International Atomic Energy Agency

Panel: Network on Environmental Management and Remediation

Resources for a Safer and more Efficient Environmental Remediation

Introduction

- Co-chairs
  - Leo van Velzen; Nuclear Research and Consultancy Group; NL
  - Rosa Ramirez; Department of Energy – EM, USA

- Panelists:
  - Leo van Velzen; Nuclear Research and Consultancy Group; NL
  - Peter Booth; WSP Environment and Energy; UK
  - Irene Mele; IAEA Section Head of Waste Technology, Austria
  - Rosa Ramirez; Department of Energy – EM, USA
  - Malgorzata Sneve; Norwegian Radiation Protection Authority, Norway

Objectives

Resources for a Safer and more Efficient Environmental Remediation

Attracting involvement from national and international organizations that may help support and drive forward international and national clean-up efforts through ENVIRONET and enhance the exchange of experience while fostering the construction of partnerships.

Introduction

Presentations by the panelists:

- Leo van Velzen; Introduction “IAEA ENVIRONET Network”; mission, scope, members, …achieved results in 2011
- Peter Booth; Constraints in D&D – ER
- Irene Mele; Advancing D&D and ER in the IAEA member States; Barriers preventing D&D and Remediation programs
- Rosa Ramirez; Benefits of Knowledge and Experience Sharing at an International Level; Progress in 2011
- Malgorzata Sneve; Importance of Communication in ER and especially to prevent new Legacy Sites; From a Regulatory point of view

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IAEA ENVIRONET
Network on Environmental Management and Remediation

Achievements and Progress in 2011

Leo van Velzen
NRG, Netherlands

ENVIRONET

- **Established:** 2009
- **Mission/scope:**
  - To raise skills and expert levels to facilitate a safe and efficient environmental remediation of radioactively contaminated sites through training, sharing of knowledge and information among Member State organizations
    - Training
    - Sharing practical experience and lessons learned
    - Collecting information on good practice
    - Bringing together existing initiatives inside and outside the Agency
- **Membership:**
  - Implementers and regulators from Member States (“participants”)

Achievements and Progress 2011

- April; Training Course on fundamentals of ER (Argonne National Lab, USA)
- August; Consultancy meeting to develop long-distance E-learning material on ER (Vienna, Austria)
- Testing Mobile Unit for site characterization (Chemnitz, Germany)
- October; Workshop, Evaluation of radioactive waste inventories, selection of technologies and long-term planning in the field of radioactive waste management (AtomEco, Russia)
- November; Technical Meeting on support systems for assessment of remediation performance in uranium mining (Stockholm, Sweden)
- December; Technical Meeting on the application of mathematical models in environmental remediation projects (Vienna, Austria)
- Panel Sessions at WM2011 (March) and ICEM2011(September)

Benefits due to ENVIRONET 2011

- May-July (10 wk); Fellowship Atomic Energy Commission of Syria dealing with all aspects of NORM at NRG, Netherlands
- November (2 wk); IAEA Technical Mission by WSP on Stakeholder engagement for ER at a uranium mining site (Brazil)

Mobile Unit for Site Characterization

- Provide Member States conditions to perform Site Characterization works using In-Situ Techniques instead of Laboratory Analysis
- Real time data
- Decision making while experts are in the field
- Lower cost
- Geographical uncertainty >> Analytical Uncertainty

Participants:

Full name	Institution
Marcos C. Ferreira Moreira	IRD-CNEN, Rio de Janeiro, Brazil
Didier Dubot	CEA, Fontenay aux Roses, France
Thomas Streil	SARAD GmbH, Dresden, Germany
Gert Liebenberg	NECSA, Pretoria, South Africa
Robert Meyer	Tetra Tech Inc., Colorado, USA
Horst Monken Fernandes	Waste Technology Section, NEFW, IAEA, Vienna,Austria
Roman Padilla Alvarez	Nuclear Spectrometry and Applications Laboratory, NAPC, IAEA, Seibersdorf, Austria

