



ПРЕДПРИЯТИЕ ГОСКОРПОРАЦИИ «РОСАТОМ»

Creation of the RSCs, centers for R&D  
conditioning on the basis of the new  
economically acceptable R&D  
conditioning technologies

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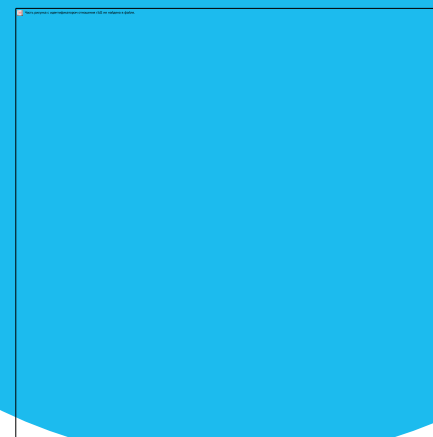
FSUE “RosRAO” — specialized nation-wide radioactive waste management operator

## FSUE “RosRAO” strategic goal

Leadership in complex RW management and dismantlement of decommissioned nuclear powered submarines (NPS) in the framework of the nuclear and radiation public policy in Russia

## FSUE “RosRAO” key challenge

Ensuring nuclear and radiation safety in complex RW management.





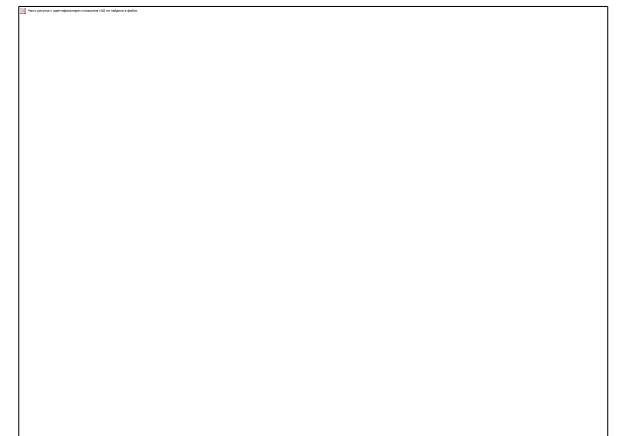
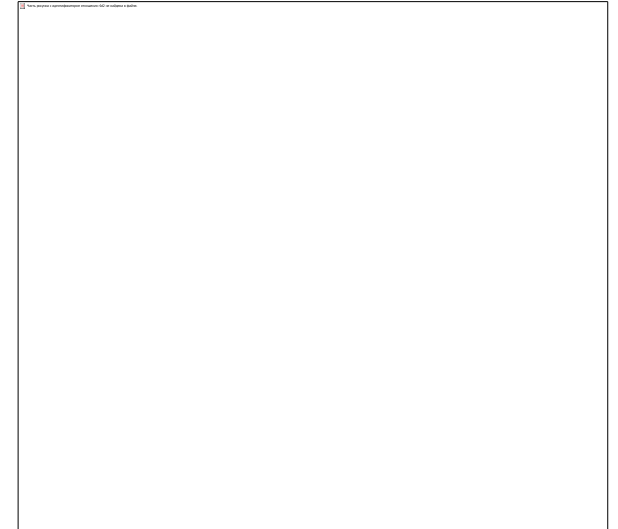
## **Current situation:**

deadline for extended operation of a number of NFC facilities

Nuclear legacy problems

The need for cooperation of specialized organizations with National operator

RW processing and treatment is the main factor for ecological safety ensuring and cost reduction.



