



***Independent Verification and  
Stewardship***  
**April 29, 2010**

**Sarah Roberts, CHP**  
**Acting Program Director, ORISE**  
**IEAV**

## Benefits of IV

**“IV is an important quality assurance step that ensures cleanup goals have been achieved” (*DOE Lessons Learned from Independent Verification Activities, July 2008*)**

- Offers a cost-effective way to provide assurance that the site was successfully remediated to the risk-based release criteria
- Enhances public credibility and builds stakeholder trust in environmental cleanup
- Provides consistency among multiple D&D projects at a particular site
- Ensures D&D plans and reports are technically sound
- Helps to prevent an improper release of property that is not in regulatory compliance

# Why is Independence Important?

- The DOE and other federal agencies spend billions of dollars cleaning up contaminated sites each year
- The DOE must assure cleanup at their sites is done right
- The ultimate safety of these sites is of great concern
- A respected, objective, and independent organization enhances public confidence
- Autonomy provides assurance that the data is untainted by commercial interests

# DOE EM Policy for Independent Verification

- DOE EM has formalized the requirement for sites to perform IV prior to release of real property

“DOE Guide 441.1-xx encourages the use of independent verification as a quality measure that “should” be implemented. EM management has specified that independent verification activities “shall” be conducted.” (*Office of Environmental Management Plan for the Approval and Independent Verification of Authorized Limits, May 2008*).

# How does IV Contribute to Long-Term Stewardship Goals

- IV at a site greatly increases the level of confidence that the cleanup objectives were met
- Confidence in the cleanup = reduction of risk of anomalies detected during long-term monitoring
- Goal 1 for DOE LM – Protect human health and the environment through effective and efficient long-term surveillance and maintenance
- Goal 4 for DOE LM – Manage legacy land and assets, emphasizing protective real and personal property reuse and disposition
- The cleanup objectives must first be met to support Goals 1 and 4

# How does IV Contribute to Long-Term Stewardship Goals

- IV is a low cost, up front investment
- The IV contractor is free of any potential conflicts of interest
- Can serve as an interface with stakeholders and public
- Provides documentation that cleanup was performed as required

# Why is Independent Characterization Important

- Characterization should be as independent as verification
- Characterization contractors should be excluded from the clean up work
- Limits questions of whether scope expansions are truly warranted
- Optimizes disposal decisions based on sound technical bases and environmental stewardship
- This checks and balances system has worked well for many large cleanup projects (FUSRAP)

# Lessons Learned from Environmental Cleanups

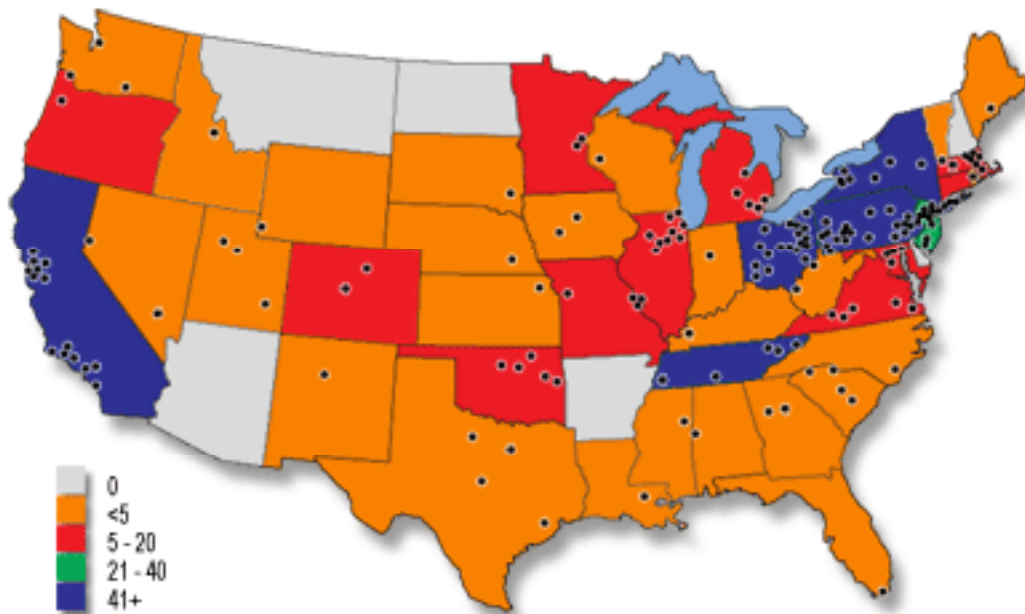
- DOE EM recognizes that “The radiological release of property must be conducted in a manner that is technically defensible and which meets the applicable Departmental requirements.”  
*(DOE Lessons Learned from Independent Verification Activities, July 2008)*
- Major lessons learned from the above cited document:
  - ✓ Deficiencies in authorized limits
  - ✓ Deficiencies in survey plan content and implementation
  - ✓ Implementation of IV as an afterthought



# History of ORISE IEAV Program

- ORISE directly supports DOE's national agenda by advancing science education and research programs.
- A primary mission is to protect workers, the public, and the environment through research, outreach, and verification activities.
- IEAV's experts have served customers including DOE, NRC, DNSC, and state governments for over 30 years

# Optimizing Service to DOE



ORISE has performed IV at over 500 sites across the country

Our facility and infrastructure allow us to mobilize quickly

We evaluate and implement the latest field survey technologies

We exist to support DOE's mission of safe and efficient environmental cleanup

## Current Scope of IV Work

- Verification at DOE EM Sites
- Program reviews, in-process inspections, and independent field sampling
- Typical field surveys include scans, soil, water, and sediment sampling
- Independent radiochemistry laboratory for radioactive analytes
- Integrating IV into the cleanup process streamlines the schedule and optimizes results

## **Sites Where IV Recently Performed**

- Rocky Flats
- Oak Ridge (ETTP Zone 1, K-25)
- David Witherspoon, Inc.
- Brookhaven
- Fernald
- Mound
- Ashtabula
- Battelle Columbus\*

\*Work performed for DOE at NRC licensed facility.

# **Current Scope of ORISE National Priorities List Boundary Reduction Work**

- **Completion of site investigations to reduce the boundary of the National Priorities List at the ETTP site**
- **Generate a report to close out the CERCLA 120(h) process via a No-Further Investigation (NFI) determination**
- **Involves development of conceptual models for groundwater flow from “active” areas of the site to the buffer areas**
- **Some limited field sampling also required**
- **End result will be removal of ~ 5200 acres from NPL**

## Other Areas for Consideration

- Other DOE program offices can utilize “in house” health physics capabilities
- An independent radiochemistry laboratory is available for QC checks on environmental monitoring data
- Field teams are available if rapid deployment for sampling is needed
- Certified Health Physicists (CHPs) can address complex cleanup issues
- Easy access through our existing ORISE contract with DOE Office of Science