



Emerging Contaminants (EC) Directorate

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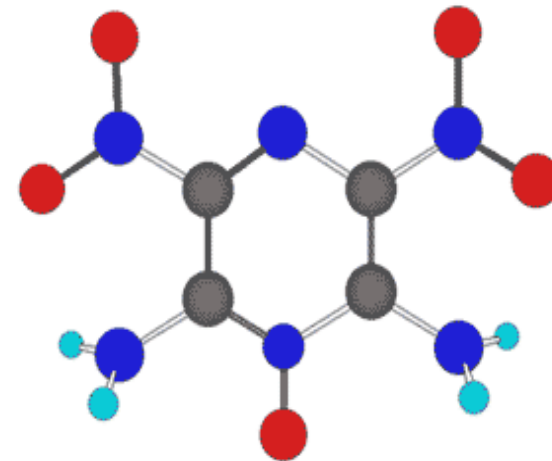
**So. Colorado Sustainable Communities & Fed. Network for Sustainability
Sustainable Procurement Workshop, Fort Carson, CO
Nov. 20-21, 2008**

Chemical and Material Risk Management at DoD: Challenges and Strategies

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**Office of the Deputy Under Secretary of Defense
(Installations & Environment)**

First, Some History: What Is an Emerging Contaminant?

- Chemicals and Materials with
 - ◆ Perceived or real threat to human health or environment
 - ◆ Either no peer reviewed health standard or an evolving standard



Emerging Contaminants (ECs)

PFOA
TCE
TCP
Asbestos
PBDEs
Beryllium
Nanomaterials
1,4 Dioxane
Nickel
Tungsten
Dioxin
PFOA
Cobalt
PFOS
NDMA
DNT
Cerium
RDX
PCE
Lead
Perchlorate
Chromium VI

Which of these are especially important to DoD?

