

U.S. EPA Superfund Remedial Program Collaboration with International Community on Radiation Sites Issues

Stuart Walker
Headquarters
Robert Pope
Region 4

U.S. Environmental Protection Agency

Presented to the
WM 2013 Symposia
in Phoenix, AZ on February 27, 2013

Purpose

- ◆ Provide overview of U.S. Environmental Protection Agency (EPA) Superfund site remediation program's efforts at international collaboration on radiation sites
 - » There are international collaboration efforts on other issue areas with EPA not discussed here
- ◆ Provide synopsis of EPA collaboration with our two most intensive partners:
 - » French nuclear safety agency (ASN)
 - » UK Environment Agency (EA)

Part 1. International Outreach

Need for Collaboration

- ◆ International community focusing more efforts on remediation of legacy sites and uranium mines
- ◆ These are critical issues within the US also, and EPA is involved in remediating both types of sites
- ◆ EPA can:
 - » exchange information on remediation at similar site types
 - » Participate in meetings and workgroups
- ◆ Shrinking resources make collaboration even more important

Superfund Remediation sites: Number and Progress

- ◆ 1,304 NPL sites
 - » 66 are radiation sites
- ◆ 59 more sites proposed for NPL
 - » 1 is a radiation site
- ◆ 1,124 NPL sites are “construction completion”
 - » 38 are radiation sites
- ◆ 360 Sites have been deleted from NPL
 - » 9 are radiation sites

Role of International Information

- ◆ EPA does not use risk management framework used by ICRP/IAEA and most other agencies addressing radiation
- ◆ However, EPA does use technical information from international guidance
 - » EPA has contractual agreement with Oak Ridge National Lab (Keith Eckerman) which also produces much of health effect material for ICRP
 - » EPA slope factors for risk are modified from ICRP dose conversion factors
 - » EPA risk assessment model (PRG calculator) uses IAEA transfer coefficients

International Information Sharing

- ◆ Representatives from Australia, France, United Kingdom, Iraq, Japan, Norway, and Russia have presented at annual EPA internal meeting with field staff and conducted site visits
- ◆ EPA staff work with IAEA on workgroups, workshops, hosting IAEA sponsored Iraqi staff.
- ◆ EPA staff work with NATO, Russia, and Norway on workshops, meetings, on the issue of remediation of contaminated sites in Northern Russia

Part 2

Synopsis of U.S. EPA Superfund and French ASN Collaboration on Radiation Sites



Activities to Date

- ◆ April 2003: ASN delegation met with EPA staff to discuss Superfund radioactive cleanup
- ◆ February 2004: ASN delegation attended EPA's National Radiation Superfund Meeting in Las Vegas.
 - » Visited 3 polluted sites (Rocky Flats, Shattuck, Lowry Landfill) and 3 disposal facilities (Energy Solutions, Nevada Test site, proposed Yucca Mountain)

Activities to Date, cont.

- ◆ September 2005: ASN met with EPA in Washington, DC
 - » Visited Hanford polluted site
- ◆ November 2005: EPA delegation met with ASN and DPPR in Paris.
 - » Visited Marcoule polluted site and 2 waste disposal facilities (Centre de l'Aube, CSTFA-VLL)



Activities to Date, cont.

- ◆ February 2006: ASN attended EPA's National Superfund Radiation meeting in Salt Lake City
 - » Visited Kennecott polluted site and Envirocare/Energy Solution disposal facility
- ◆ February 2007: ASN attended EPA's National Superfund Radiation meeting in San Francisco
 - » Visited Livermore polluted site and NARAC emergency response plume modeling center

Activities to Date, cont.

