



SE Ignalina NPP

# Dismantling of drum-separators

# Scope of the project



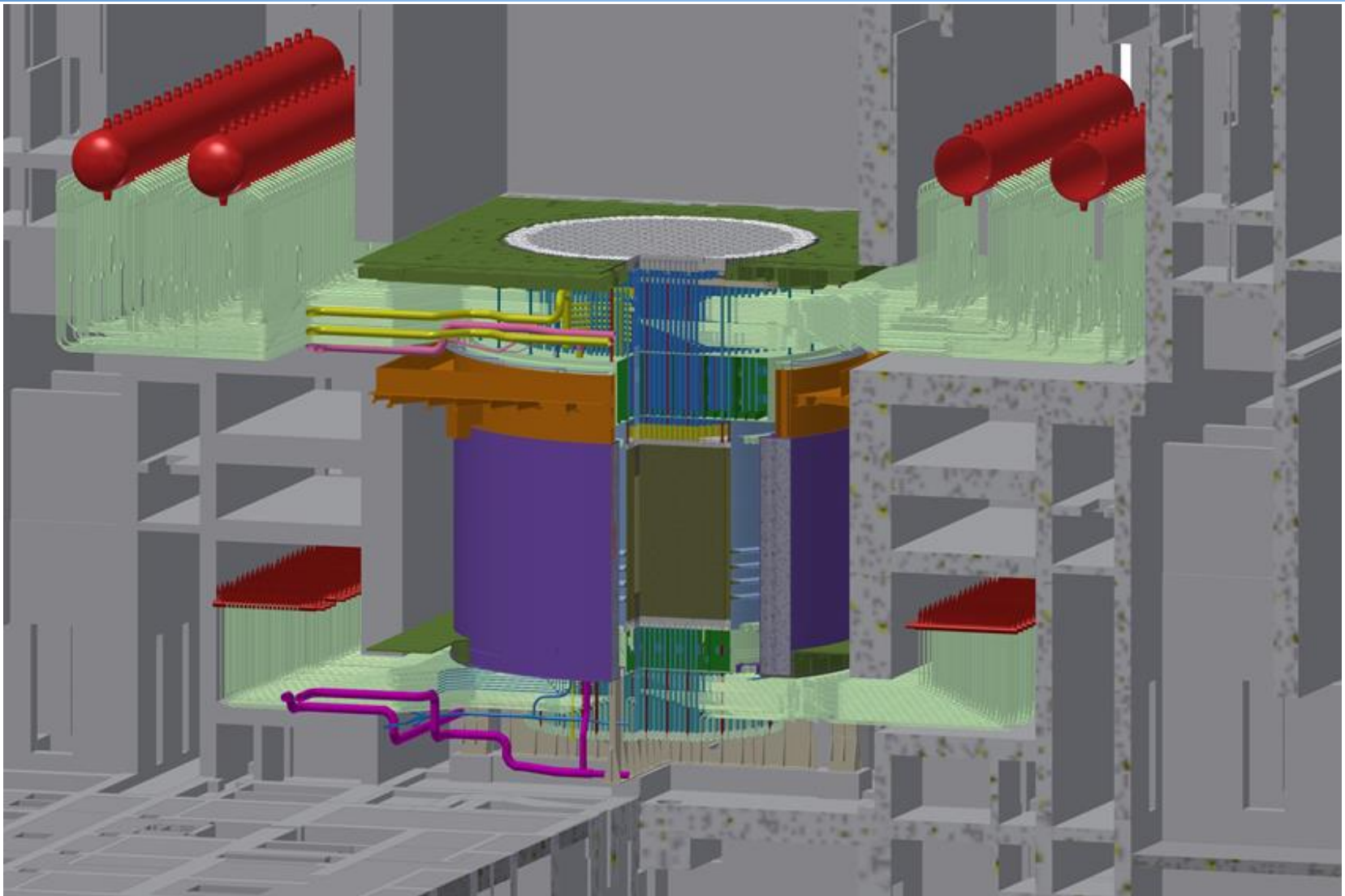
The scope of this project is dismantling and fragmentation of the following technological equipment:

- drum-separators with pipelines (except for the steam and water communications  $\text{Ø}76\text{X}4$ );
- fuel claddings integrity monitoring system;
- control measuring devices;
- metal structures.

Total mass of the equipment to be dismantled is **~3100 t** (per one Unit).