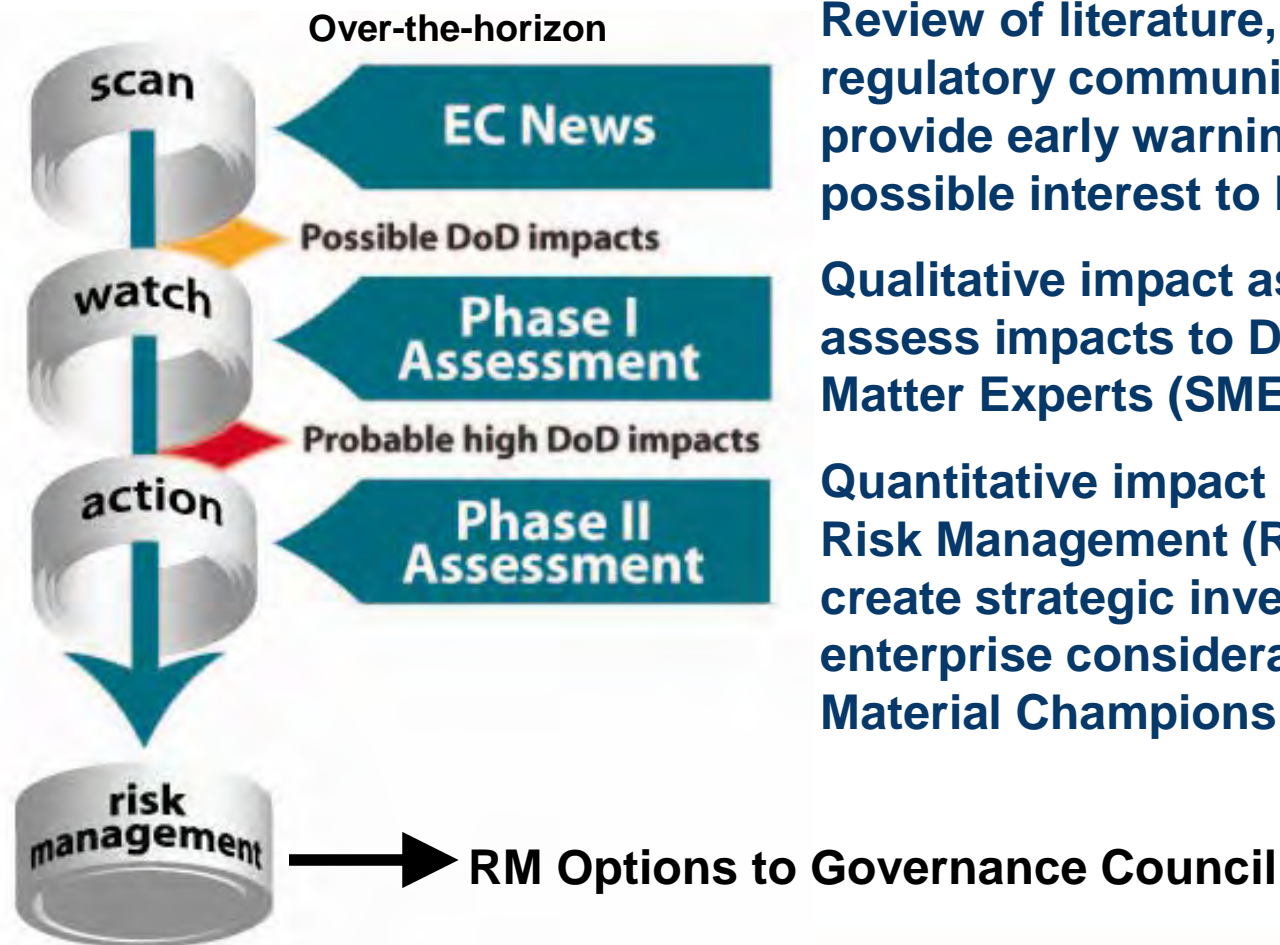


EC's Affects to the Department of Defense

- ❖ Adverse health effects on operating forces, DoD employees and/or public
 - ◆ Human health protection paramount
- ❖ Reduced training/readiness
 - ◆ Restrictions on use of ranges
- ❖ Restricted or non-availability of material
 - ◆ Adverse impact on mission-critical industrial base applications
- ❖ Increased Operations and Maintenance (O&M) and/or cleanup costs
 - ◆ Resource drain from mission needs



EC “Scan-Watch-Action” Process



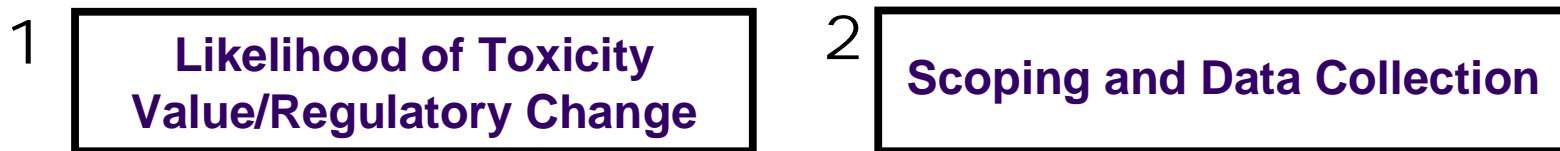
Review of literature, periodicals, regulatory communications, etc. to provide early warning of ECs of possible interest to DoD

Qualitative impact assessment to assess impacts to DoD by Subject Matter Experts (SMEs) within Dept.

Quantitative impact assessment with Risk Management (RM) options to create strategic investment options for enterprise consideration (SMEs and Material Champions within DoD)



Phase I Impact Assessment Process



3 **Impact on DoD Functional Areas**

ES&H	Training & Readiness	Acquisition/ RDT&E	POMD of DoD Assets	Cleanup
H	H	H	H	H
M	M	M	M	M
L	L	L	L	L

