

Hungary registered its capabilities for response to radiation emergencies under the Response Assistance Network (RANET) of the IAEA

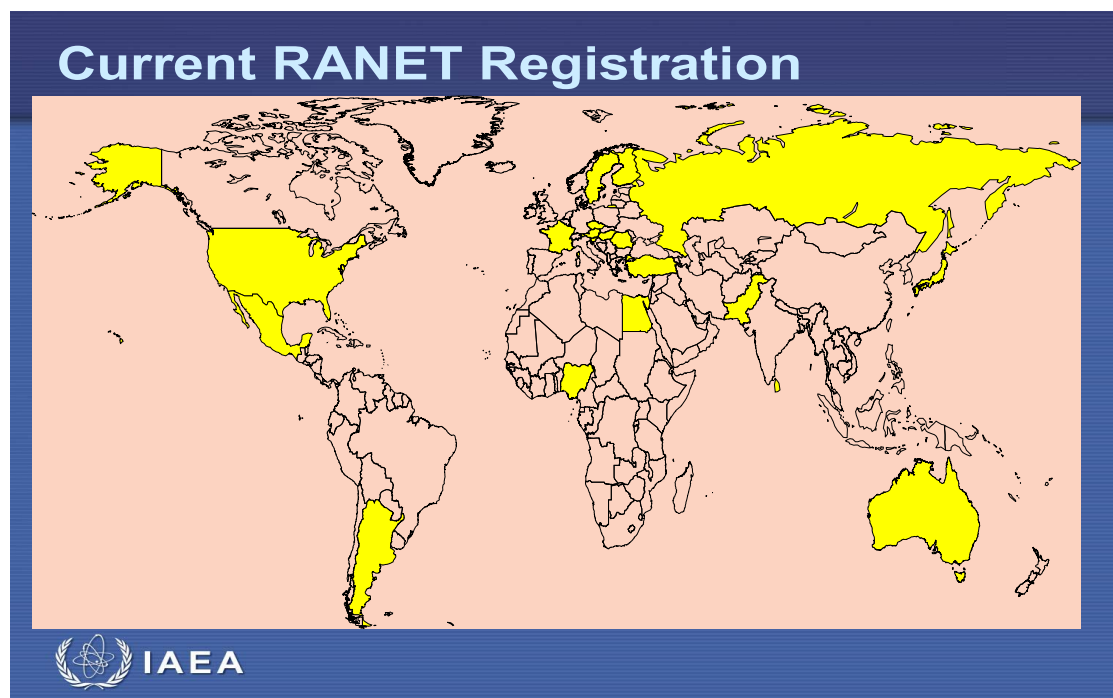
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Convention on “Assistance in the Case of a Nuclear Accident or Radiological Emergency” (IAEA, Vienna, 1986) resulted in an international community agreement to create a global network for responding to radiation emergencies. In 2000, Emergency Response Network (ERNET) was established defining the requirements for Member Country participation. Only one country, Slovenia, registered under ERNET and as a consequence ERNET was revised into **RANET (Response Assistance Network)** in 2006. RANET was different in that it provided recommendations rather than requirements for participating member countries.

In February 2008 an IAEA-based international nuclear emergency response network has become operational through receipt of its first pledges of assistance from four Member States. *Finland, Mexico, Sri Lanka and the United States* have stepped forward to make the initial commitments to the Response Assistance Network (RANET), a global response arrangement designed to coordinate international assistance in case of a radiation incident or emergency.

By November 2010, this amendment resulted in signing on by 15 further countries – *Argentina, Australia, Austria, Czech Republic, Egypt, France, **Hungary**, Japan, Nigeria, Pakistan, Romania, Russia, Slovenia, Sweden and Turkey*. RANET has a strong operational character and although it is not binding it does imply a commitment from registered Member States.



While in November 2010 IAEA had 151 Member States, RANET had 19 member countries, only. There are ongoing discussions about joining of other countries to RANET. RANET's capabilities consist of technology and trained experts that could be made available for on-site emergency response assistance. In the event of a serious radiological incident, a Member State can request support from RANET when the event's consequences exceed its domestic response capabilities. RANET's emergency response would be coordinated by matching the affected State's needs to the Network's resources.