## 1. Modern RW management infrastructure development in the framework of the creating Unified State System for RW management

Logistics centers creation (storage, RW initial processing)

Regional RW processing and conditioning creation

## 2. Processing technology optimization

Maximum avoidance of energy-consuming technologies

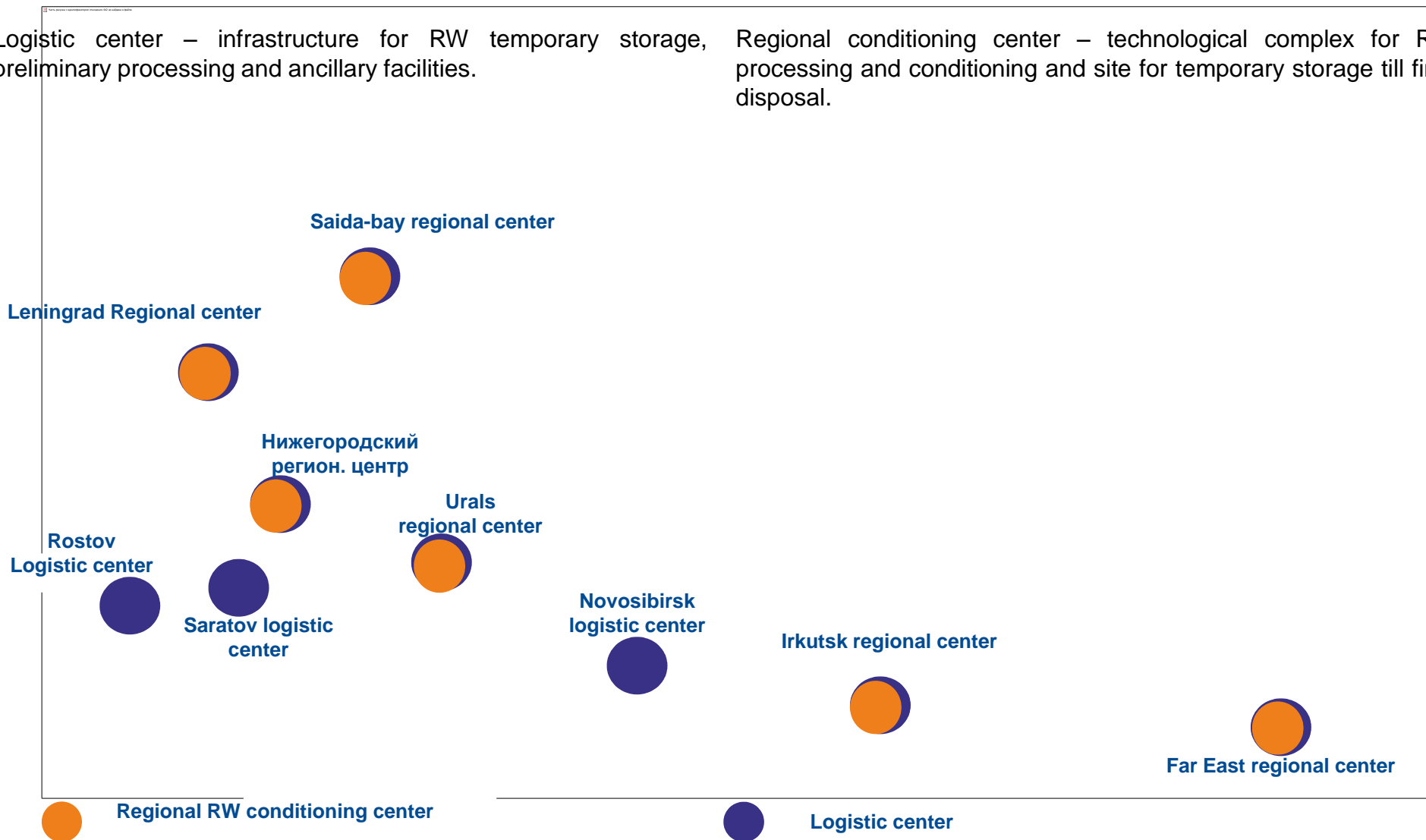
Maximum avoidance of technologies leading to significant secondary waste generation

