

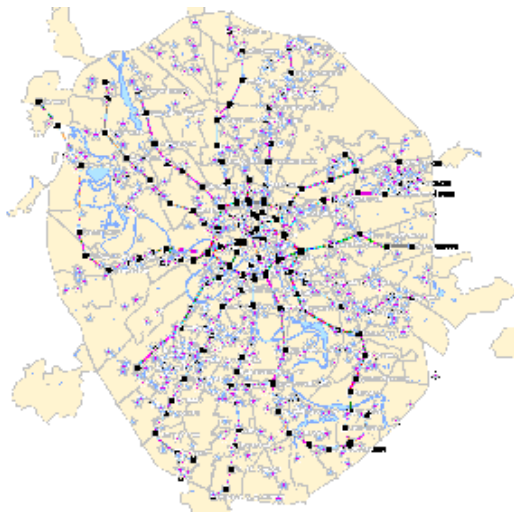
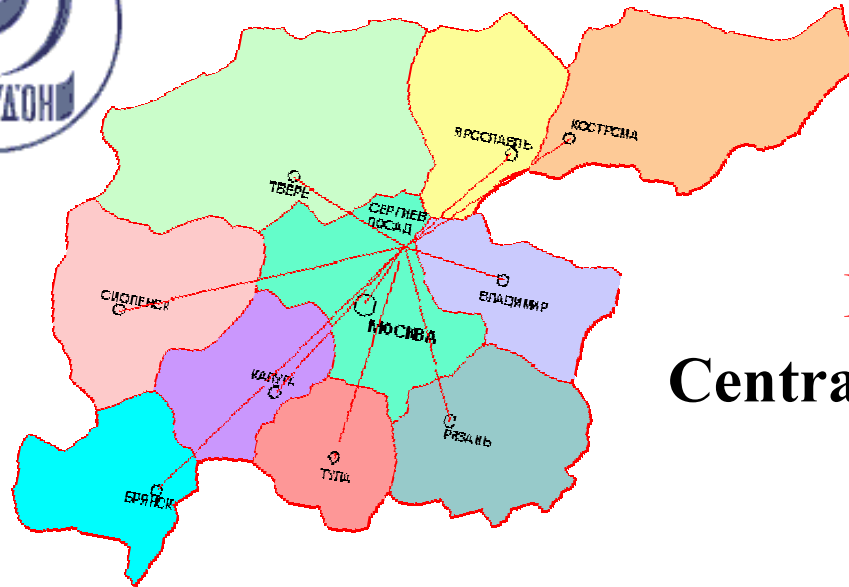


Government of Moscow
The Moscow State Unitarian Enterprise
Incorporated Ecological-Technological and Scientific
Research Centre on RW utilization and security
(Mos SIA “Radon”)



D&D Experience in Mos SIA “Radon”

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Responsibility:

Central region of Russian Federation
with population $\sim 50 * 10^6$.

Staff: 2865 employees

- **Specific activity of waste**, coming for treatment is in the range of $10^5 - 10^{11}$ Bq/kg.
- **Waste volume annually** is 2500-3000 m³
- **Service:** Monitoring, decontamination, decommissioning, site remediation, waste transportation, waste treatment, long-term storage



The Center of Radwaste Transportation and Emergency Works

- **More than 300 employees;**
- **More than 150 cars, trucks, special techniques etc.;**

The Center is responsible for :

- **Emergency calls;**
- **decontamination service for Governmental and industrial sites;**
- **waste transportation;**
- **preparation of decontamination plans and decision making process in D&D;**
- **sources identification;**
- **developing of advanced decontamination techniques.**



From 1994:

- **> 650 historical sites decontaminated;**
- **>25000 cubic meters of radwastes transported for treatment and storage;**
- **> 850 emergency calls;**
- **> 10 sites decommissioned.**



