



## ***CRESP Workshop***

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**January 12-13, 2006**

### **The *Real* Obstacle to Site Completion: Credible Post-Remediation Sustainable Protection at Contaminated Sites with Residual Waste**

A day and a half workshop, for federal agencies with regulatory, stewardship and similar responsibilities for sites where radiological and other contamination requires sustained management when active remedial activities have been completed

The purpose is to promote active informal discussion and review among these federal entities of the policies and guidance currently in place and being developed for this complex of issues. The discussion is being convened by, and will be informed by work produced by the Consortium for Risk Evaluation with Stakeholder Participation (CRESP) and participating agencies.

#### Date and Time:

January 12, 2006 2:00 pm – 5:15pm  
January 13, 2006 9:00 am – 1:30pm

#### Location:

Abelson/Haskins Conference Room  
In the Headquarters office of the  
**American Association for the Advancement of Science (AAAS)**  
1200 New York Avenue, NW  
Washington, DC 20005

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#### **The Consortium for Risk Evaluation with Stakeholder Participation II**

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Three fundamental questions will launch the workshop:

Are the timeframes which flow from the several regulatory regimes reconcilable and/or adequate to properly shaping the task of sustained protection? If not, could they be?

What are the key factors in both creating – and building the perception – that a series of protective mechanisms will, in fact, be sustained. Is the separation of remediation and stewardship inherent even in this workshop itself a mistaken view of the proper relationship between remedial choice and post-construction stewardship systems?

What are the prospects for improving the coherence and integration of the several systems built to assure sustainable protection when more than a single federal agency is involved/has regulator responsibilities?

We will succeed if the workshop provides significant clarification about these three questions for the participants – and takes steps to see where, and with whom, such a dialogue should next proceed.

Current participating entities:

The Department of Energy  
The Environmental Protection Agency  
The Nuclear Regulatory Commission  
CRESP

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**The *Real* Obstacle to Site Completion:  
Credible Post-Remediation Sustainable Protection  
at Contaminated Sites with Residual Waste**

**Agenda**

*January 12, 2006 - 2:00pm to 5:15 pm:*

***Introduction with Goals of the Workshop:***

Posing the three workshop questions with a graphic framework (see attached) to guide our work and a “Sustainability Checklist” as a device to assure attention to the full range of issues - a non-regulatory framework for our discussion – and how this relates to our agenda.

Chuck Powers and Michael Greenberg, CRESP

***What are the responsibilities/views policies of participating agencies on these issues?***

Brief overview discussion among all participants – as an introduction to:

*What is the status of the work on these issues at the Environmental Protection Agency?*

James Woolford, EPA, Overview and introducing:

- Tracy Hopkins, EPA staff lead on the Agency’s new all waste programs Post- Construction Completion Strategy;
- Ellen Manges and Ed Chu to talk about the Agency’s Long-term Stewardship efforts and its evolving draft policy,

*What is the status of the work on these issues at the Nuclear Regulatory Commission?*

Robert Johnson and other NRC staff will discuss:

- 1) the NRC’s approach to sustaining long-term protection at decommissioning sites;
- 2) draft guidance on risk-informed graded approaches for institutional controls and engineered barriers;
- 3) limiting restricted release at existing and future sites; and
- 4) NRC regulations for long-term protection at other NRC licensed sites.

*What is the status of work on these issues at the Department of Energy?*

Officials from the offices of:

- Environmental Management - Mark Gilbertson, Larry Bailey, David Mathes and others
- Legacy Management - Dave Geiser
- EH - Andrew Wallo
- NNSA – John Lehr

***Summary of 1<sup>st</sup> day and review of 2<sup>nd</sup> day Agenda***

January 13, 2006 - 9:00am to 1:30pm

**9:00-10:45 am: Specific factors that shape credible answers to these three questions:**

*The format for the first half of the morning will be to have CRESP people introduce specific key topics with brief presentations and then*

**What does the Public Perceive about Sustainability?**

What the nearby publics say “peace of mind” at these sites will involve  
Michael Greenberg

**Is the science/technology adequate to provide what is needed for sustainable protection?**

Where are we in being able to assure the durability of containment systems?  
Where are we in being able to provide a credible baseline for long-term monitoring?  
Dave Kosson and Joanna Burger

**Integrating Institutional and Engineering Controls**

Institutional controls – improving their definition; assuring their sustainability  
What is the progress to date and what are the challenges?

James Clarke, Vanderbilt and Kevin Kostelnik, INL

EPA’s new IC policy and policy initiatives  
Mike Bellot, EPA

Time out specifically to consider: Institutional controls at NRC  
DOE’s Institutional Controls policies

**Other Tools Needed for Sustainability**

What tools, such as geospatial maps, conceptual site models, property records and other tools will be needed to ensure sustainable protection?