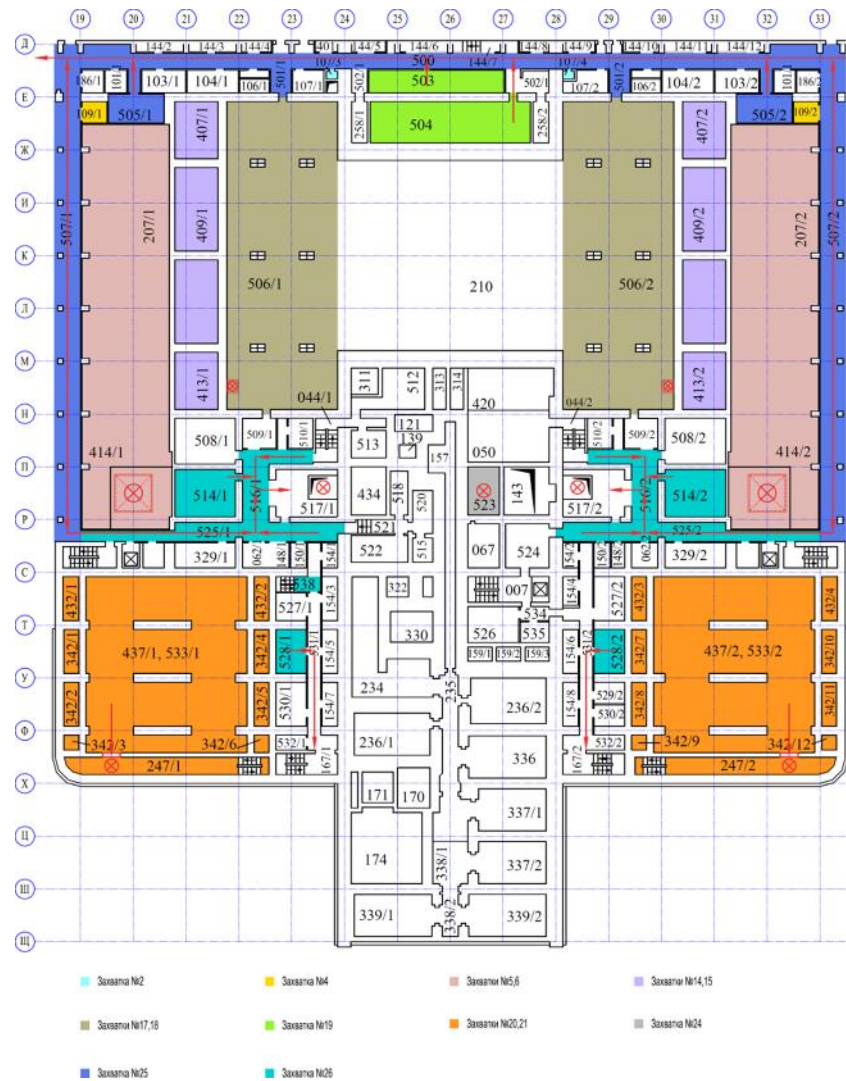


# Layout of INPP reactor unit

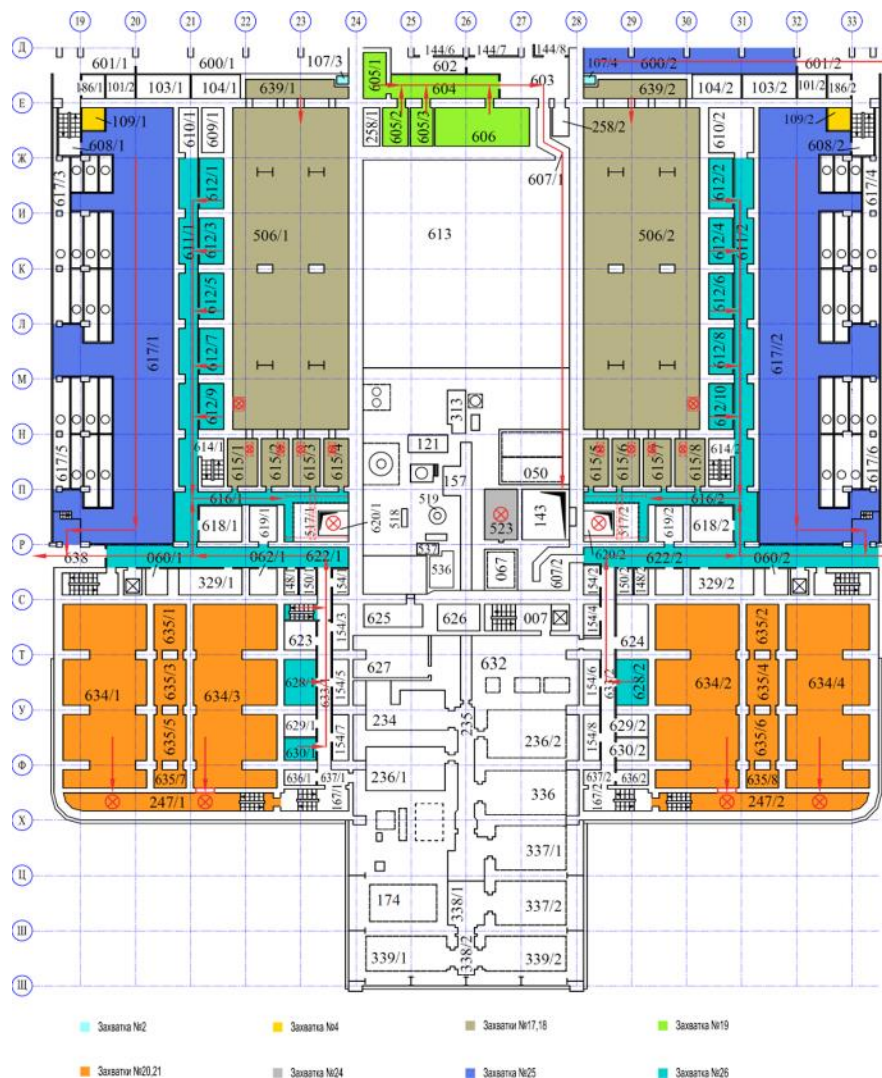