Rejection of new capital construction projects in favor of mobile modular units

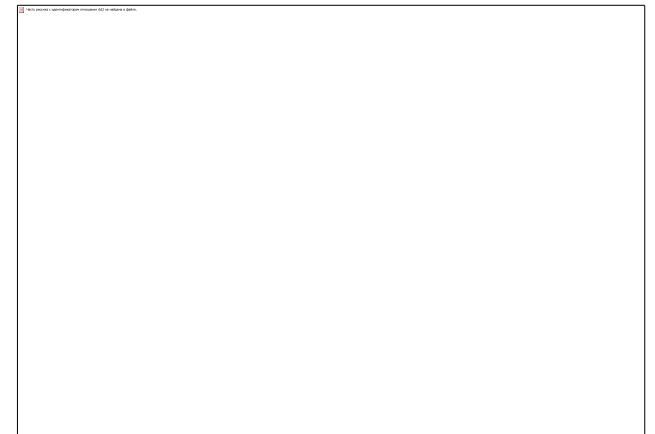
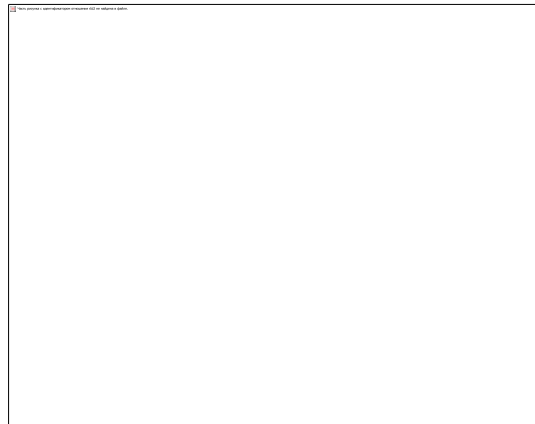
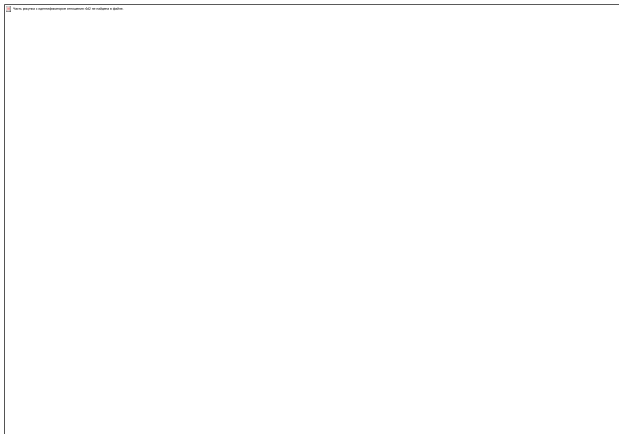
## 3. Using fast-erectable constructions

Logistic center – infrastructure for RW temporary storage, preliminary processing and ancillary facilities.

Regional conditioning center – technological complex for RW processing and conditioning and site for temporary storage till final disposal.