Henry Mayer, CRESP

Discussion: Specific review of DOE-OLM’s policies and  
EM to OLM transition policies

**Institutional Responsibility**

How do we ensure that there is an institutional memory and long-term responsibility to maintain a sustainable system, whether the site is owned or managed by the DOE, another federal entity, a state, county or municipal government, a non-profit organization or a private sector firm? Are we making progress on this fundamental institutional challenge? Will Natural Resource damages play a role?

CRESP leadership

**10:45am: Break**

**11:00am -12:15pm: Sustained group discussion** – with possible breakout groups to address key elements:

Are the timeframes which flow from the several regulatory regimes reconcilable and/or adequate to properly shaping the task of sustained protection? If not, could they be?

What are the key factors in both creating – and building the perception – that a series of protective mechanisms will, in fact, be sustained. Is the separation of remediation and stewardship inherent even in this workshop itself a mistaken view of the proper relationship between remedial choice and post-construction stewardship systems?

What are the prospects for improving the coherence and integration of the several systems built to assure sustainable protection when more than a single federal agency is involved/has regulator responsibilities? Do the answers here involve more than federal authority?

**12:15-1:30 pm: Working lunch**

**Next steps:**

Another workshop focused on a smaller set of specific issues and questions? If so, which ones?

Should there be a follow up workshop on these same issues involving the states? involving community groups? If so, which states and agencies/groups?

Who should convene these meetings and when?

**Workshop adjourns**

## **Related Background Reading**

Most of the readings listed below can be obtained from the web. The Web addresses are listed below. Participants will receive a binder with all of these materials when they arrive. (Note materials not available through the web, are all for use or background for the second day.)

### **Introduction**

1. End State Land Uses, Sustainable Protective Systems, and Risk Management: A Challenge for Multi-Generational Stewards by Michael Greenberg, Joanna Burger, Michael Gochfeld, David Kosson, Karen Lowrie, Henry Mayer, Charles Powers, Conrad Volz, and Vikram Vyas, *Remediation*, 16(1), 2005, 91-105.  
[http://www.cresp.org/2005\\_reports/peaceofmindpaper9\\_13\\_05.pdf](http://www.cresp.org/2005_reports/peaceofmindpaper9_13_05.pdf)

### **EPA**

*EPA's Stewardship Guidance and Post-Construction Completion Strategy Documents*

2. US EPA. Long-term Stewardship: Ensuring Environmental Site Cleanups Remain Protective over Time: Challenges and Opportunities Facing EPA's Cleanup Programs, A Report by the Long-term Stewardship Task Force, September 2005  
<http://www.epa.gov/swerrims/landrevitalization/download/lts-report-sept2005.pdf>
3. US EPA. National Strategy to Manage Post Construction Completion Activities at Superfund Sites (OSWER 9355.0-105) October 2005  
[http://www.epa.gov/superfund/action/postconstruction/pcc\\_strategy\\_final.pdf](http://www.epa.gov/superfund/action/postconstruction/pcc_strategy_final.pdf)
4. US EPA. Strategy to ensure Institutional Control implementation at Superfund sites (OSWER No. 9355.0-106), September 2004.  
<http://www.epa.gov/superfund/action/ic/icstrategy.pdf>

### **NRC**

5. Robert L. Johnson. NRC's Durable Long-Term Control System to Sustain Site Protection, *U.S. Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards*.  
<http://adamswbsearch.nrc.gov/scripts/securelogin.pl> (Search "ML051300002")
6. Code of Federal Regulations Title 10: Energy, Part 20- Standards for Protection against Radiation Subpart E- Radiological Criteria for License Termination  
<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=61e16cb230066c5677988498188fa14&rgn=div6&view=text&node=10:1.0.1.1.16.5&idno=10>

US Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards. Consolidated NMSS Decommissioning Guidance (NUREG-1757, Vol. 1, Rev. 1, Vol. 2 & Vol. 3) Hardcopies not Included  
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1757/>

US Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards. NUREG-1757 Supplement 1, Consolidated NMSS Decommissioning Guidance: Updates to Implement the License Termination Rules Analysis, Draft Report for Comment, Chapter II Restricted use, Institutional controls, and Engineered barriers, pp II-1 - II-2.  
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1757/s1/index.html>

### **DOE**

7. DOE's new Institutional Controls policy
  - A. US Department of Energy. Institutional Controls Implementation Guide for Use with DOE P 454.1, *Use of Institutional Controls*.  
<http://www.directives.doe.gov/pdfs/doe/doetext/neword/454/g4541-1.pdf>
  - B. US Department of Energy, DOE P 454.1, Use of Institutional Controls.  
<http://www.eh.doe.gov/oepa/guidance/ems/orderp454-1.pdf>
8. Readings on Legacy Management Policy
  - A. US Department of Energy. Site Transition Framework for Long-term Surveillance and Maintenance.  
[http://www.lm.doe.gov/documents/3\\_pro\\_doc/guidance/04\\_14sif.pdf](http://www.lm.doe.gov/documents/3_pro_doc/guidance/04_14sif.pdf)
  - B. US Department of Energy. Office of Legacy Management Information and Records Management Transition Guidance, March 2004.  
[http://www.lm.doe.gov/documents/3\\_pro\\_doc/guidance/irm\\_transitionguidance.pdf](http://www.lm.doe.gov/documents/3_pro_doc/guidance/irm_transitionguidance.pdf)

