



International Experts' Meeting on Decommissioning and Remediation after a Nuclear Accident

28 January – 1 February 2013, Vienna, Austria

Transformation of the Object Shelter into an Ecologically Safe System

**Arrangement of the New Safe Confinement Arch
Assembly Platform for the Shelter Object**

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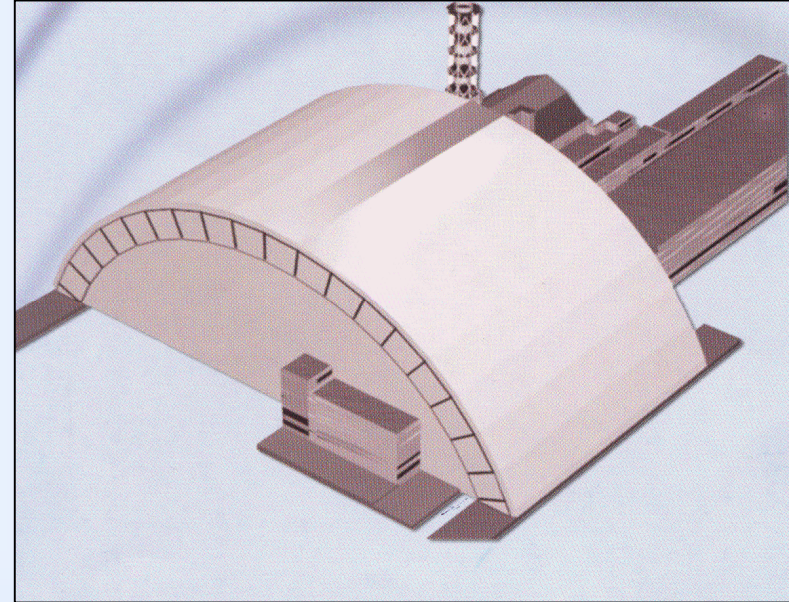
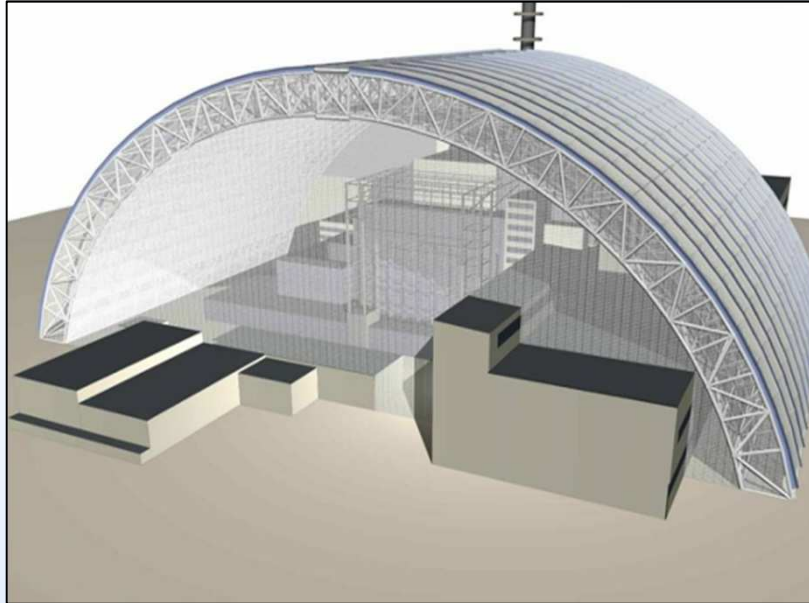


The New Safe Confinement is a protective structure which is intended for:

- protection of workers, public and environment from influence of the Shelter Object
- creation of conditions to transform the Shelter Object into ecologically safe system, including deconstruction/reinforcement of unstable Shelter Object structures, radioactive waste management and removal of fuel containing materials



Platform Arrangement for Assembly of the New Safe Confinement



Confinement is an Arch structure with the following geometrical dimensions:

- chord of Arch to North-South – 257 m,
- height – 108 m,
- length – 150 m

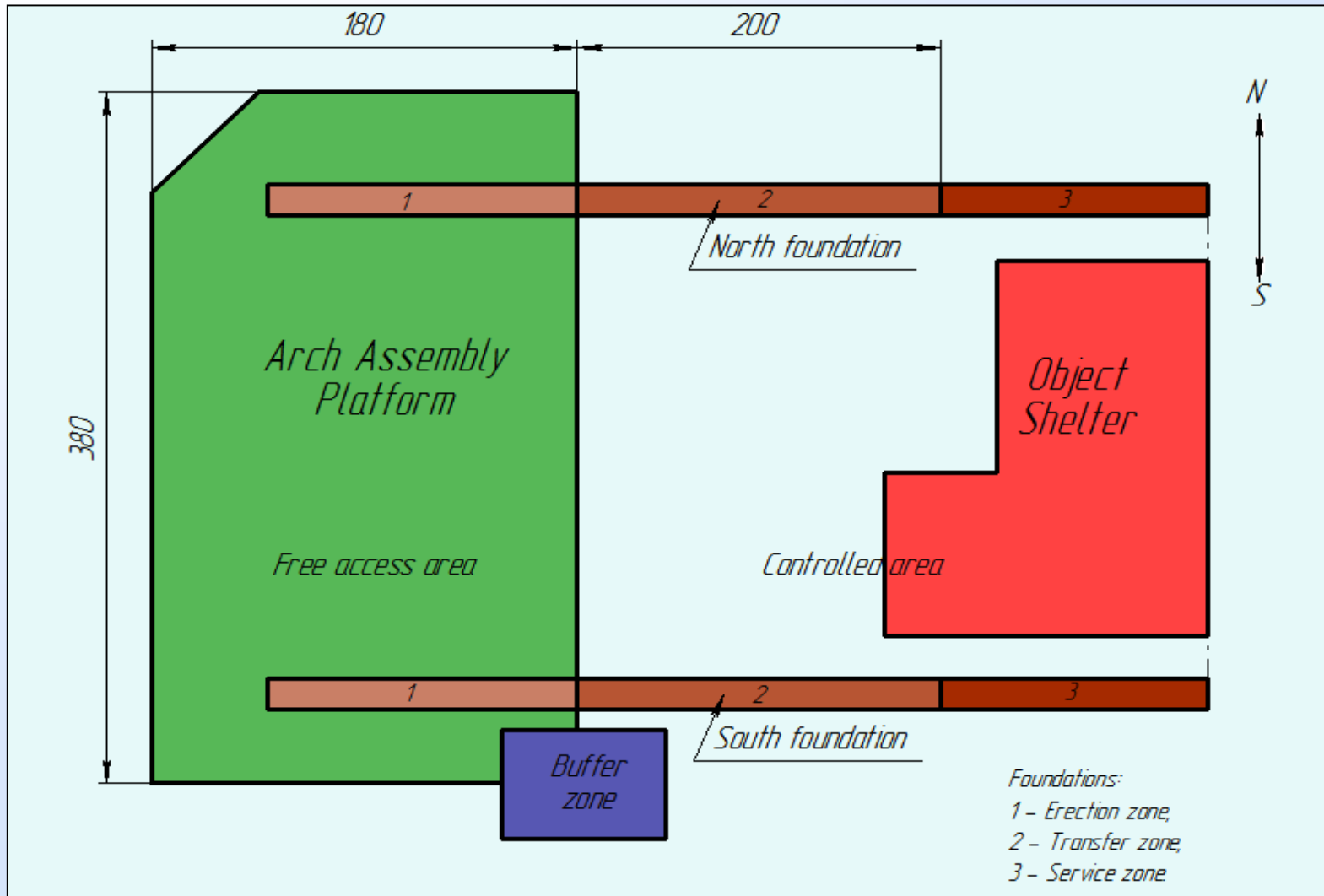
The lifetime for confinement – 100 years



- Due to the complicated radiation conditions near the Shelter Object the assembly of Arch is carried out at a specially site (platform) at the distance of 200 m from the Shelter Object
- After the Arch is assembled it will be slid in the designed position over the Shelter Object
- The platform is rectangle and its dimensions are 380 m by 180 m, total area ~ 64 520 m²
- A specific feature of the platform is arrangement on its territory the “**free access area**”



Platform Arrangement for Assembly of the New Safe Confinement





Platform Arrangement for Assembly of the New Safe Confinement



The territory of the platform was a natural site with grass, bushes and trees, fragments of concrete blocks, abandoned equipments and several buildings



- Before construction activities started the following preparatory works had been performed:
 - cleaning of the construction site
 - dismantling of buildings
 - earthworks
- To provide free access area conditions for the platform there were removed the layers of soil: man-made and “active” layers (“active” layer was under man-made)
- The total amount of the removed soil ~ **7 340 m³**



