



Perchlorate And Emerging Contaminants/MERIT

**2006 Army Environmental Cleanup
Workshop**

San Antonio, Texas

February 2, 2006



Perchlorate

- **New DoD Perchlorate Policy signed 26 January 2006**
 - **Addresses:**
 - **Sampling/Risk Assessment/Cleanup**
 - **Drinking Water**
 - **Wastewater associated with munitions**
 - **Assessing on Operational Ranges**
- **New EPA OSWER Perchlorate Guidance released 26 January 2006**
 - **Addresses cleanup issues**
- **Reference number is Drinking Water Equivalent Level (DWEL) of 24 ppb Perchlorate**

Perchlorate



- **Army will be issuing Implementing Guidance**
 - **However, Cleanup Programs will begin treating Perchlorate like any other contaminant immediately**
 - **Specifics for Actions regarding Drinking Water and Wastewater will be in Army Guidance.**
 - **Memo explaining these events will be released shortly**
 - **Work groups to address specifics of water and wastewater guidance will be formed**



Perchlorate

- **On 11 Jan 05, NAS recommended an Oral Reference Dose (RfD) of 0.0007mg/kg/day**
 - Based on a No Observed Effect Level (NOEL)
 - 10X Uncertainty Factor (UF) for sensitive subpopulations
- **18 Feb 05, EPA accepted and published this RfD in IRIS**
 - Equates to DWEL of 24.5 ppb
 - EPA reiterates that this value is protective of sensitive subpopulations
- **MCL time table is on hold pending relative source contributions (RSC) (e.g., food, milk)**
 - FDA is conducting 'market basket' studies
 - EPA default RSC is 80%. This would set MCL at 5 ppb

Perchlorate



- **States close to establishing Enforceable Standards**
 - **New Jersey**
 - 07 Oct 05 recommends state MCL of 5 ppb
 - **California**
 - Public Health Goal of 6 ppb – leads to an MCL
 - **Massachusetts**
 - Draft 1 ppb standard
 - Many other states with advisories, action levels ranging from 1 to 18 ppb
- **Other Issues**
 - **California Perchlorate Prioritization Protocol** – Sites have been prioritized; CA is looking for further action
 - **Activists will probably contend that the DoD/EPA actionable standard is too high given RSC and debates over sensitive sub-populations.**

Emerging Contaminants (EC)



- **Defined as:**
 - **Constituent with no past Toxicological data but is a potential health concern**
 - ex. Tungsten alloys, Nanomaterials (?)
 - **Constituent is expected to have a lower MCL or RfD**
 - MCL may be lowered to meet MCLG
 - New Toxicological data
 - **Constituent with a newly defined exposure pathway**
 - TCE may be assessed using inhalation pathway

Emerging Contaminants (EC)



- **Some EC of recent Interest to DoD:**
 - **Tungsten (& alloys)**
 - used in 'green' bullets
 - **Trichloroethylene (TCE)**
 - drives many cleanup actions
 - **Napthalene**
 - Found in many petroleum products. Could be a H&S issue
 - **RDX, DNT – munitions**
 - **Nanomaterials**
 - Many materials. Often display unexpected toxicological and physical properties
 - **Many other EC being tracked**

Why is DoD interested?



- Driven by DoD experience with Perchlorate
- Require a 'Heads up' on new requirements/regulations
- What is a regulation?
 - When is action required? Is a 'draft' regulation? How do EPAHQ, EPA regions, States use information to regulate?
- How is the assessment process overseen?
 - Does the IRIS process need reform?
- What are the potential impacts on DoD?
 - Cleanup/Environmental/H&S issues
 - Acquisition issues
 - Production issues
 - R & D issues

What is DoD doing? MERIT



- **Materials of Evolving Regulatory Interest Team (MERIT)**
 - Membership is at service DAS level – OSD Lead
 - Coordinates with other Federal Agencies through the Inter-Agency Work Group
 - IRIS risk assessment methodology, review being looked at
 - Coordinates with States through the Environmental Council of States (ECOS)
 - Looking to develop consensus/predictability with the states
 - **Developing Service Work Groups**
 - Work with ECOS and EPA addressing Risk Management, Assessment and Communication (R3)
 - Internal to identify DoD specific Risk issues



MERIT



- **Constituent Tracking**
 - **Identifying potential EC**
 - regulatory atmosphere/changes
 - possible DoD impacts
 - **Identified EC of interest will be forwarded to service POCs**
 - A 'material champion' is assigned to assist in gathering relevant information