

DEEP VADOSE ZONE TECHNICAL FORUM

Deep Vadose Zone Remediation
Technology: Program Approach and
Expectations

*Jane Hedges
Program Manager
WA State Dept. of Ecology
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ECOLOGY'S TECHNOLOGY SUPPORT INITIATIVES

- Our Involvement Dates back to early to the Tri-Party Agreement
 - Clearly stated in a number of our policy/strategy documents such as the Groundwater Remediation Strategy, TPA milestones on specific technologies (for example iodine-129 and tritium) and in Records of Decision such as 5-Year ROD review.



ECOLOGY'S PARTICIPATION INCLUDES...

- Site Technology Coordination Group (STCG)
 - The Subsurface Contamination Group and the Tank subgroup did exceptional jobs in identifying the Hanford needs. We have seen some of its successes in the field.
- Ecology also participated in the Innovative Treatment and Remediation Demonstration (ITRD) Program process (e.g. Sequestration, Phytotechnology)
- Ecology was actively involved with the Groundwater Vadose Zone (GW/VZ) Integration Project, identifying technology needs for the VZ and GW along with the eight member "Independent Expert Panel."
- Ecology supported the EM 21 initiatives and we all worked together!



DEEP VZ PROBLEMS & OUR CONCERNS

- EIS studies show contaminants cause continuous impact from 50– to 1 000’s of years
- Problem is huge and very complicated
- Remediation of groundwater (GW) is moving forward at a faster rate than the remediation of deep vadose zone
 - But GW remediation will be useless if we do not address the deep vadose zone contamination
- The new TPA milestones are in place as the “starting” step to deep VZ issues
 - But the milestones are NOT comprehensive and detailed enough to address the huge problem!



MOVING FORWARD: WHAT MUST BE DONE

- Identify the nature of problem and develop a pathforward to meet the cleanup goal and objectives as per TPA /regulations
- As we know, the problems are complex, very site specific within Hanford Site. The concept of “one size fits all” is not going to work.
- Look at various approaches using alternative conceptual models, and multiple technology deployment and testing to address numerous issues and problems.
- Involve the Expert Panel and peer review process early in the game (let us not leave any scope of failure!)
- Technology Transfers from other USDOE facilities, commercial vendors. Look at applying commercial processes to Hanford needs.
- Set up a display of technology by the commercial vendors



MOVING FORWARD: WHAT MUST BE DONE

- Early involvement of regulators, tribal nations and the state of Oregon
- Lessons learned from the past: It takes lot longer than anticipated! (10 yrs +)
- A well defined schedule with targets/deliverables acceptable to the regulators : We have deadlines! This is not exactly a R & D strategy. There are other avenues to do that.
- FUNDING, FUNDING, FUNDING – currently doesn't support urgency or complexity
- Ecology staff participation: Technical folks attending to propose technology that needs to be discussed with case studies