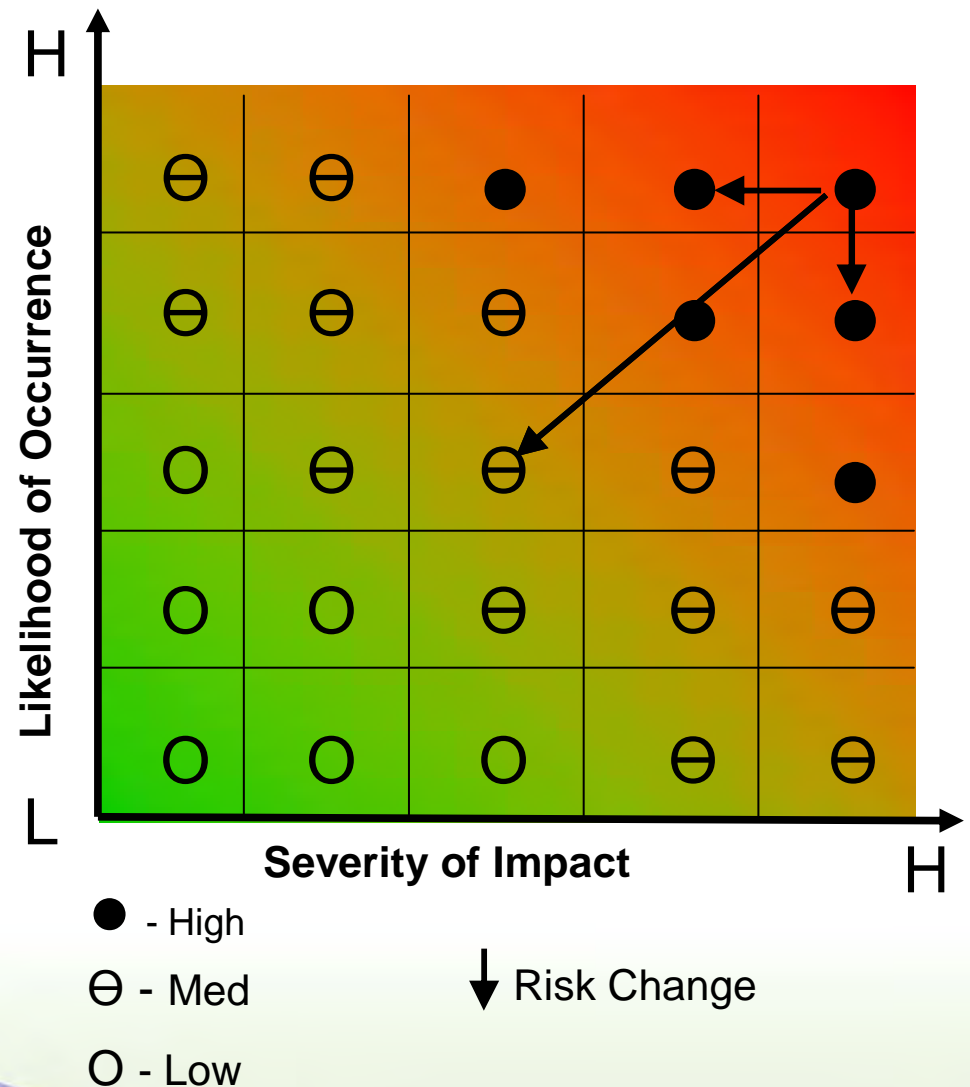
Results:

- Recommendation – Move to Action List?
- Initial Risk Management Options



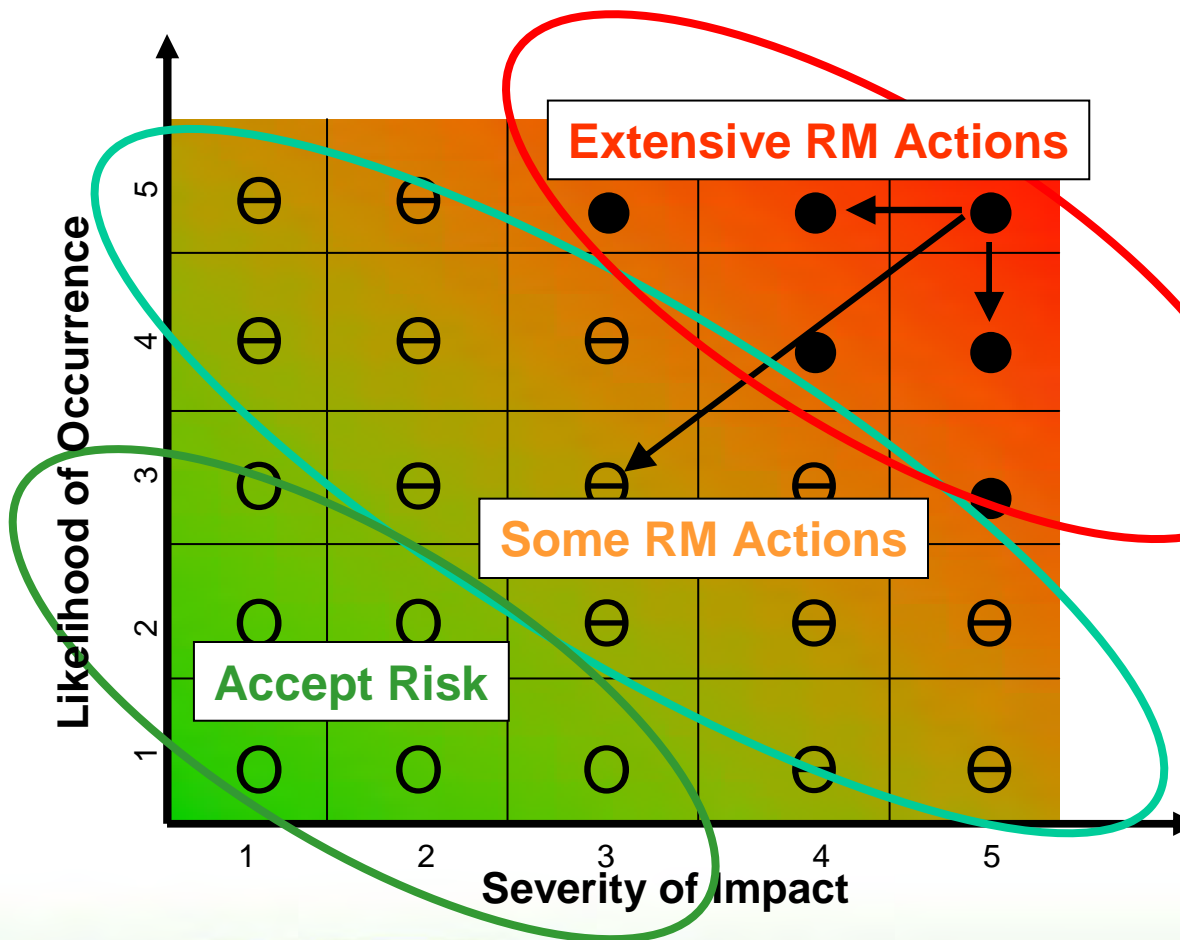
Plotting EC Risk to DoD

- High risk at top right