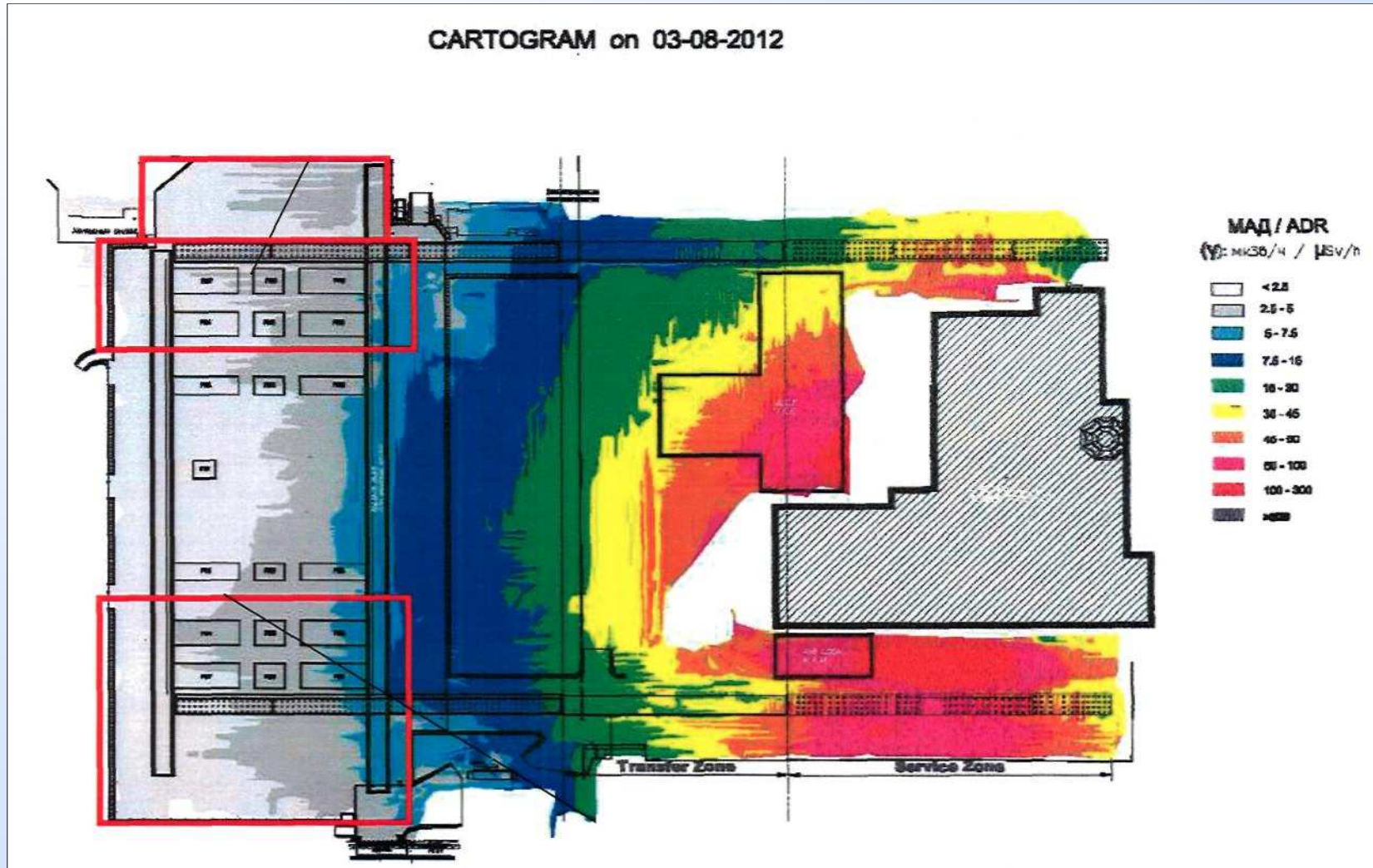
- The platform site was backfilled by the following way:
 - layer of uncontaminated sand; 25-cm layer of gravel
 - 20-cm reinforced concrete layer atop
- The dose rate on the platform vary from 2,5 to 5 $\mu\text{Sv}/\text{hour}$ (does not exceed 7,5 $\mu\text{Sv}/\text{hour}$ that complies with the conditions for free access area at Chernobyl NPP)
- The dose rate at a height higher than 10 m in most cases exceed 7,5 $\mu\text{Sv}/\text{hour}$
- To protect workers at a height there are measures of collective protection (shielding)