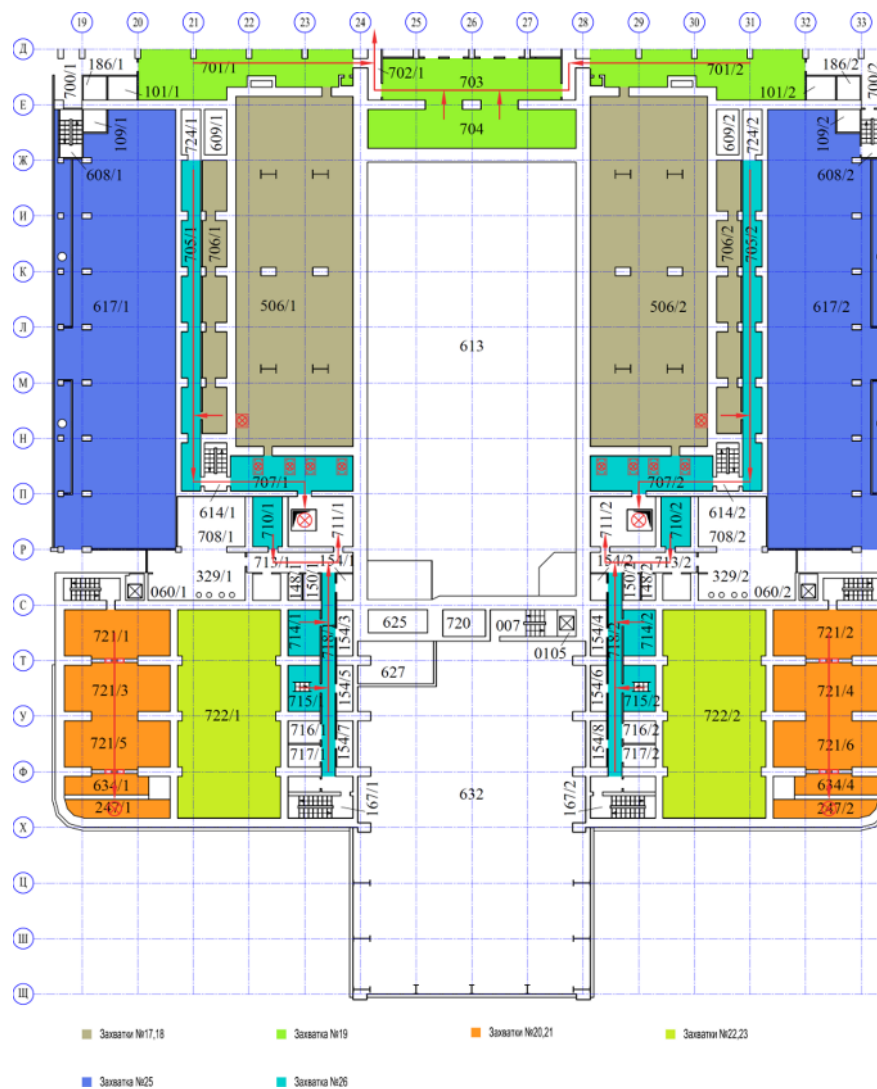
# Work zone (level +20,40)