Progress in 2008

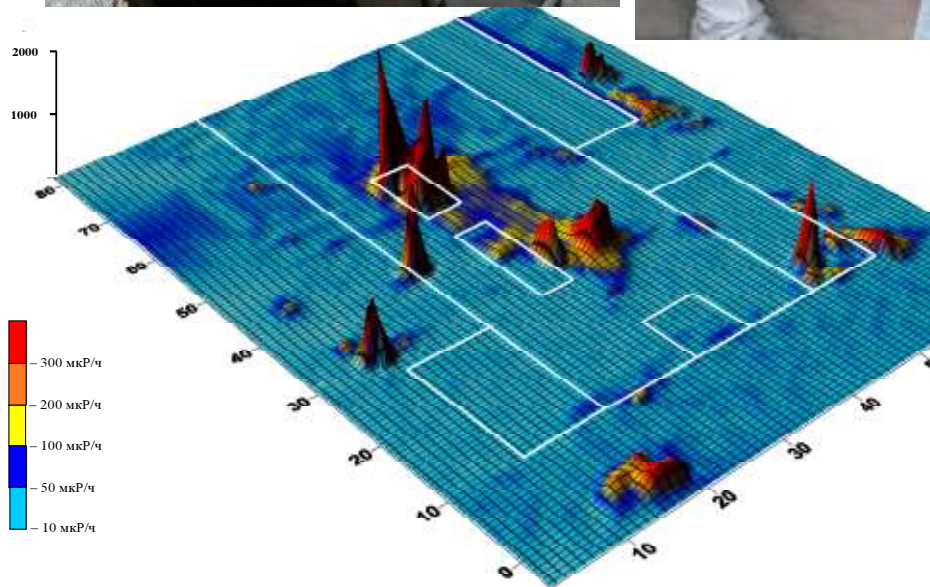
- **Participation in Federal Target Program “Nuclear and Radiation Safety Assurance for 2008 and Until 2015”**
- **Characterization of new “Legacy” sites**
- **Decontamination for Moscow (Budget of the Government of Moscow)**
- **D&D training on the base of IAEA Training Center and Center of Techniques for RW Transportation and Emergency Works in Radon**
- **Technical visits to European and American D&D Projects**
- **Participation in IAEA CRP T24008 “Planning, Management and Organizational Aspects in Decommissioning of Nuclear Facilities”**
- **Development of new polymeric strippable coating with nanodisperse fillers for decontamination (Jointly with Moscow State University)**

Characterization of “Legacy” sites



Radioactive contamination of Bld 81 and territory around building of Joint Stock Company “KuybushevPhosphor” detected in 1984. It was formed as a result of non-authorized decapsulation of Cs-137 source. First decontamination had not full scale cleaning. Building was shutdown.





Total activity was found as result of characterization makes approximately 72 mCu or 3 % from initial activity of Cs-137 source . Volume of radioactive waste are estimated in 24 m³. Maximal contamination levels are 25 mkSv/h or 2.2*10⁶ Bq/kg

Decontamination for Moscow

Decontamination of Radiochemical Laboratory

- Total square – 130 m²
- Contaminants –
Co-60, Ag-108, Bi-207
with maximum specific activity Co-60 =
207 000 Bg/kg



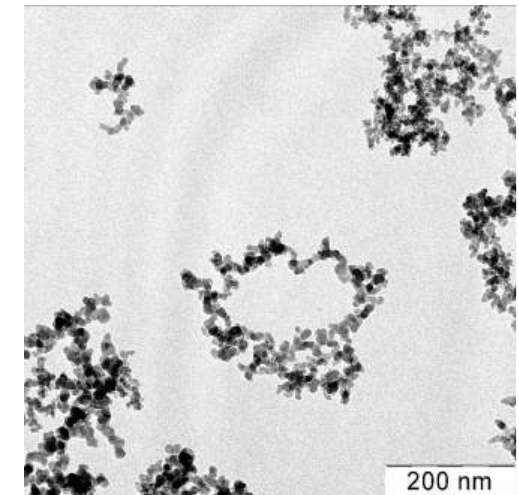
- Decontaminated, sorted, packaged and transported to “Radon” 2,55 m³ of radioactive waste:
- In accordance with NRB-99 (Russian Sanitary Rulers) irradiation less than 1 mkSv/h



Initial contamination	After decontamination
470 mkSv/h	0.14-0.33 mkSv/h
95 000 particles/sm ² min	10 – 25 particles/sm ² min

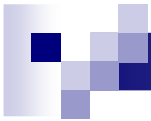
Development of new polymeric films for decontamination

New polymeric films based on IPECs, containing glycerin as softener and nano particles of silica (from 10 up to 30% weight).



Polymeric composition applied layerwise (5-7 layers) and left after full drying (12 - 24 hours).





NN	Activity, Bq/sm ²		DF
	Initial	After decontamination	
1	240	2	120
2	400	5	80
3	450	3	150
4	330	3	110
5	560	2	280
6	300	5	60
7	425	5	85
8	400	4	100
9	560	4	140
10	480	3	160



Expectations from IDN

- **Creation of data base of D&D techniques;**
- **Development of new decontamination techniques;**
- **Knowledge exchange;**
- **Modification of commercial tools;**
- **New equipment for measurement**



Possibilities for IDN

- **Training in D&D planning, site characterization, development and implementation of new decontamination techniques and equipment;**
- **Training in Waste Management**
- **Technical visits**