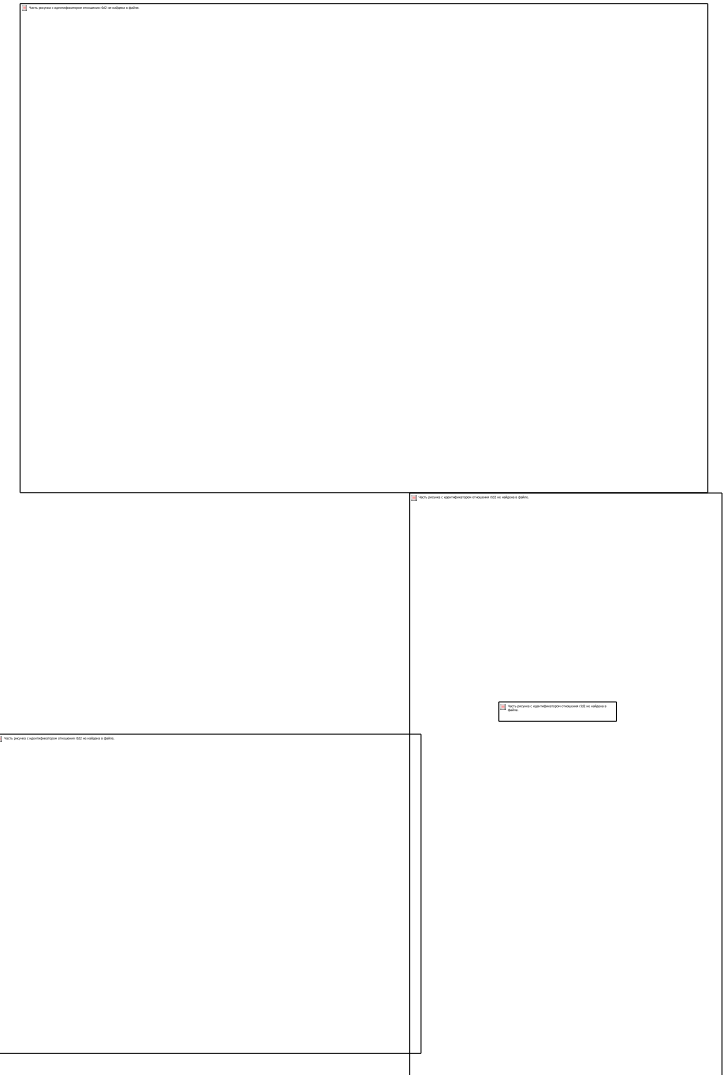
- - According to the plan logistic center will incorporate RW long-term storage facility (including large-scale containers), transport decontamination point, technological units for preliminary waste processes, road approaches and turning sites.
- - Logistics centers with technological areas will allow re-processing of the incoming RW (to reduce the volume) with a capacity of up to 300 cubic meters/ year and intermediate storage up to 7-15 thousand cubic meters..
- - Reducing storage costs with ensuring compliance of radiation safety during the SRW treatment. Target value - cost reduction on SRW storage by 40%.
- Current status - completed the design of the main building of Rostov logistics center, the start of construction - 2014. On other platforms this year - the beginning of the design.