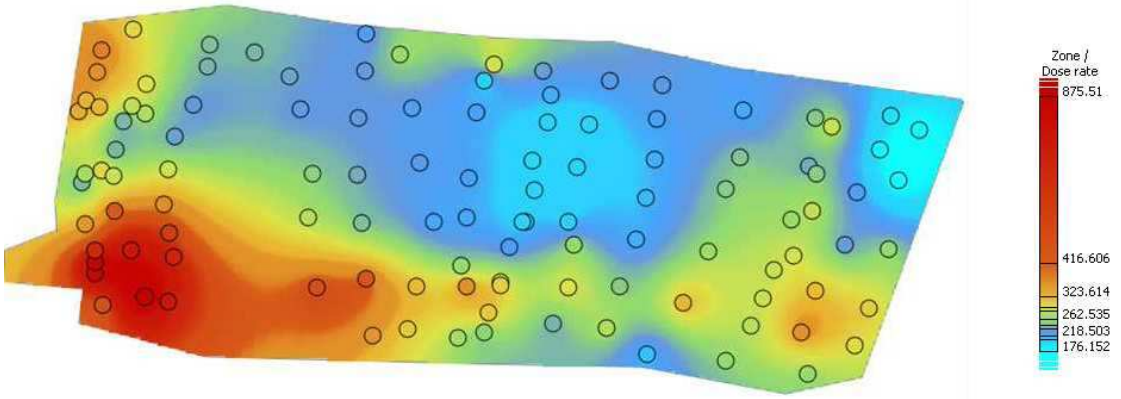
Measurement techniques / instruments:

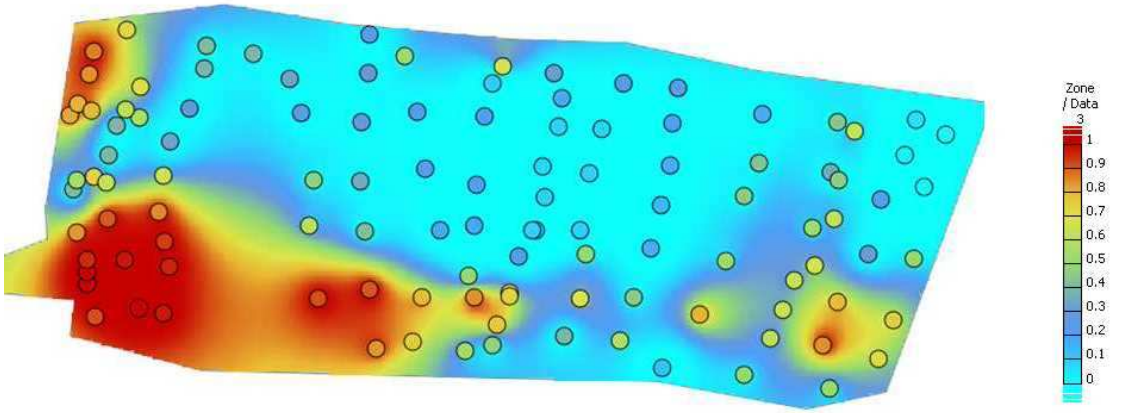
- (Gamma) Dose rate measurement at 1 m above the soil surface using a back pack system (Tetra Tech Inc.)

- 2” x 2” NaI(Tl) detector (Ludlum 44-10),
- A counting unit recording total counts (Ludlum 2350-1)
- GPS sensor (GlobalSat BU-353) with enabled WAAS and EGNOS capabilities, thus providing improved accuracy in positioning (± 2 m).
- A portable computer with dedicated software allowing collecting the measurement result and the GPS coordinates every second.
- Measurement time 1 s
- Walk pace ~ 1 m/s

Results: Gamma activity concentration measurements

- Interpretation of the activity concentrations (Bq/kg) results with Kartotrak (Geovariances, CEA)





MANY THANKS FOR YOUR ATTENTION