Platform Arrangement for Assembly of the New Safe Confinement

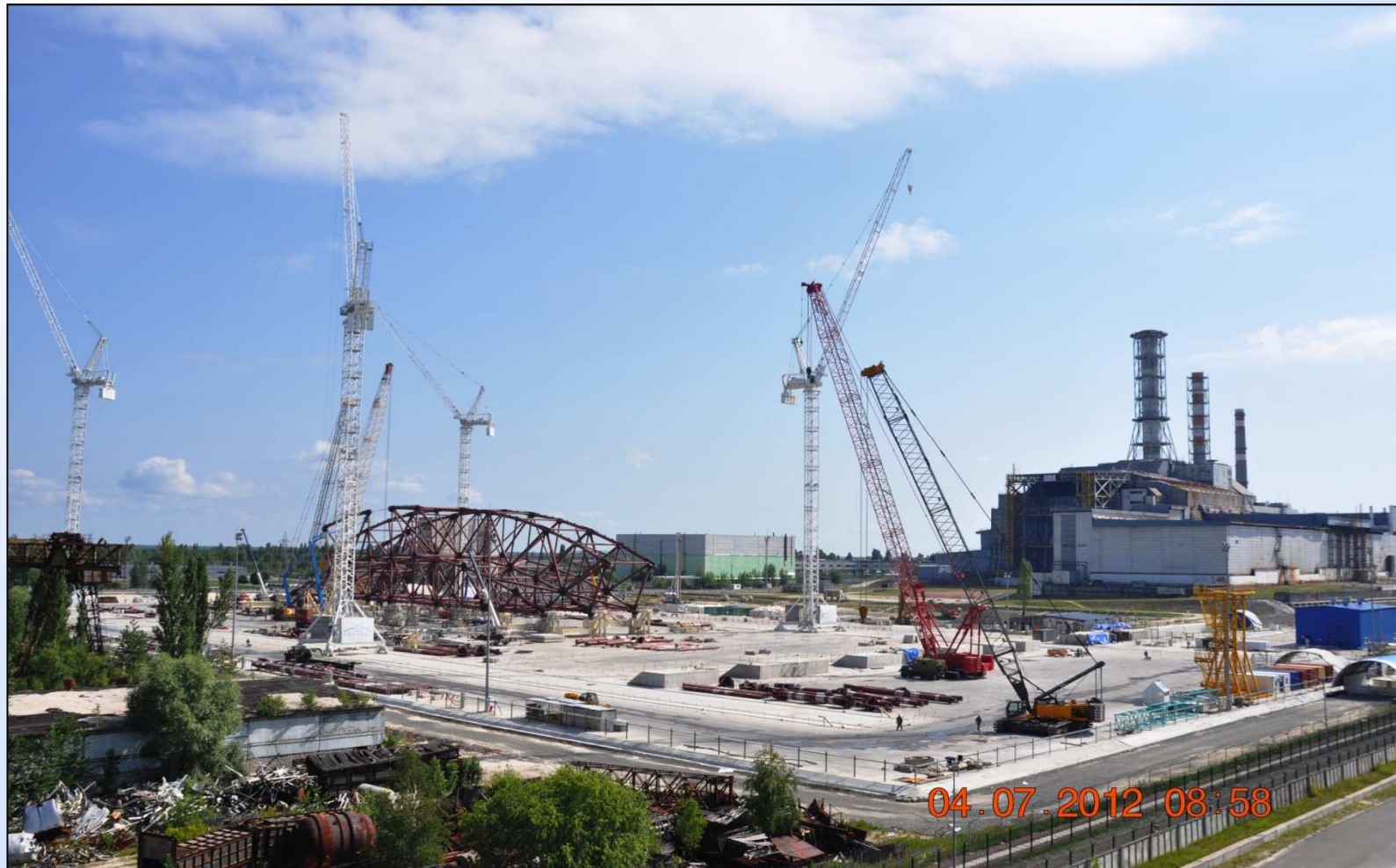


CARTOGRAM on 03-08-2012





Platform Arrangement for Assembly of the New Safe Confinement





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Conclusions:

- Since the Arch assembly platform was commissioned it has had conditions comparable to Chornobyl NPP free access area; its territory is practically “clean”
- During the platform operation the radiation monitoring is applied to the territory, trucks, equipment, etc.; individual radiation monitoring is conducted as well
- There are specific conditions to rejected the status of a “free access area” and return platform to controlled area
- After the new safe confinement is constructed, the platform can be used for other purposes (as a free access area)



**Thank you
for your
attention!**