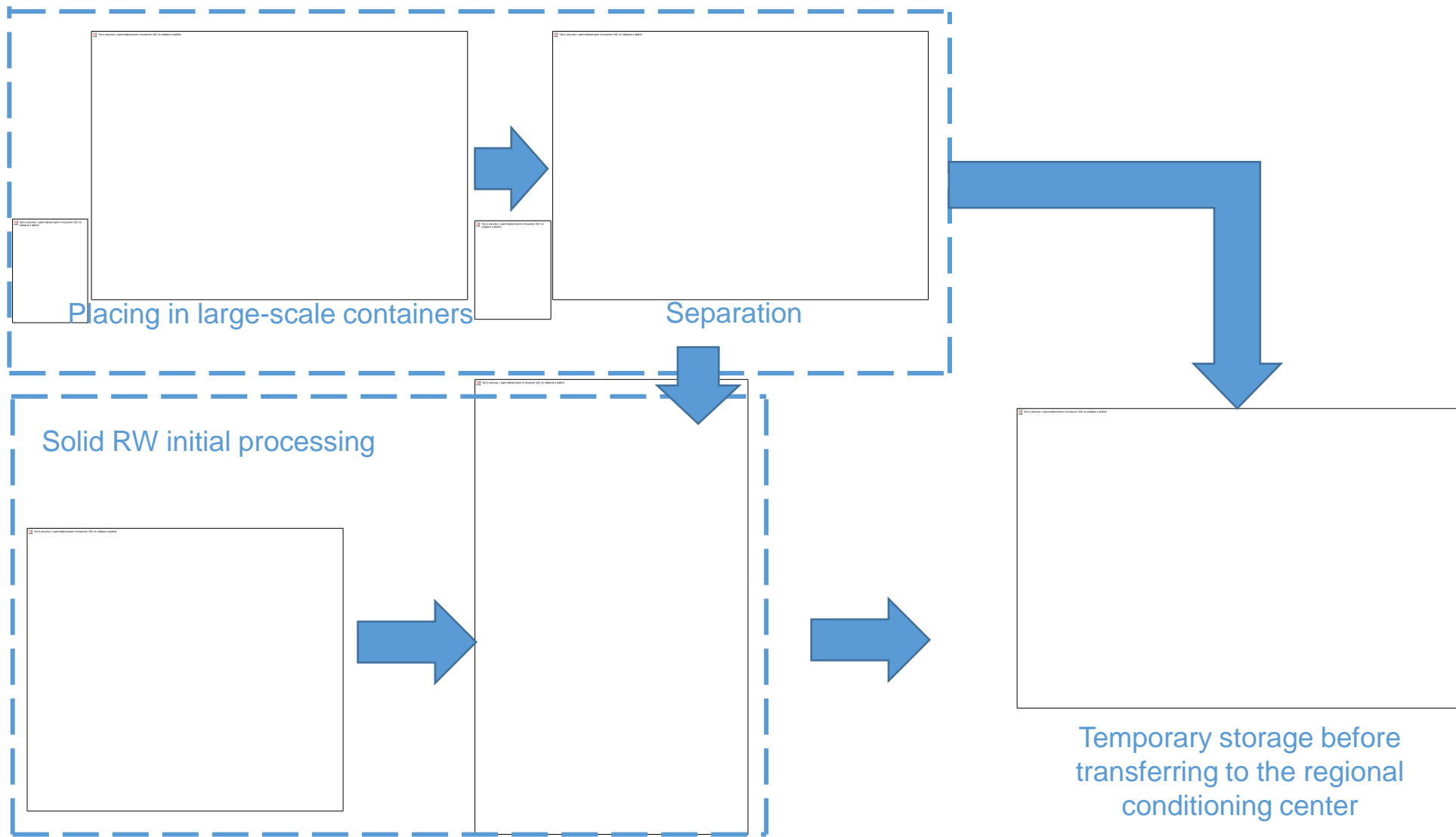
In Rostov, Saratov, Novosibirsk offices there are available or planned capacity for storage of radioactive waste. In 2016 offices will be equipped with technological equipment in a mobile version for pre-processing of radioactive waste.

The main operation (options):

- SRW sorting
- pre-processing of SRW
- Vibracompacting of particular RW.





