



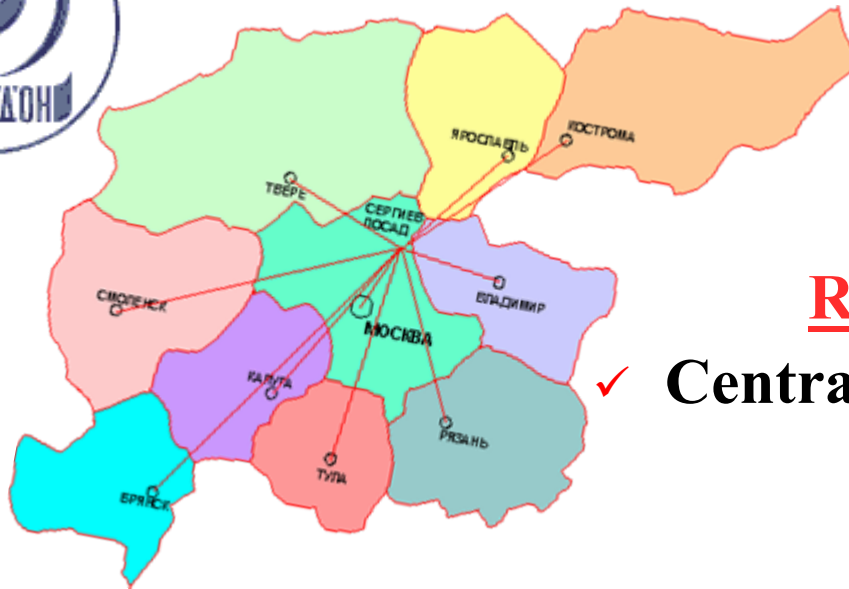
Government of Moscow

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



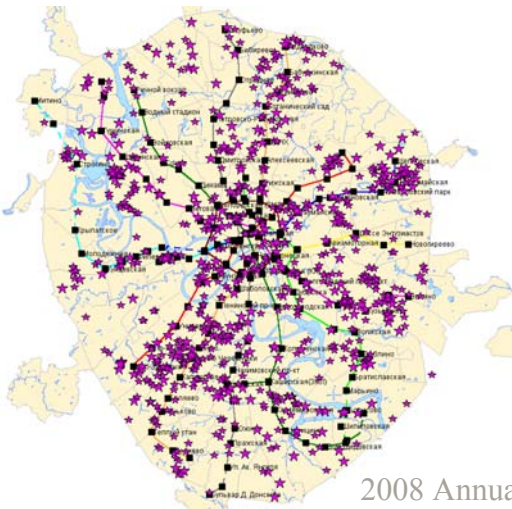
D&D Experience in Mos SIA “Radon”

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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 Techniques for Radwaste Transportation and Emergency Works

- More than 300 employees;
- More than 150 cars, trucks and special equipment for characterization, decontamination, site remediation, demolishing, research base (equipped laboratories)

The Center is responsible for :

- Emergency calls;
- Decontamination service for Governmental and industrial sites;
- Radioactive waste transportation;
- Sites characterization;
- Preparation of decontamination plans and decision making process in D&D;
- Sources identification;
- Developing of advanced decontamination techniques and modification of well known.

From 1994:

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



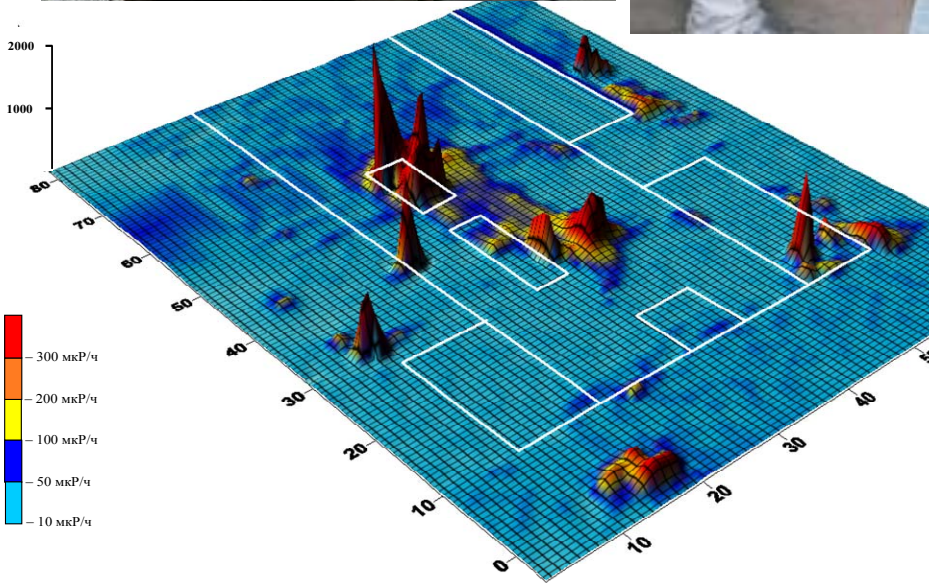
Progress in 2008

- **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

470 mkSv/h

95 000 particles/sm²min

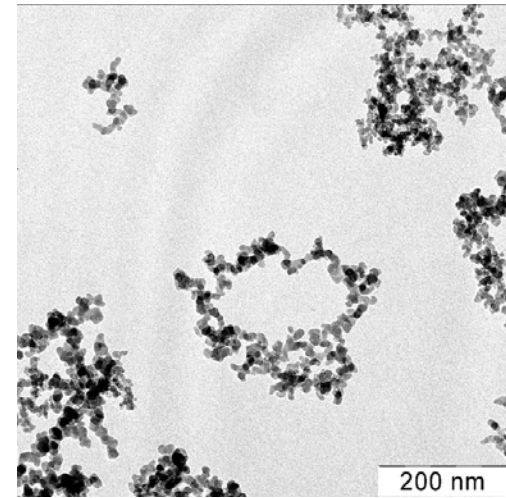
After decontamination

0.14-0.33 mkSv/h

10 – 25
particles/sm²min

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 (5-7layers) 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**