

**U.S. Environmental Protection Agency (EPA)**  
**Streamlined Investigations and Cleanups Using the Triad Approach**

**April 24 and 25, 2007**  
**Los Angeles Regional Water Quality Control Board**  
**320 West 4th Street**  
**Los Angeles, CA 90013**  
**Carmel Room**

**AGENDA**

**DESCRIPTION:** *EPA's Streamlined Investigation and Cleanups Using the Triad Approach training course provides participants an introduction to a wide array of innovative technologies and approaches that can be used to characterize hazardous waste sites. The class stresses the importance of the planning process and the use of field-based measurement technologies and on-site data assessment techniques. Participants will be introduced to the Triad Approach and methods for better understanding, planning, and implementing monitoring strategies to improve cleanups at lower costs. In addition, participants will be provided an overview of several of the field analytical and rapid sampling technologies that can support streamlined measurement approaches.*

*More information about the training can be found at [trainex.org](http://trainex.org) or [fate.clu-in.org](http://fate.clu-in.org).*

**Day 1 (Tuesday, April 24, 2007)**

- 8:00 – 8:15 (15 min)    Introductory remarks by Jonathan Bishop LA RWQCB Executive Officer, importance of connecting Triad with RWQCB policies and business practices
- 8:15 – 8:30 (15 min)    Introductions and discussion of course expectations (Stephen Dyment USEPA OSRTI)
- 8:30 – 9:30 (60 min)    Overview (Kym Takasaki USACE)
- What is the Triad and why use it?
  - How do regulators fit in?
  - Why are projects not getting to completion, what drives closure decisions?
  - Environmental indicators...how does this process relate to Triad work strategy concepts?
  - How would Triad assist with streamlining the traditional site investigation or remediation process?
  - How do we get out of the WP/Comment cycle?
- Triad Fit with State Water Resources Control Board Resolution 92-49 and the CalEPA Site Investigation/Remediation Processes (Ray Saracino USEPA R9).
- 9:30 – 9:45 (15 min)    Questions/Break**
- 9:45 – 10:45 (60 min)    Systematic Planning (Robert Howe Tetra Tech)
- Systematic planning as it relates to the RWQCB process. What is Triad systematic planning and why is it important? The differences and similarities between the DQO approach and the Triad
  - Management culture and project manager caseload challenges
  - The critical role of CSMs in the characterization, cleanup, and reuse/closure process
  - Constraining the use of field-based measurement technologies before or during early stages of an investigation using a Demonstration of Methods Applicability (DMA)

## Day 1 (Tuesday, April 24, 2007)

- How does the use of field based methods fit into state and regional programs?
- The new data quality model, what it is and why use it?
- What are decision units and how are they determined?
- Data management and assessment for collaborative data sets in dynamic work strategies for Triad projects.
- Web-based management tools for dynamic investigations.
- Procurement practices for Triad projects.

### 10:45 – 11:15 (30 min) Developing Closure Strategies (Kym Takasaki USACE)

- Aligning site closure strategies with CSMs
- Importance of defining reuse, project and site goals, outcomes
- Designing strategies with the end goal in mind
- Using exist strategies and CSMs to define decisions and manage uncertainty
- Program, project, and field level decision logic
- Prioritizing contingencies, developing consensus

### 11:15 – 11:45 (30 min) Questions and discussion of morning presentations

### 11:45 – 12:45 (60 min) LUNCH

### 12:45 – 1:45 (60 min) Dynamic Work Strategies (Stephen Dymont USEPA OSRTI)

- What is a dynamic work strategy?
- Dynamic work strategy elements
- Decision logic
- Contingencies
- Project team communication
- Implementation of a dynamic work strategy. Poudre River

### 1:45 – 2:30 (45 min) Fort Lewis NAPL Case Study (Kym Takasaki USACE)

- Site history, CSM
- Tools used: aerial photos, electro-magnetic survey, soil gas, trenching, drive point groundwater, MIP, sonic drilling
- Treatment areas, volumes, and goals
- System optimization
- Lessons learned

### 2:30 – 2:45 (15 min) Questions/Break

### 2:45 – 3:45 (60 min) Real Time Technologies (Robert Howe Tetra Tech)

- Applicable technologies for RWQCB projects.
- Laser induced fluorescence, ROST
- Membrane Interface Probe
- Immunoassay
- Test Kits
- Direct push samplers
- Waterloo profiler
- Passive Diffusion Bags

### 3:45 – 4:00 (15 min) Q&A and Afternoon Wrap-Up

## Day 2 (Wednesday, April 25, 2007)

- 8:00 – 8:45 (45 min) Hartford Case Study (Robert Howe Tetra Tech EM)
- Site history, CSM
  - Tools used: ROST, vapor and sub-slab probes, active soil gas, direct push grab groundwater sampling
  - Importance of structural features, clay thickness, groundwater fluctuations (smear zone), a capillary pressure
  - CSM updates focus product removal strategies and vapor intrusion mitigation
  - Obtaining, preserving, and testing soil cores
  - Results, product recovery expectations

- 8:45 – 9:45 (60 min) Sampling Design (Stephen Dymont USEPA OSRTI)
- What are the different sampling options?
  - How to measure and evaluate uncertainties
  - Why select one sampling scheme over another to manage decision uncertainty?
  - How many samples are enough?

### 9:45 – 10:00 (15 min) Q&A and Break

- 10:00– 10:45 (45 min) South Dakota Case Study (Stephen Dymont USEPA OSRTI)
- Background and challenges
  - Systematic Planning
  - Dynamic work strategies
  - Real-time measurements/ MIP outputs
  - Site example: T & T Standard
  - Evaluating collaborative data sets
  - Conclusions and lessons learned

- 10:45– 11:15 (30 min) Mainstreaming Triad- The New Jersey Example (Kym Takasaki USACE)
- Regulator benefits
  - Challenges
  - Implementation steps

- 11:15 – 12:15 (60 min) Roundtable Discussion
- Opportunity for open dialogue among LARWQCB staff and Unit Chiefs regarding real and perceived barriers to Triad implementation. Facilitation conducted by Triad training personnel.

### 12:15 – 1:15 (60 min) LUNCH

## AFTERNOON SESSION ON TRIAD PILOT SITES

- 1:15 – 5:15 (240 min) Triad Pilot Sites
- Jump starting 4 pilot sites
  - Systematic Planning Checklist
  - Discussion of 1-2 issues per site
    - (a) Regulations and Guidance
    - (b) Stakeholders
    - (c) Conceptual Site Model
    - (d) Exit Strategy
    - (e) Remedy
    - (f) Project Planning and Management.
  - Resolution of “top uncertainties” at pilot sites

END OF DAY 2- ADJOURN