

Emerging Contaminant (EC) Update

Presenter

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Huntsville Engineering and Support Center

EMDQ Workshop

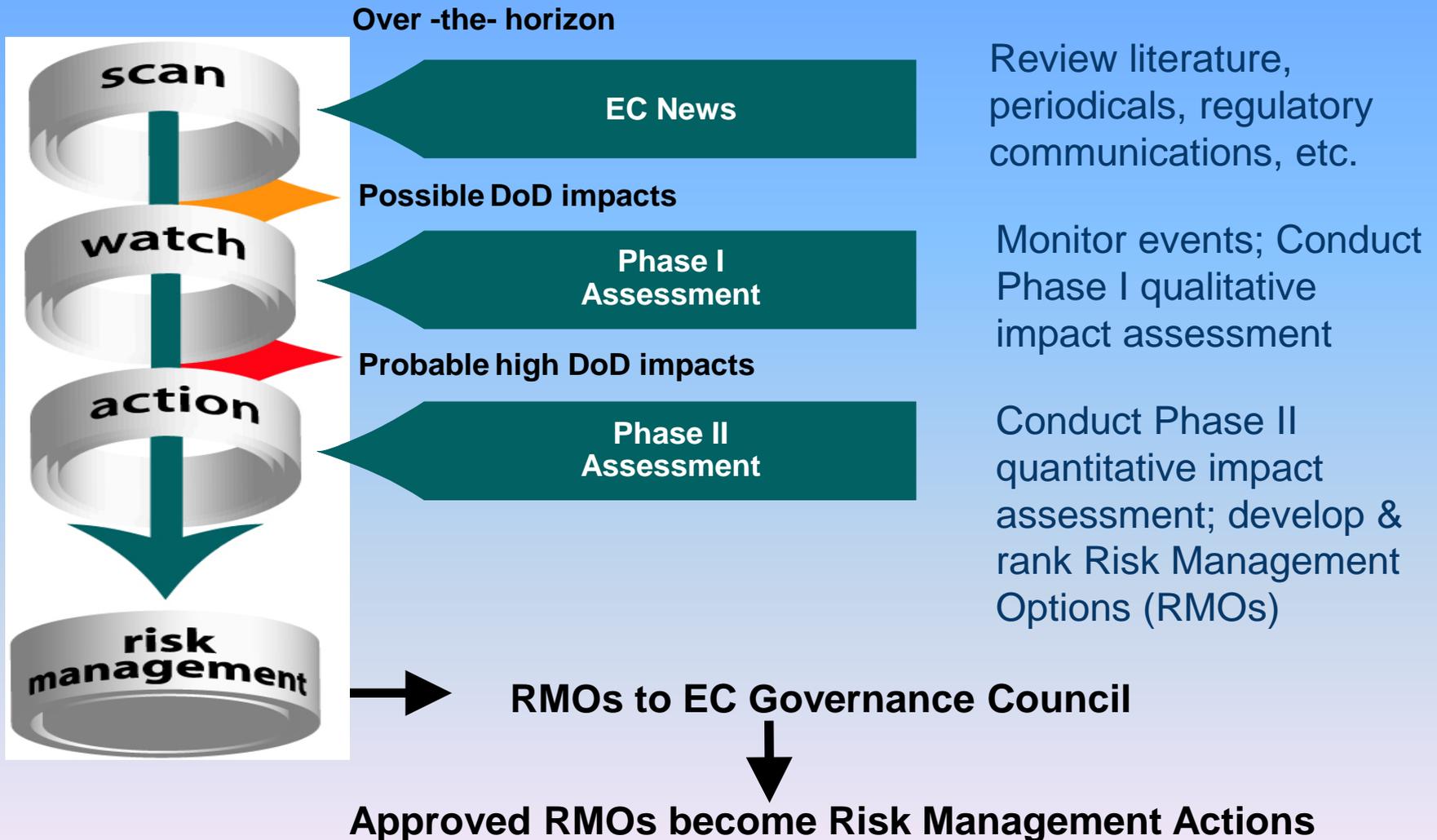
St. Louis, MO

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DoD Chemical and Material Risk Management Program

Acquisition, Technology and Logistics

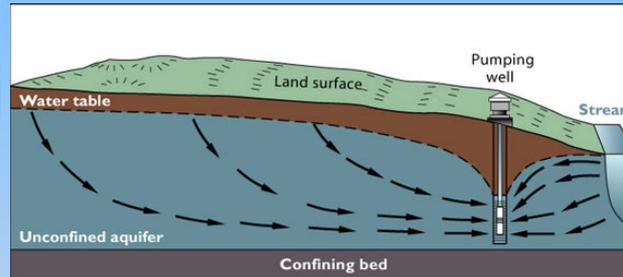


EC Program Coordination

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- Describes coordination with DoD Cleanup, Medical and Drinking Water programs
 - Screening
 - Watch List
 - Phase I Assessments
 - Conclusions
 - Necessity of actions to identify releases of the EC, agreement at Assistant Secretariat level
 - Program Actions
 - Drinking Water program
 - Defense Environmental Restoration Program

Response to EC Releases



Examples of ECs That Can Impact Groundwater & Drinking Water

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- **Perchlorate**
- **RDX¹**
- **1,4-dioxane**
- **Strontium**
- **PFOA & PFOA**
- **Lead**