- Risk management actions move ECs to lower left... lower risk
- Seek to quantify risk reduction



Integrated Risk Management

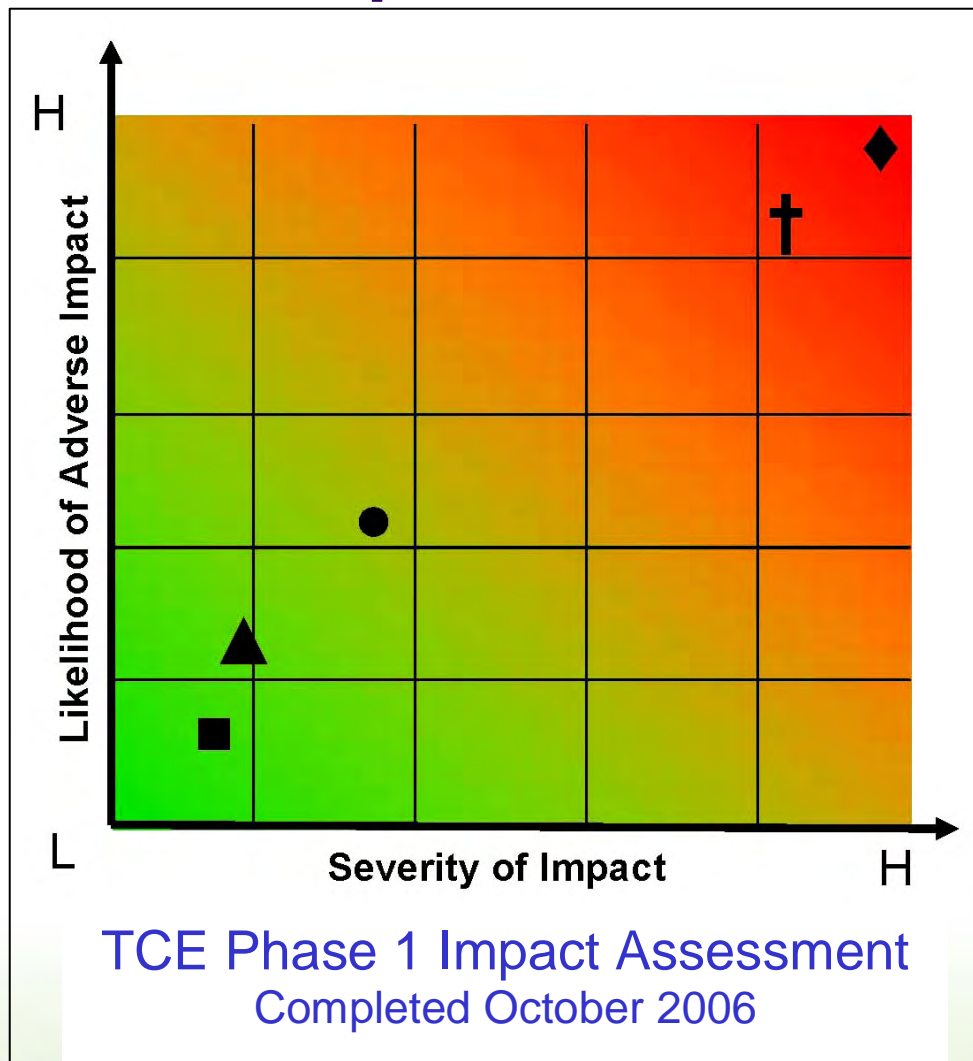
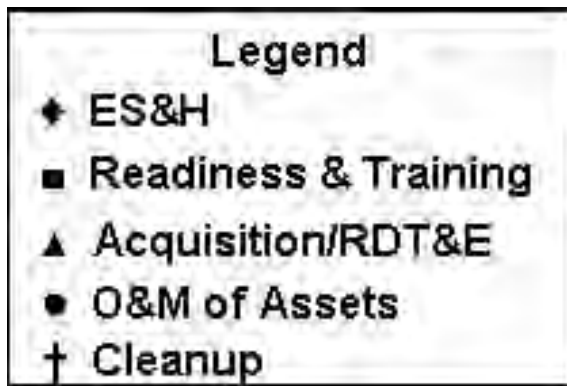
RM Options



