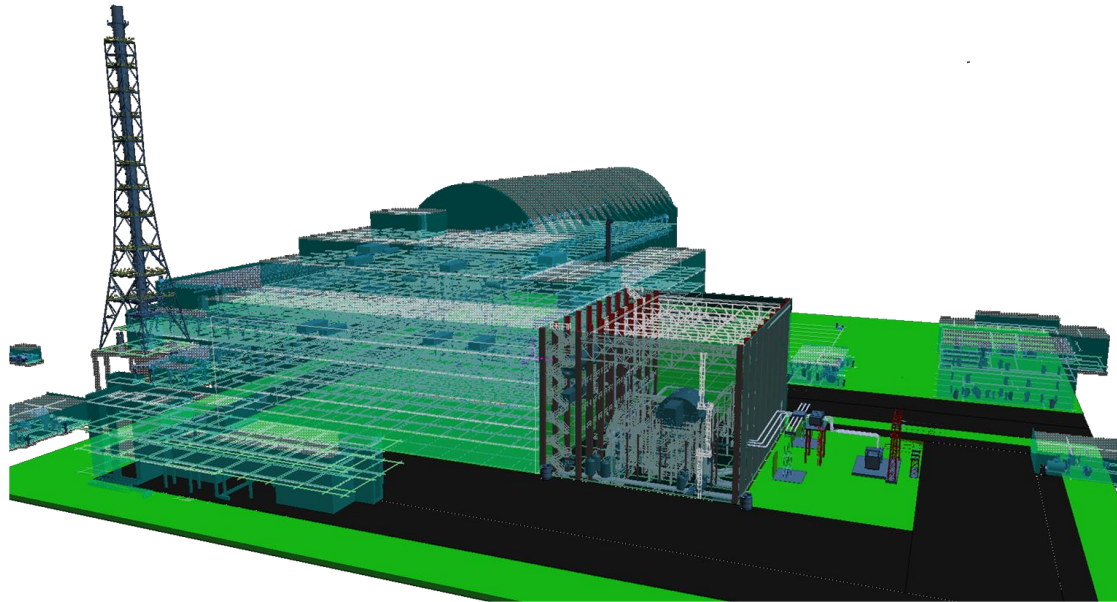
Cooperation of ROSATOM and Czech companies within the MBIR Project

- Czech-Russian Consortium («EGP INVEST spol. S r.o.», «ARPO a.s.» and JSC «TASMO») won in open tendering the contract for turbine island development.
- The Consortium has developed the detailed design of the turbine island including the following Sections:
 - Architectural solutions
 - Layout and arrangement solutions
 - Electric power supply system
 - Water supply & drainage system
 - Heating, ventilation, air conditioning networks
 - Communication networks
 - Turbine plant
 - Fire safety arrangements
 - Local cost estimates
- One of the Russian Customer requirements was to develop a 3D-model using the Intergraph's SmartPlan software.



Cooperation of ROSATOM and Czech companies within the MBIR Project

- The MBIR turbine island detailed design has been developed in full compliance with the current rules and regulations of Russian Federation
- Full 3D-model of MBIR turbine island including the power generating system has been developed. Currently the integration of this 3D-model into the Customer's MBIR Information Model using the Disconnected Workshare's procedure is underway



- The detailed design documentation has been handed over to the Customer within the full scope under the Contract terms

Prospects for extension of Russian-Czech cooperation within the MBIR Project

- In accordance with the RIAR's proposal and taking into consideration the successful operation of inverted steam generators on BOR-60 (experience accumulated since 1981), ROSATOM decided to use it in MBIR Project
- BOR-60 inverted steam generators OPG-1 (operated since 1981) & OPG-2 (have still been in trouble-free operation since 1991) were developed & manufactured by Czech companies.
- Based on preliminary discussions, ROSATOM is aimed to invite Czech companies to take part in the open tendering for the contract for MBIR steam generator design (to be opened soon)

Thank You for Attention!

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