- ◆ December 2007: EPA attended ASN's conference on Post Nuclear Radiological Accident Management in Paris

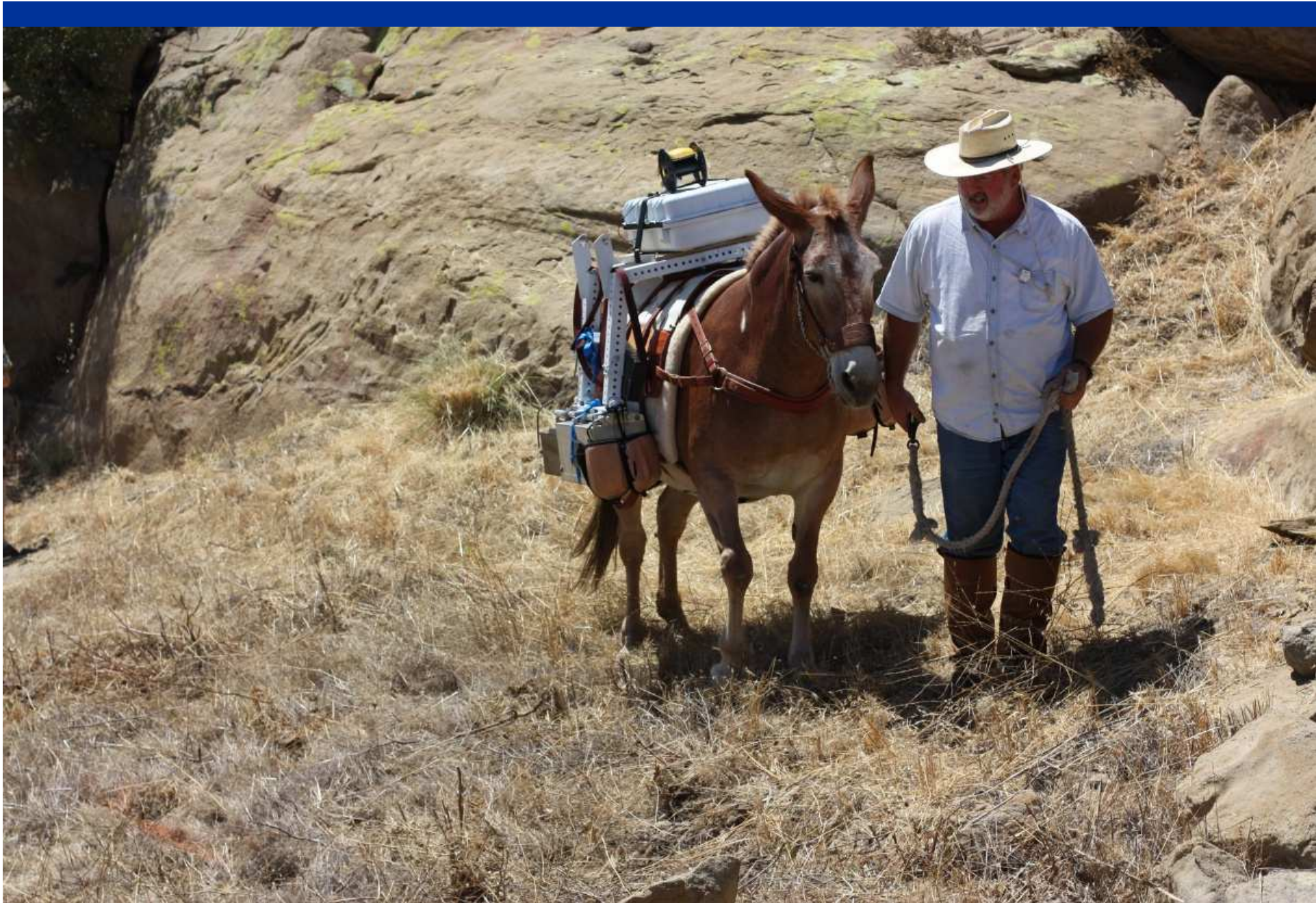
Activities to Date, cont.

- ◆ April/May 2008: ASN attended EPA's National Superfund Radiation meeting in Las Vegas
 - » Site visits to 2 polluted uranium mine sites (Northeast Church Rock, United Nuclear Corporation) and 3 waste disposal facilities (WIPP, Nevada Test site, Yucca Mountain).
- ◆ March/April 2009: ASN attended EPA's National Superfund Radiation meeting in Albuquerque
 - » Site visits to 2 polluted uranium mine sites (Northeast Church Rock, United Nuclear Corporation) and 2 waste disposal facilities (WIPP, WSC).

Activities to Date, cont.

- ◆ March 2011: ASN attended EPA's National Superfund Radiation meeting in Savannah
 - » Site visits to 1 polluted site (DOE Savannah River Site).
- ◆ June 2012: ASN attended EPA's National Superfund Radiation meeting in Signal Hill
 - » Site visits to 2 polluted sites (DOE Santa Susanna, Halaco).