Hungary registered its capabilities for RANET on June 9, 2008 - becoming the tenth member of this Network – in the following 9 (out of 12 possible) areas of assistance. Hungary offered its capability both to Field Assistance Teams (FAT) and in the form of External Based Support (EBS) to different assistance areas:

NAC to be registered					
Please indicate the capabilities that may be made available if requested and attach a brief description of each indicated capability and applicable limitations (if any)					
<input type="checkbox"/>	1. Aerial survey	<input type="checkbox"/> FAT <input type="checkbox"/> EBS	5. Assessment and advice	<input type="checkbox"/> EBS	9. Internal dose assessment
<input type="checkbox"/> FAT	2. Radiation monitoring	<input type="checkbox"/> FAT <input type="checkbox"/>	6. Medical support	<input type="checkbox"/> EBS	10. Bioassay
<input type="checkbox"/> FAT <input type="checkbox"/> EBS	3. Environmental measurements	<input type="checkbox"/> FAT <input type="checkbox"/>	7. Public health protection	<input type="checkbox"/> <input type="checkbox"/>	11. Histopathology
<input type="checkbox"/> FAT	4. Source search/recovery	<input type="checkbox"/> EBS	8. Biodosimetry	<input type="checkbox"/>	12. Dose reconstruction

FAT – Field Assistance Team EBS – External Based Support

At the 1st meeting of RANET in July 2009 at the IAEA, national experts (14 experts from 10 countries – including Mrs. Katalin Petőfi-Tóth, Head, Div. Emergency Planning of Hungarian Atomic Energy Authority (HAEA) and Dr. István Turai, Director, „Frédéric Joliot-Curie” National Research Institute for Radiobiology and Radiohygiene (NRIRR) – and four IAEA staff members) reduced areas of national assistance capability (NAC) to the following 7 areas:

- Source search and recovery
- Radiation monitoring and decontamination
- Environmental characterization
- Assessment and advice
- Assessment of individual internal dose
- Assessment of individual external dose
- Medical support.

Directors of five Hungarian institutions have officially stated to HAEA their readiness to join RANET and to register their capabilities for assistance in case of a nuclear accident or radiological emergency at the IAEA by HAEA.

These institutions are:

1. Atomic Energy Research Institute (*AERI*)
2. „Frédéric Joliot-Curie” National Research Institute for Radiobiology and Radiohygiene (*NRIRR*)
3. National Directorate for Disaster Management (*NDDM*)
4. National Meteorological Service (*NMS*)
5. Nuclear Power Plant Ltd, Paks (*NPP*)
6. *HAEA* (national authority to the IAEA, national co-ordinator of RANET).

Hungary offered assistance in the following areas and capacities – *by institutions*:

- Radiation monitoring, environmental measurements, source recovery (FAT):
 - 3 mobile laboratories with the capability of gamma spectrometry, in situ measurements, isotope selective measurements, activity concentrations, air sample measurements, gamma dose rate measurements, sample collection, equipment decontamination. Laboratories are provided with the necessary personnel and equipment – *AERI, NDDM, NPP, NRIRR*
- Environmental measurements (EBS) :
 - gamma spectrometry (10 samples/week) – *AERI, NDDM, NPP, NRIRR*.
- Assessment and advice (FAT & EBS):
 - meteorological forecast, dispersion calculation, dose estimation (EBS) – *NMS, HAEA, NRIRR*
 - 1 team for monitoring personnel with mobile equipment (Autocont PCM-86, SSM-1, Berthold LB-1) - *AERI, NDDM, NPP*
 - radiological consequence analysis, emergency management, coordination (FAT & EBS) – *HAEA, NDDM, NRIRR*.
- Medical support, advice (FAT):
 - advisory, medical consultation to the patient(s) on the scene - *NRIRR*
 - advisory, medical consultation for the possibly affected population on the scene – *NRIRR*.
- Public health protection (FAT):
 - Advisory, consultation with emergency responders on the scene – *HAEA, NPP, NRIRR*,
 - Decontamination of personnel and the possibly affected population on the scene with ERDU mobile decontamination station (for maximum 100 persons/day) – *NDDM, NPP*
- Biodosimetry (EBS):
 - micronucleus survey (for maximum 30 patients/week) - *NRIRR*,
 - chromosome aberration analysis (for maximum 10 persons/week) - *NRIRR*,
 - cytogenetic dose reconstruction from blood samples (for 5 persons/week) - *NRIRR*.
- Internal dose assessment (EBS):
 - 3 whole body counters, dose assessment (5 persons/day/WBC) - *AERI, NPP, NRIRR*.
 - bioassay, internal dose assessment (5 samples/day) - *NRIRR*.

Finally, I am pleased to note that **Mr. Denis Flory**, Deputy Director General of the IAEA, Head of the Department of Nuclear Safety and Security, acknowledged joining of NRIRR to IAEA/RANET sending to my address a notable glass **Certification Placard** in September 2010 – *see photo*. Mr. Flory kindly commented on our intention and abilities to contribute to strengthening the global system for the provisions of international assistance in a nuclear or radiological emergency, as cited:

„By joining RANET, **Hungary is part of a Network** of competent authorities - capable and willing - to provide upon request, specialized assistance by appropriately trained, equipped and qualified personel with the ability to respond quickly and effectively to radiological or nuclear emergencies.

RANET is an important expanding global network. The IAEA greatly appreciates the dedication and efforts demonstrated by Hungary in registering its assistance capabilities.”