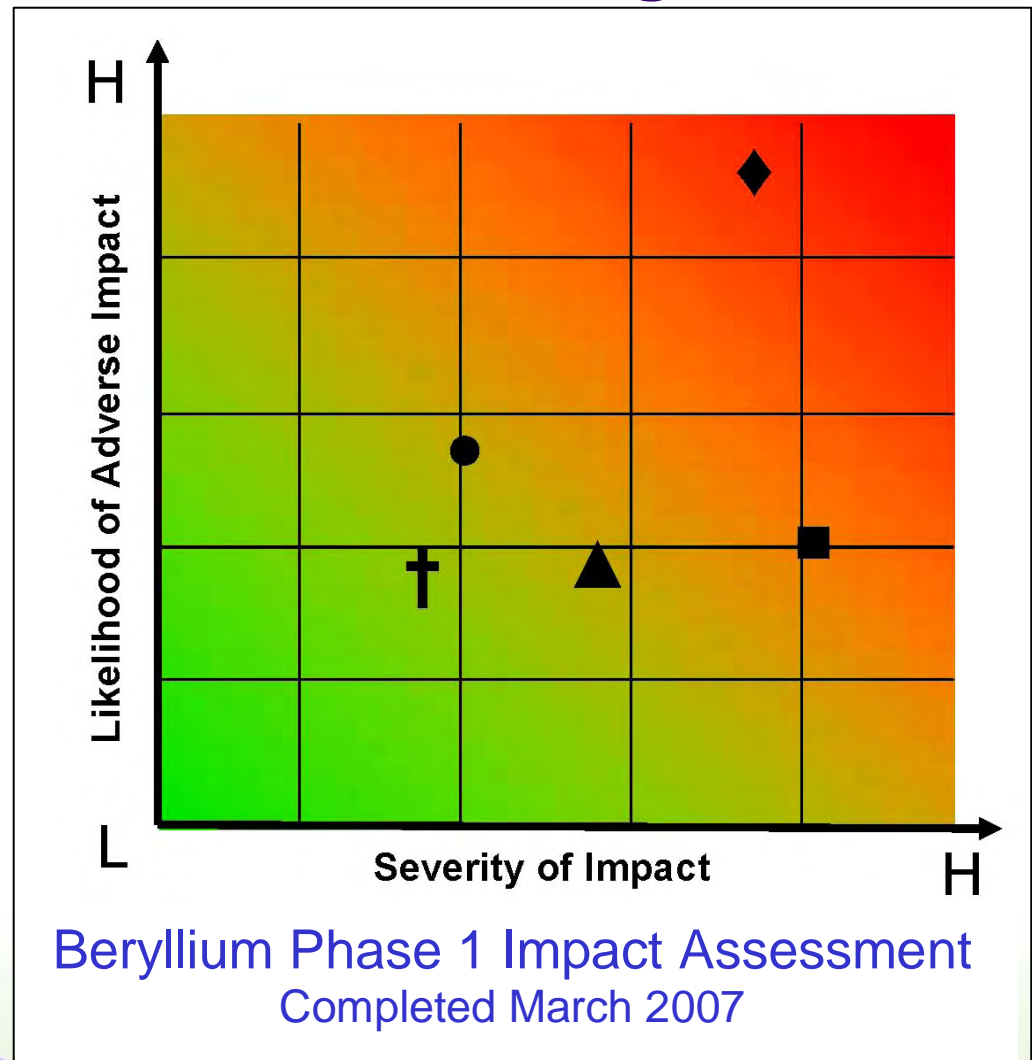
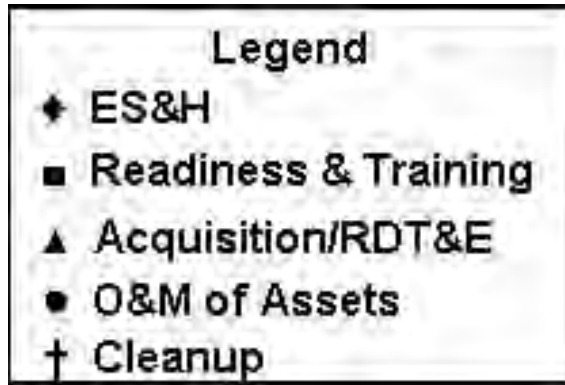
- Fill tox science gaps
- RDT&E
- Material substitution
- Process changes
- Regulatory engagement
- Stockpile material
- Exposure assessment & monitoring
- Personal Protective Equipment (PPE)
- Acquisition changes
- Benchmark with industry
- Risk communication
- Training