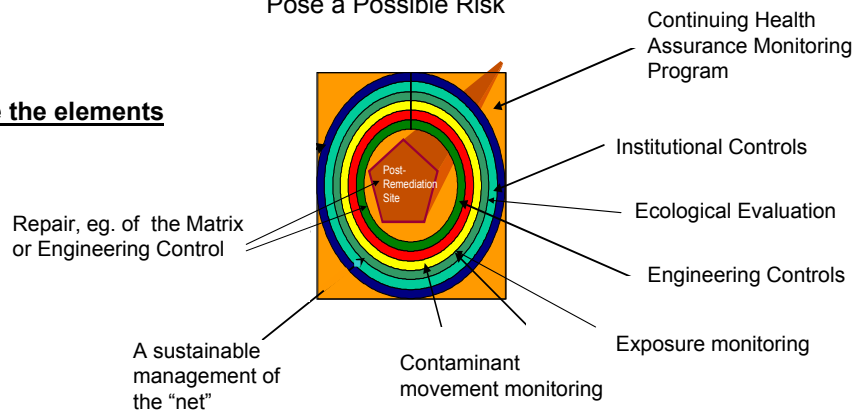
**ADDITIONAL READING FOR DAY 2**

9. Land Use Controls, Public Health Surveillance, and the Public's Peace of Mind at the United States Major Nuclear Weapons Legacy Sites, M. Greenberg, K. Lowrie, J. Burger, C. Powers, M. Gochfeld, and H. Mayer, CRESPP Report, September 2005.  
[http://www.cresp.org/2005\\_reports/peaceofmindpaper9\\_13\\_05.pdf](http://www.cresp.org/2005_reports/peaceofmindpaper9_13_05.pdf)
10. Engineered Containment and Control Systems: Nurturing Nature, J. H. Clarke, M. M. MacDonell, E. D. Smith, R. J. Dunn and W. J. Waugh. 2004. *Risk Analysis* 24(3):771-779. [Not available online]
11. The Integration of Engineered and Institutional Controls: A Case Study Approach with Lessons Learned from Previously Closed Sites, K. M. Kostelnik, J. H. Clarke and J. L. Harbour, *Proceedings of the 05 Waste Management Conference*, Tucson, AZ, February, 2005. [ Not available online ]
12. Using Integrated Geospatial Mapping and Conceptual Site Models to Guide Risk-Based Environmental Clean-up Decisions. H. Mayer, M. Greenberg, J. Burger, M. Gochfeld, C. Powers, D. Kosson, R. Keren, C. Danis and V. Vyas. 2005. *Risk Analysis* 25(2): 429-446. [ Not available online ]
13. Guidance for Determining the Best Disposition of Large Tracts of Decommissioned Land, M.A. Carletta, K. Lowrie, K.T. Miller, M. Greenberg and J. Burger, *Journal of Environmental Planning and Management* 47(2): 243-268. [Not available online].
14. Legal and Related Policy Issues for Integrating Remediation and NRD Strategies at DOE Site, R.B. Stewart, CRESPP Report, June, 2005  
[http://www.cresp.org/2005\\_reports/NRD/stewart\\_RBS\\_NRD\\_Memo\\_6\\_21\\_05.pdf](http://www.cresp.org/2005_reports/NRD/stewart_RBS_NRD_Memo_6_21_05.pdf)
15. Natural Resource Damages and the Department of Energy: Integrating Ecosystem Recovery into the Remediation Process, J. Burger, M. Gochfeld, C.W. Powers, In Press *Journal of Environmental Management*.  
[http://www.cresp.org/2005\\_reports/NRD/DOEMS136REV.pdf](http://www.cresp.org/2005_reports/NRD/DOEMS136REV.pdf)

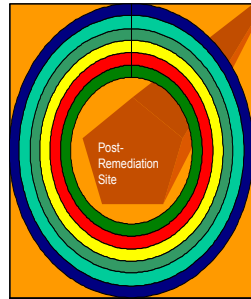
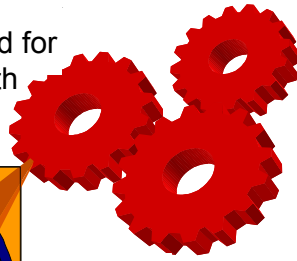
**Sustainability: What Does it Mean?**

A Stewardship Safety Net  
with Appropriate Multiple  
Rings to Assure  
Sustainability While Hazards  
Pose a Possible Risk

**We think these are the elements**



The challenge of sustainability is to determine which of these Sustainability Rings is needed for a safety net at a site to go with the right remedy



And then try to make sure that the selected elements, shaped to the specific needs are not independent circles, but are like gears of a protective system

### Primary, Secondary, and Tertiary Elements of a Sustainability Protective System