¹Cyclotrimethylenetrinitramine – an explosive compound

Key Triggers & Response Actions for EC Releases

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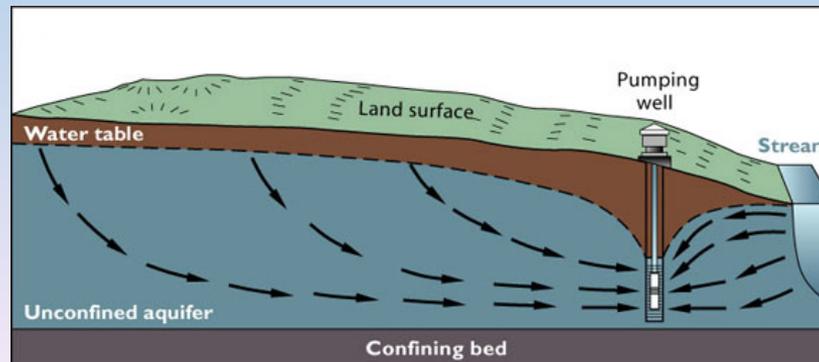
- Trigger:** Release or suspected release of EC by DoD
Action: Confirmation sampling & initial characterization to determine if exposure exists



Key Triggers & Response Actions for EC Releases

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- 1. Trigger:** Release or suspected release of EC by DoD
Action: Confirmation sampling & initial characterization to determine if exposure exists
- 2. Trigger:** Confirmed pathway & receptor for EC exposure
Action: Eliminate “unacceptable” exposure via risk management actions



Key Triggers & Response Actions for EC Releases

Acquisition, Technology and Logistics

- 1. Trigger:** Release or suspected release of EC by DoD
Action: Confirmation sampling & initial characterization to determine if exposure exists
- 2. Trigger:** Confirmed pathway & receptor for EC exposure
Action: Eliminate “unacceptable” exposure via risk management actions
- 3. Trigger:** Peer reviewed toxicity standard (e.g., RfD) is published; *Don't need MCL*
Action: Site is integrated into DERP¹ for site-specific risk assessment and possible remedial action

¹ Defense Environmental Restoration Program

Three Scenarios Where Exposure Exists

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- **Scenario 1** – A toxicity value and a Public Health Advisory (PHA), Maximum Contaminant Limit (MCL), and/or cleanup standard exists
- **Scenario 2** – No PHA or MCL. A peer-reviewed nocancer or cancer toxicity value exists; it may or may not be listed in IRIS; it may be a published EPA peer reviewed provisional toxicity value (PPRTV) or another value listed in an ATSDR or state database.
- **Scenario 3** – No peer-reviewed toxicity value exists. These will be rare, and handled on a case-by-case basis.

Emerging Contaminant Governance Council Actions

Acquisition, Technology and Logistics

- **Elevate tetrabromobisphenol A (TBBPA) to the Emerging Contaminants Action List**
 - Flame retardant in circuit boards utilized in extreme conditions, lacks acceptable alternatives.
 - Phase II Impact Assessment will be conducted to better pin-point risks and viability of substitutes.
 - The Assessment will include recommended risk management actions for review by the ECGC.

Emerging Contaminant Governance Council Actions

Acquisition, Technology and Logistics

- **PFOS-based Aqueous Film Forming Foam (AFFF)**
 - Service-specific procedures will be developed to prevent land-based releases of AFFF during maintenance, testing, and training activities
 - Where and when practical, remove & properly dispose of PFOS-based AFFF from the local stored supplies for non-shipboard use to prevent future environmental response action costs.
 - DLA will support with management actions, to include AFFF procurement strategies and inventory assessments.
 - The DoD Strategic Environmental Research & Development Program will issue a Statement of Need to initiate research to develop a fluorine-free AFFF.

Emerging Contaminant Governance Council Actions

Acquisition, Technology and Logistics

Capture of Chemical/Material Content for Items in the Supply Chain

- Expanding hazardous material data collection
- Coordinating with industry and federal agencies on national declaration standards
- Incorporating new materials declaration standards in DoD acquisition policies when appropriate

EC Watch List – January 2016

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Tungsten/alloys

1,4-dioxane

Metal Nanomaterials

Carbon Nanomaterials

PFOS

PFOA

Nickel

Cadmium

Manganese

Dioxin

HFCs (10)

Vanadium & compounds

Notes:

- Di-nitrotoluenes (DNT)
- Perfluorooctanoic acid (PFOA)
- Perfluorooctyl sulfonate (PFOS)
- decabromodiphenyl ether (decaBDE)

Cobalt

Antimony

Flame retardants (4)

Diisocyanates

NDMA

DNT

DNAN

NTO

} *Energetic Compounds*

TCE ...moved from action list

Perchlorate ...moved from action list

Strontium...added March 2015

Chlorinated paraffins...added June 2015

- 5-Nitro-1,2,4-triazol-3-one (NTO)
- N-Nitrosodimethylamine (NDMA)
- Trichloroethylene (TCE)
- 2,4 dinitroanisole (DNAN)
- Hydrofluorocarbons (HFCs)

EC Action List – January 2015

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Royal Demolition eXplosive (RDX)

Hexavalent Chromium (Cr6+)

Naphthalene

Beryllium

Sulfur Hexafluoride (SF6)

Lead

Phthalates

1-Bromopropane....added May 2014

**Tetrabromobisphenol-A (TBBPA)...added Jan.
2015**