Information Exchange

Topics of most mutual interest during collaboration

- ◆ Site cleanup level selection
- ◆ D&D
- ◆ Risk/dose assessment
- ◆ Stakeholder involvement
- ◆ Remediation technologies
- ◆ Groundwater protection
- ◆ Disposal cell design

Part 2

Synopsis of U.S. EPA Superfund and UK EA Collaboration on Radiation Sites



Background

- ➔ USEPA convention held in Las Vegas -2007
- ➔ EA hosted a visit by US EPA in 2008 to Sellafield.
The objective of this was to:
 - » Develop our links with the US EPA
 - » Provide an opportunity to share experience and best practice
 - » Allow US EPA to understand our regulatory work and enforcement in England, with specific focus on Sellafield
 - » Allow EA to understand the US EPA regulatory work and enforcement in US, with specific focus on Savannah River Site. Sellafield Team functioning, as a team and within Environment Agency as a whole.
 - » Understand how standards are developed and applied

EPA Site Manager 1 year detail

- ◆ UK EA hosted EPA site manager Kathy Setian for 1 year. Kathy
 - » Worked on review report on land and groundwater protection efforts at all EA legacy sites
 - » Developed a template of environmental management issues needing to be addressed at each site

Proposal- Approach

- ➔ We wish to continue with, and develop further our links with the US EPA (et al).
- ➔ Development of an agreement?
- ➔ Remote information share and interaction?
- ➔ Participate in site and team inspection?
- ➔ Regulatory exchange scheme?

Proposal - Value



- ◆ To enable our approach to regulation to take account of:
 - » inspection methodology and application
 - » international standards
 - » assessments
 - » bench marking
 - » application of best practice
 - » innovation

Proposal - Challenges

- ➔ Funding – availability and allocation
- ➔ Resource – availability, commitment, experience etc,
- ➔ Time – potentially very time consuming
- ➔ Cultural differences
- ➔ Perception of transfer of responsibilities
- ➔ Different regulatory regimes

Conclusions

- ➔ We have agreements, working arrangements or have established links with several Regulatory organisations to date.
- ➔ We have started to develop a link with the US EPA. We believe opportunities exist to further develop this link, through a variety of mechanisms.
- ➔ A balance must be struck against the value and challenges of collaboration in order to obtain the best outcome for the parties concerned.

Part 3

Listing of additional U.S. EPA Superfund International Collaboration on Radiation Sites



Activities to Date

- ◆ June 2005: Third Bratislava Exchange Meeting (St. Petersburg, Russia)
- ◆ November 2005: WPDD Core Group of the OECD/NEA meeting on stakeholder involvement (Brussels, Belgium)
- ◆ September 2007: NATO Workshop on Challenges in Radiation Protection and Nuclear Safety Regulation of the Nuclear Legacy (Moscow, Russia)
- ◆ June 2008: Workshop on Application of Radioecology to Regulation of Nuclear Legacy Management (Bergen, Norway)

Activities to Date, cont.

- ◆ June 2008: International Conference on Radioecology and Environmental Radioactivity (Bergen, Norway)
- ◆ May 2009: ICRP Conference on Remediation of Land (Astana, Kazakhstan)
- ◆ June 2009: EPA Conference on Stakeholder Involvement attended by Russian agency representatives (Seattle, Washington)
- ◆ September 2009: IAEA EMRAS Workgroup (Vienna, Austria)

Activities to Date, cont.

- ◆ October 2010: IAEA International Working Forum on Regulatory Supervision of Legacy Sites (Vienna, Austria)
- ◆ September 2011: IAEA workshop on Risk and Hazard Communication and Stakeholder Involvement in Environmental Remediation (Issyk Kul, Kyrgyzstan)
- ◆ June 2012: IAEA workshop on Lifecycle Environmental Management Approaches for Remediation Projects (Vienna)



СНГ ПРОСЛЕЖИВАЕТ ОБЪЕДИНЕННЫМИ ПРЕДУПРЕЖДЕНИЕМ
ВНИМАНИЕ!
Зона с повышенной радиоактивностью



28/09/2011

Questions



Answers