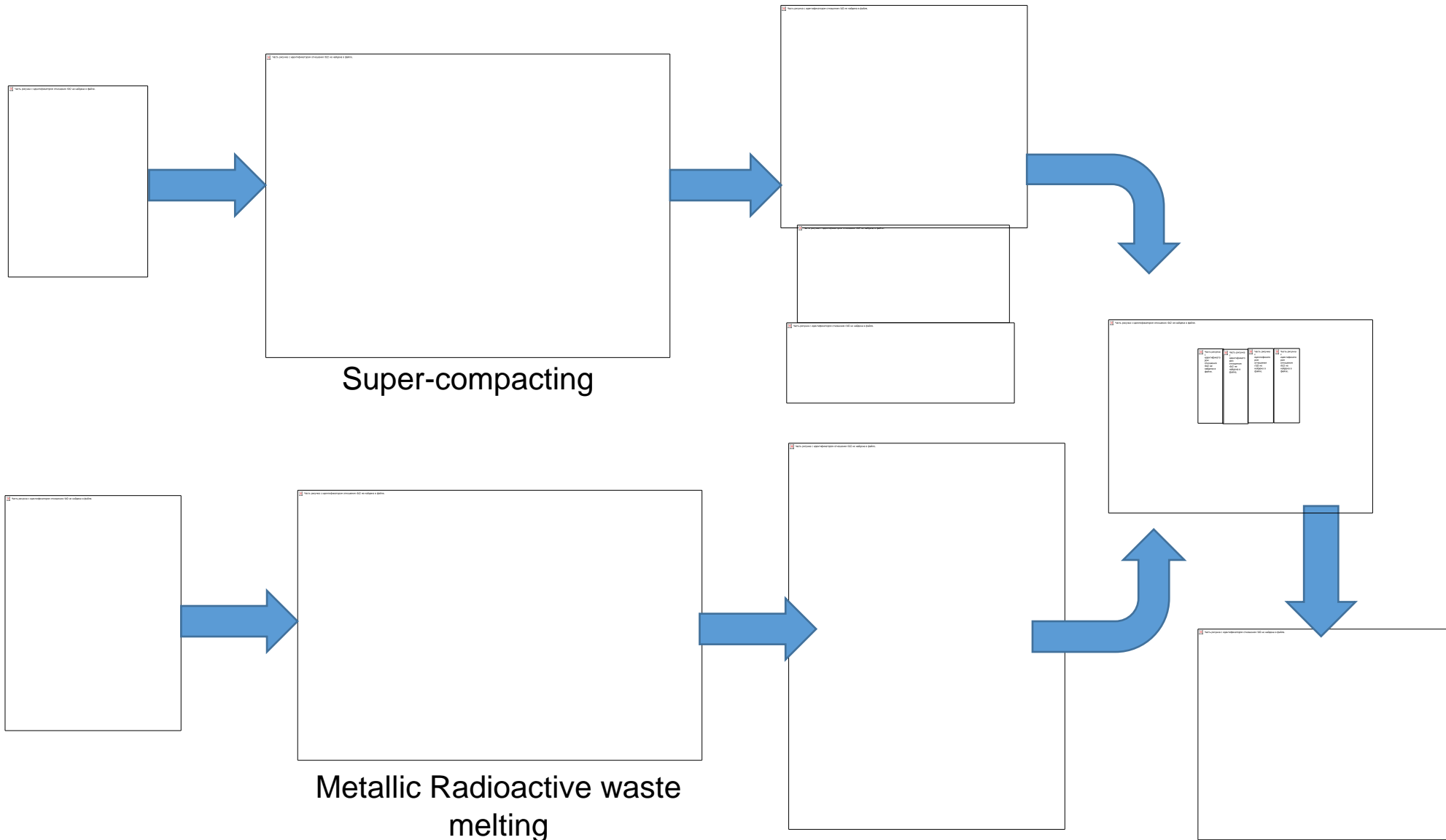


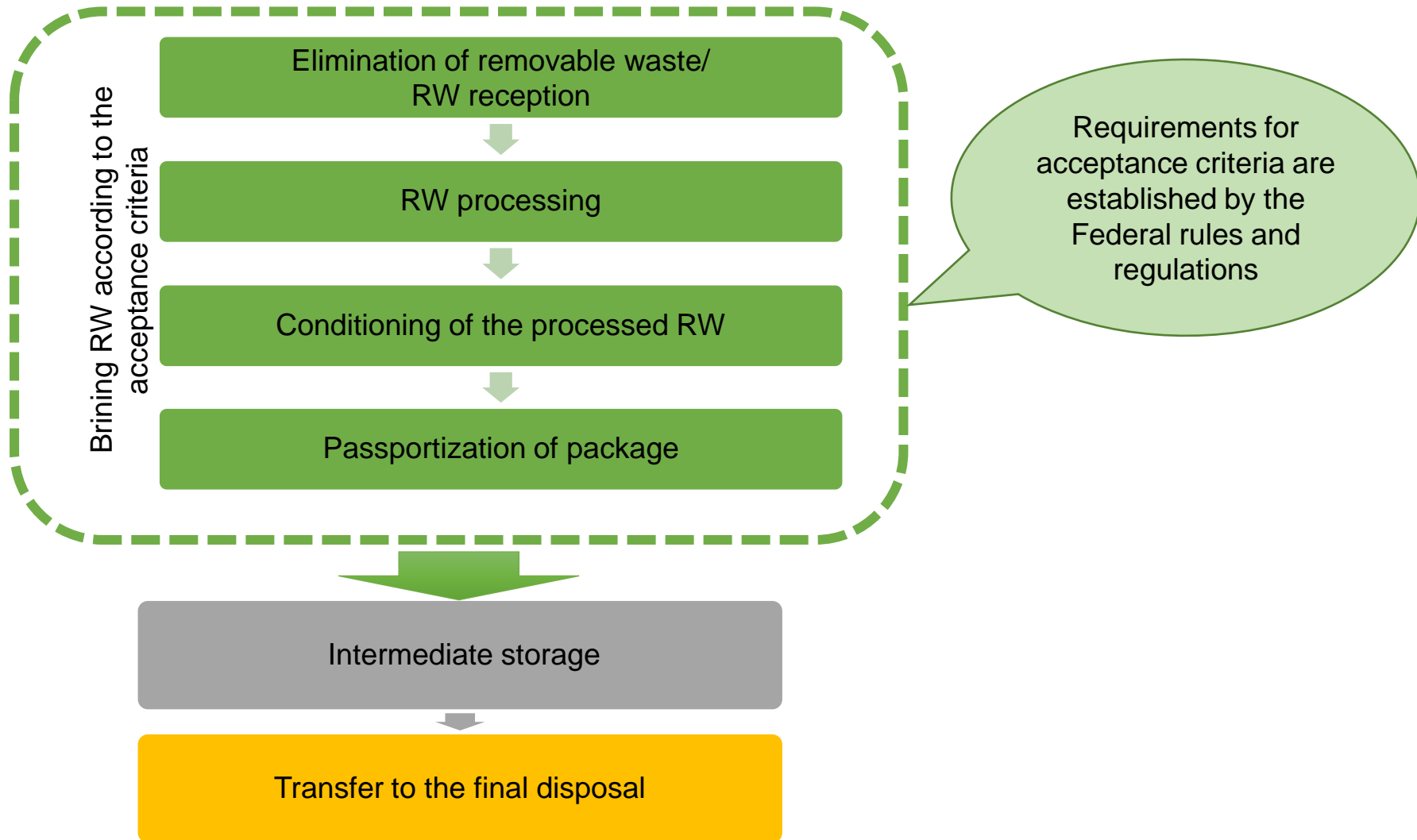
- Regional centers are planned to be allocated with the reference to the industry objects, considering given annual volume of operational radioactive waste and waste that will be generated during decommissioning of NRHS;
- Regional centers are the technological complexes for processing, conditioning and preparation for RW final disposal.
- Technologically complex concentrated land fragmentation, decontamination, cleaning LRW supercompacting melting (if necessary), and the characterization of RW, storage sites.
- The final product of the regional center – RW prepared to transfer to National Operator for final disposal.
- The key task - reducing costs for SRW processing and conditioning subject to the requirements of radiation safety. Target value - cost savings up to 50% compared to existing processing facilities. Optimization and standardization of technologies to reduce capital costs.
- Current status:
- Construction of the center in Saida Guba is completing.
- Leningrad, Irkutsk and Fokino centers are at the design stage
- for the current year is scheduled to begin the design of Nizhny Novgorod center.
- comprehensive technical and economic study is conducted for the Urals center

## Key technological operations (options):

- RW separation;
- SRW pre-super-compactification,
- Metal and heat insulating material melting (optionally)
- Liquid RW treatment;
- Joint cementing SRW and LRW in certified containers
- Passportization of the packages filled with conditioned RW.

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### 2020 Target state:

- Modern infrastructure for RW management is created;
- All in-coming and 'historical' (partly) RW are processed;
- Wastes are conditioned according the forms acceptable to the final disposal

Thank you for your attention!