Example: TCE and the Relative Risks to EH&S and Cleanup



Example: Beryllium and the Relative Risks to EH&S and Readiness & Training

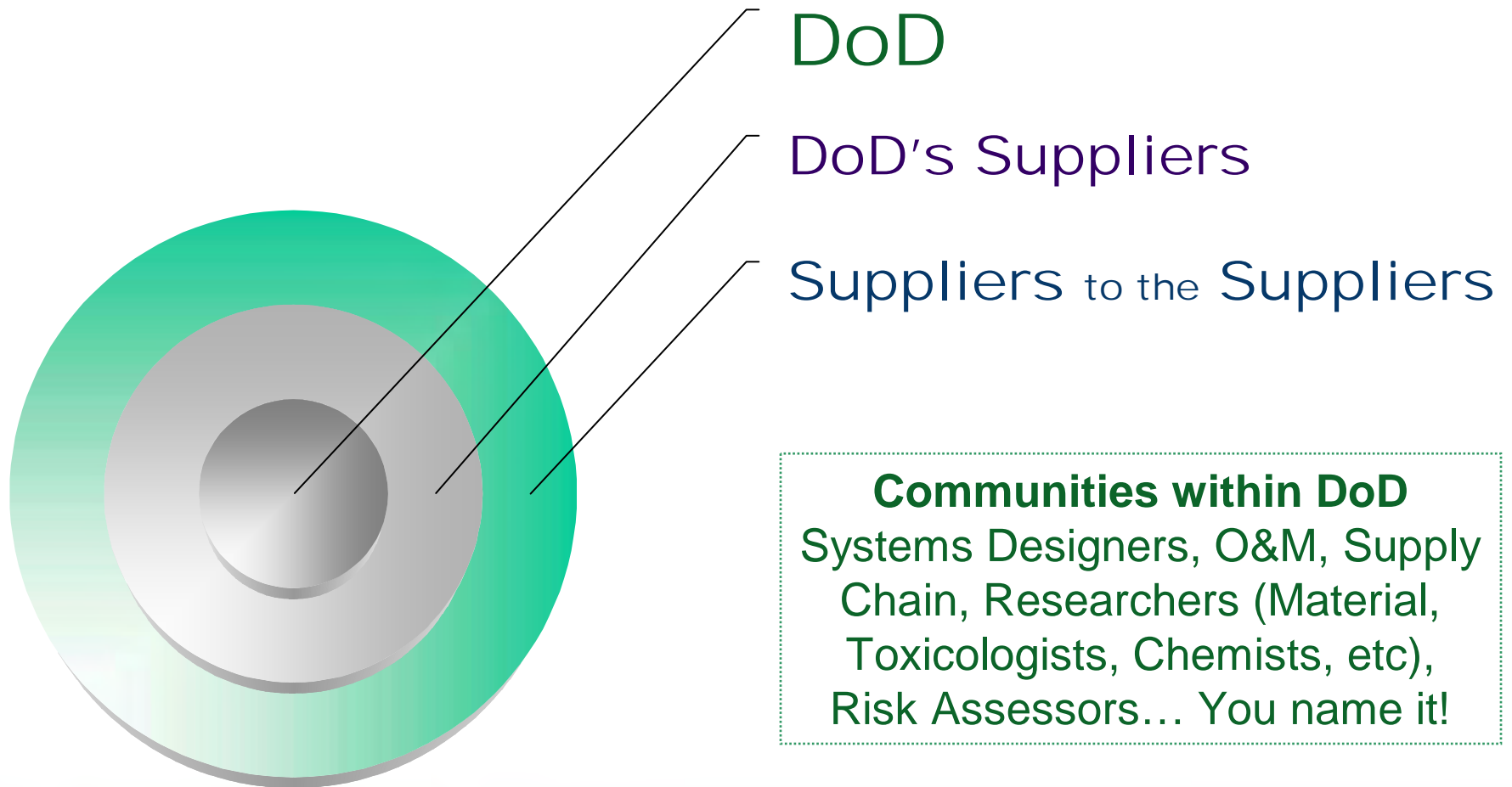


Some Newer Challenges

- ❖ **Executive Order 13423, “Strengthening Federal Environmental, Energy and Transportation Management”**
 - ◆ Goal: toxic and hazardous chemical reductions should be based on lifecycle assessment
- ❖ **Nanotechnology and ‘Synthetic’ Biology**
 - ◆ Goal: consider the role of uncertainty in the face of an entirely new science!
- ❖ **European Union’s ‘REACH’: the Registration, Evaluation, Authorisation and Restriction of Chemical Substances**
 - ◆ Goal: avoid costly interruptions to DoD’s global supply chain

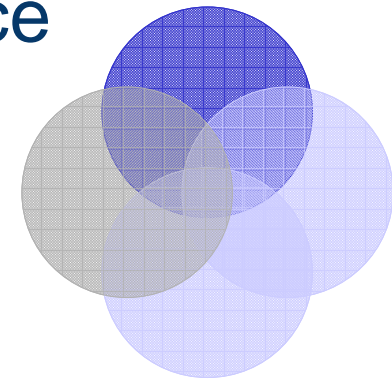


Who Needs To Be Involved?



Strategies to Improve Chemical and Material Risk Management at DoD

- *Catalyze* organizational changes to improve enterprise integration and governance
- *Facilitate* exchange of ideas and information to identify and resolve challenges
- *Identify* the potential unacceptable impacts of emerging contaminants on training and readiness and mission assets
- *Foster* cooperation and enhances mutual understanding, and then creates agreement on means to *reduce* severe risks



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Emerging Contaminants/MERIT

What is an Emerging Contaminant?

Emerging Contaminants are chemicals or materials of interest that are characterized by:

- A perceived or real threat to human health or environment.
- A lack of a published health standards or an evolving standard.

A contaminant may also be "emerging" because of the discovery of a new source, a new pathway to humans, or a new detection method or technology.

[Learn More](#)

DoD's Strategic Goals for Emerging Contaminants

Protect people & enhance readiness by:

- Protect people & enhance readiness
- Applying sound, thorough science in the assessment of risk
- Integrating available information to enhance decisions affected by emerging contaminants
- Making sound risk management decisions about emerging contaminants

Materials of Emerging Regulatory Interest Team (MERIT)

DoD is committed to protecting the public, our work force, the environment, and our national security. MERIT consists of individuals throughout the Department of Defense with a common interest in emerging contaminants. MERIT's members are located in many different offices, functional communities, and locations. MERIT was established and is led and supported by the Emerging Contaminants Directorate.

About the Emerging Contaminants Directorate

The Office of the Under Secretary of Defense for Installations & Environment established the Emerging Contaminants Directorate in 2006 to help the Department of Defense proactively approach emerging contaminants to enable a fully informed, risk based investment decision process that protects human health and DoD operational capabilities.

[Learn More](#)

[Overview of DoD EC program and processes](#) Document Size: 251456 bytes

Jan 2008 EC Basic Powerpoint brief

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≤ January 2008 ≥

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Questions?

THANK YOU FOR YOUR ATTENTION!