# Work zone (level +25,20)

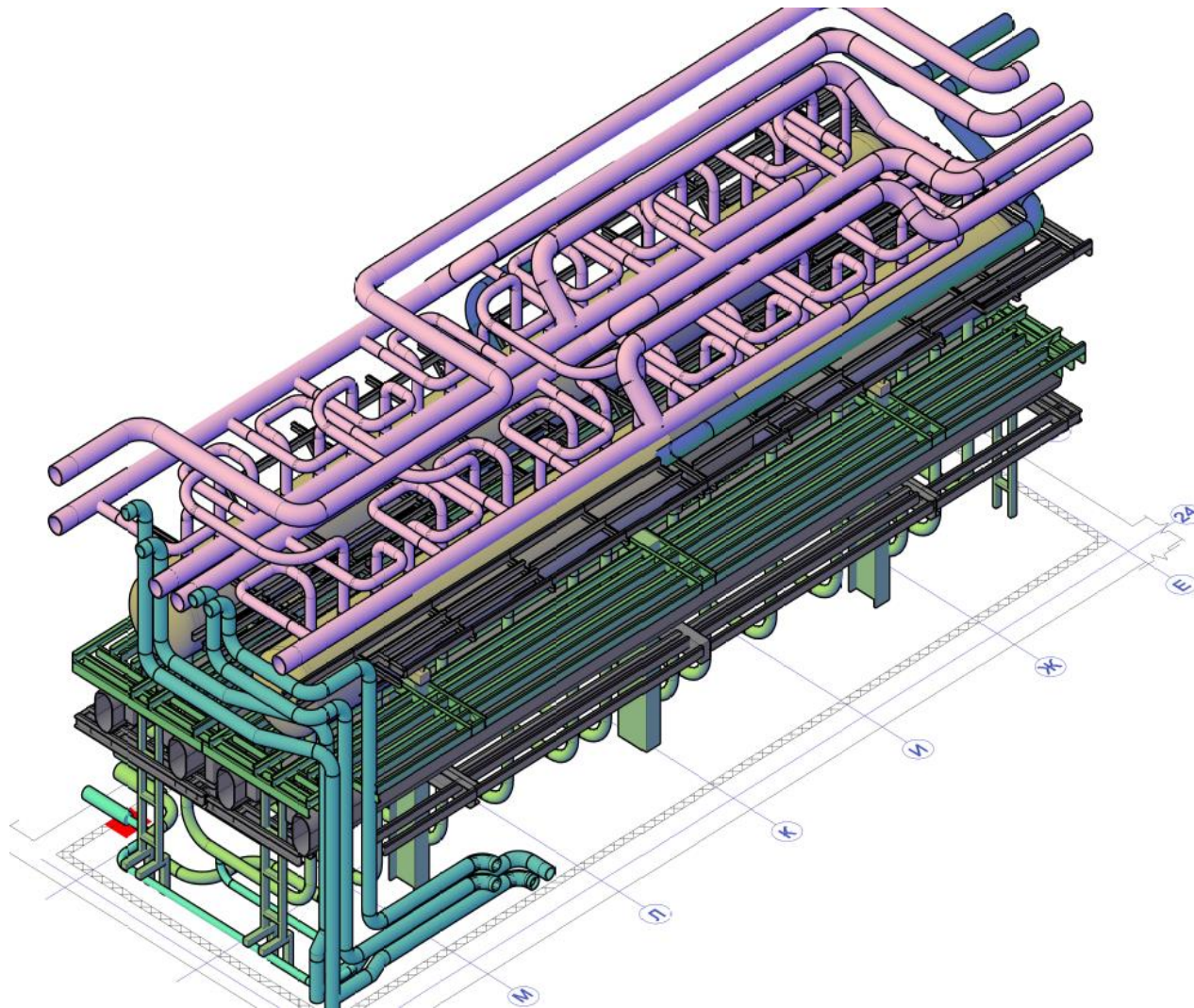


# Work zone (level +28,80)





# Layout of equipment in rooms 506/1,2

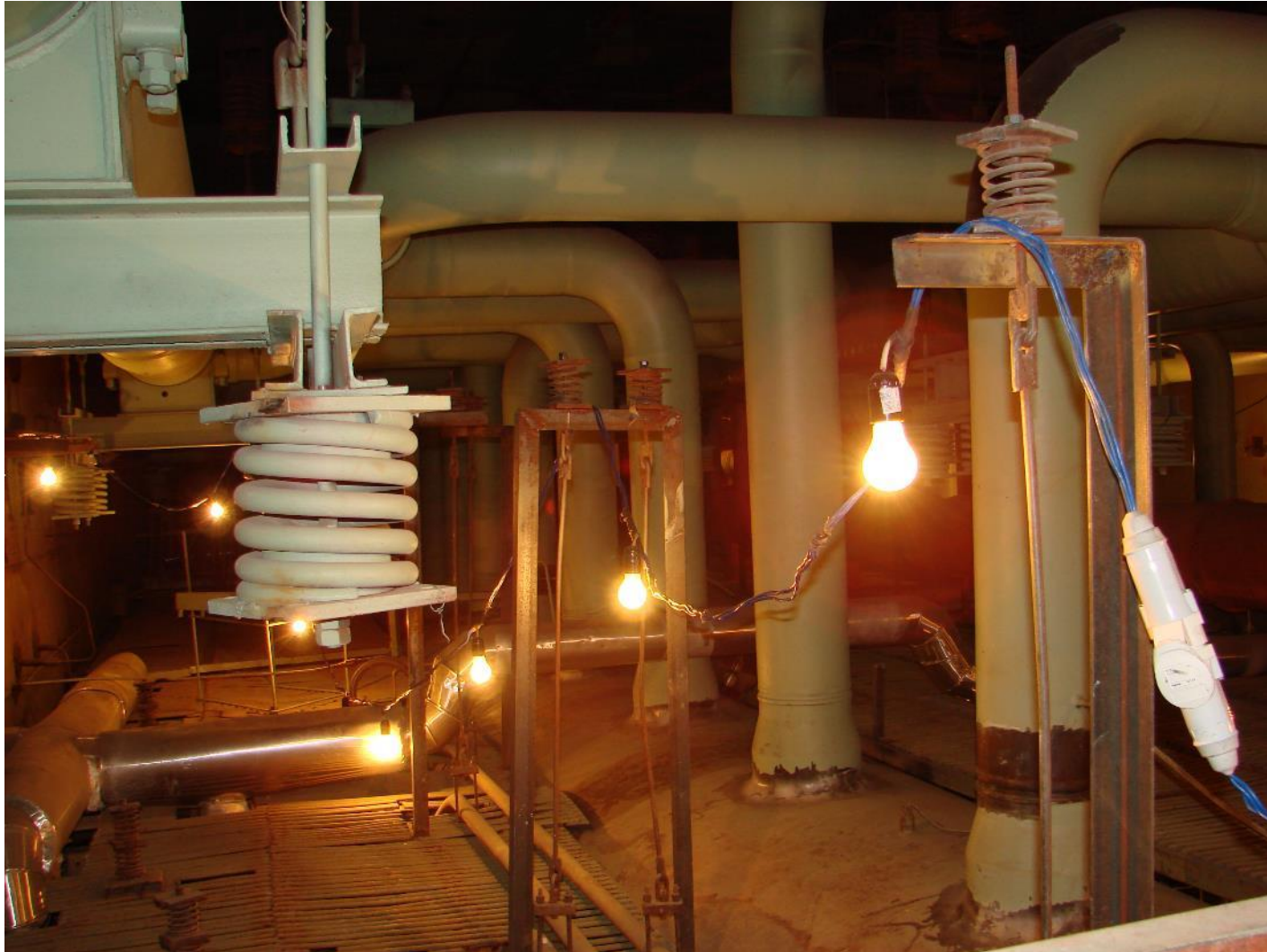


# Photos of DSs





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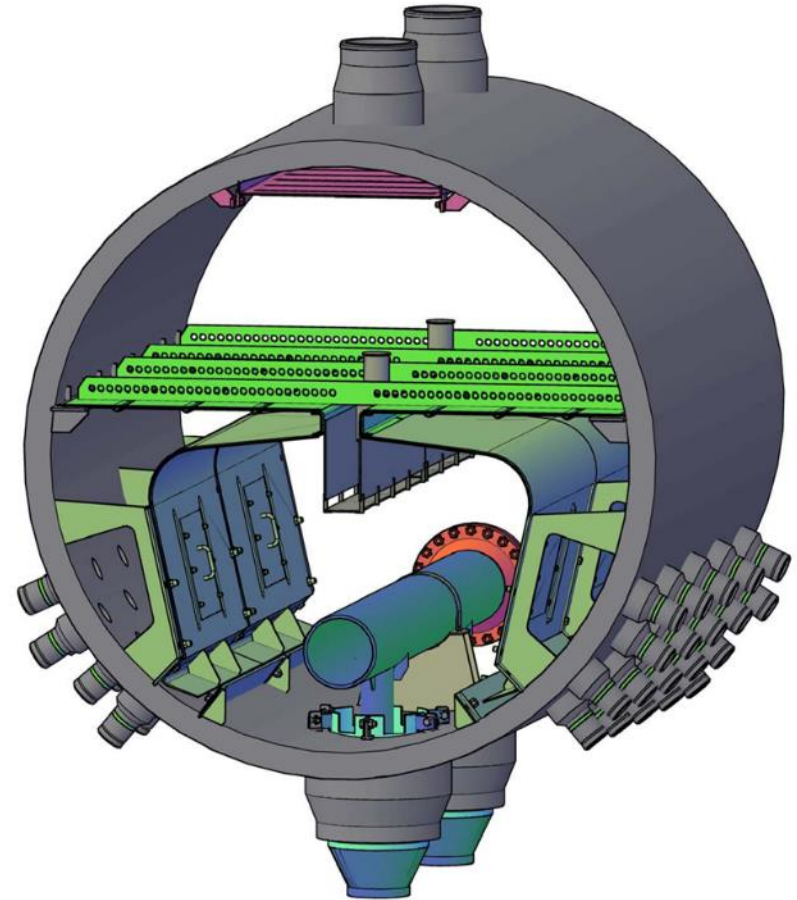




# Design of DSs



- Size (LxD) – 33x2.9 m;
- Mass – 4x300.0 t;
- Wall thickness – 115 mm;
- Materials:
  - body – carbon steel;
  - internal layer of the body (~9 mm) – stainless steel;
  - internals – stainless steel;





# Radiological conditions



- the  $\gamma$  dose rate from the drum-separators is up to 1000  $\mu\text{Sv/h}$ ;
- the  $\gamma$  dose rate from the drum-separator water cross junctions, downflow pipes and drains is up to 3000  $\mu\text{Sv/h}$ ;
- the  $\gamma$  dose rate from the steam-water reserve branches is up to **10000**  $\mu\text{Sv/h}$ ;
- the  $\gamma$  dose rate from the plugs of dismantled water cross junctions is up to **20000**  $\mu\text{Sv/h}$ ;



# General sequence of work



- Dismantling of DS C&I, air vent and drain piping;
- Dismantling of steam pipes and headers;
- Installation of a single-beam crane with loading capacity 5 t;
- Dismantling of DSs;
- Dismantling of service platforms on the level +28.30;
- Dismantling of downflow pipelines, water cross junctions and blowdown and cool down system pipeline;
- Dismantling of FCIM ducts and inter-row shielding;
- Dismantling of service platform on the level +25.30 and DSs supports.



# Dismantling of DS



Dismantling of DS is carried out by sections. Dimensions of sections are determined on the basis of:

- Dimensions of a transport opening – 1200x1000 mm;
- A crane loading capacity – 5 t;
- A layout of internals inside the DS body – perforated plates, brackets and etc;

Dismantling begins with elliptic bottoms. Dismantling of DS body is performed by layers in direction from top to bottom. Internals are dismantled in parallel with DS body.





# Project schedule



According to the current planning dismantling of DSs will be carried out:

## **At Unit 1:**

- Room 506/1: May 2022 – April 2024;
- Room 506/2: April 2024 – April 2026.

## **At Unit 2:**

- Room 506/1: October 2025 – September 2027;
- Room 506/2: September 2027 – September 2029.



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