

# What did REACH teach us for the Future?

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NDIA 18<sup>th</sup> Annual Systems Engineering Conference

October 28, 2015



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# Foreign Military Sales - Letter of Request

- Documents include the following Program management review briefs.....
  - Integrated Logistics Plan
  - Environmental Supportability Statement
  - Life Cycle Environmental Assessment
  - **R.E.A.C.H Compliance Assessment Report**
  - Health Hazard Assessment Report
  - Supply Data





# REACH Impact to Army Systems

- REACH “Compliance”
  - Foreign Military Sales (FMS) customers are subject to REACH
    - Compliance is Defined by the Customer
  - Defense Security Cooperation Agency Issued Guidance Memorandum
    - REACH is not within the Standard Level of Service
    - Data Required for compliance must be specified by the Customer
    - Customer must reimburse the PM for the data required







# Lesson 1: Data Required

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- Germany
  - Requested Detailed Data
- Other EU Nations
  - Requested Minimal Data
- U.S. may not be required to comply, but...
- Lesson Learned
  - U.S. must understand what data may be required for the customer to comply, and...
  - To fulfill the reimbursable task.





# Acquisition Requirements

- DoDI 5000.02 Defense Acquisition Policy
  - Mil-Std-882E Task 108 Hazardous Materials Management Plan
  - NAS 411 Hazardous Materials Management Program
    - Plus NAS-411-1 Hazardous Material Target List
- Army
  - Health Hazard Assessments
  - Toxicity Assessments
- Aerospace and Defense Industry
  - Declarable Substances List
  - Future Declarable Substances Standard





# Substances of Very High Concern (edited)

- 1,2,3-Trichloropropane
- 1,2-dichloroethane
- 1-bromopropane (n-propyl bromide)
- 1-Methyl-2-pyrrolidone
- **2,4-Dinitrotoluene (2,4-DNT)**
- 2-Ethoxyethanol
- 2-Ethoxyethyl acetate
- 2-Methoxyaniline; o-Anisidine
- 2-Methoxyethanol
- 4,4'- Diaminodiphenylmethane (MDA)
- Acetic acid, lead salt, basic
- **Acids generated from chromium trioxide and their oligomers. Names of the acids and their oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid**
- Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)
- **Ammonium dichromate**
- Anthracene
- Anthracene oil, anthracene paste
- Anthracene oil, anthracene paste, anthracene fraction
- Anthracene oil, anthracene-low
- **Benzyl butyl phthalate (BBP)**
- **Bis (2-ethylhexyl)phthalate (DEHP) or dioctylphthalate**
- **Bis(2-methoxyethyl) phthalate**
- Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)
- Boric acid
- **Cadmium**
- Cadmium chloride
- Cadmium oxide
- Cadmium fluoride
- Cadmium sulphate







# Substances of Very High Concern (edited)

- Cadmium sulphide
- **Chromium trioxide**
- Cobalt dichloride
- Cobalt(II) carbonate
- Cobalt(II) diacetate
- Cobalt(II) dinitrate
- Cobalt(II) sulphate
- Diboron trioxide
- **Dibutyl phthalate (DBP)**
- Dichromium tris(chromate)
- **Dihexyl phthalate**
- **Diisobutyl phthalate**
- **Hydrazine**
- **Lead chromate**
- **Lead diazide, Lead azide**
- Lead dinitrate
- Lead monoxide (lead oxide)
- Lead oxide sulfate
- **Lead styphnate**
- Lead titanium trioxide
- **Pentadecafluorooctanoic acid (PFOA)**
- Potassium chromate
- Potassium dichromate
- Potassium hydroxyoctaoxodizincatedichromate
- **Sodium chromate**
- **Sodium dichromate**
- **Strontium chromate**
- Tetraethyllead
- **Trichloroethylene**





# Army Technology Initiatives

- Developmental Environment, Safety and Occupational Health Evaluation (DESHE)
- Army Environmental Quality Technology Program
  - Sustainable Painting
  - Ordnance Environmental
  - Toxic Metal Reduction
  - Airborne Lead
  - No/Low GWP Alternatives



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ACQUISITION,  
TECHNOLOGY,  
AND LOGISTICS

THE UNDER SECRETARY OF DEFENSE

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AUG 2 5 2015

MEMORANDUM FOR: SEE DISTRIBUTION

SUBJECT: Department of Defense Science and Technology Planning Considerations for the European Union's Registration, Evaluation, Authorisation and Restriction of Chemical Substances Law

The Registration, Evaluation, Authorisation and Restriction of Chemical Substances Law (REACH) is a relatively new and complex law that fundamentally changes the way that chemicals are regulated in the European Union. The primary aim of REACH is to ensure a high level of protection of human health and the environment from the risks posed by chemicals. REACH contains no blanket exemption for military products or activities. As a result, REACH will have potentially significant consequences for the Department and our allies, due to the impact of chemical regulation on product formulations and the global nature of defense supply chains.

Collectively, the Department's goals with respect to REACH are to:

- Identify strategies and solutions to promote potential positive and minimize potential negative impacts of REACH.
- Reduce the use of toxic and hazardous chemicals wherever feasible.

In order to realize these goals, it is our policy that REACH and any allied regulations be considered in the planning of any Science and Technology (S&T) Program in which efforts may result in a final materiel solution containing chemicals currently or potentially regulated by REACH. The most recent version of the REACH Strategic Plan is attached for your reference. Every effort should be made to seek alternatives to REACH-restricted and authorized chemicals. When that is not possible, S&T Programs should seek to reduce quantities of such chemicals used, evaluate potential mission impacts across the life cycle of the system, communicate these risks to the transition partner, and coordinate with both the partner(s) and U.S. European Command to seek military exemptions in countries where such exemptions would be required. In addition, all elements of DoD S&T should coordinate with acquisition transition partners as early as possible in order to ensure that REACH considerations are included in acquisition program baselines with respect to impacts on cost, schedule, and performance.

Frank Kendall

Attachment:  
As stated





# How DESHE works?

## Example for Materiel-based DESHE



### BA1

- Computational predictions from chemical/physical performance parameters and toxicity

### BA2

- Experimental values of chemical and physical characteristics
- In-vitro toxicity screening methods
- Acute toxicity data
- *Computational predictions from chemical/physical performance parameters and toxicity*
- Professional judgment

### BA3

- Biodegradation in various media
- In vivo toxicity testing; acute, sub-acute
- Environmental toxicity
- *Computational predictions from chemical/physical performance parameters and toxicity*
- *Experimental values of chemical and physical characteristics*
- *In-vitro toxicity screening methods*
- *Acute toxicity data*
- Professional judgment

### BA4

- Chronic toxicity
- Occupational exposure studies, including absorption tests
- *Computational predictions from chemical/physical performance parameters and toxicity*
- *Experimental values of chemical and physical characteristics*
- *In-vitro toxicity screening methods*
- *Acute toxicity data*
- *Biodegradation in various media and environmental toxicity*
- *In vivo toxicity testing; acute, sub-acute*
- Professional judgment

### Acquisition Documentation

- PESHE
- NEPA
- HHA





# Lesson Two: ESOH Technology

- ESOH Technology Supports Acquisition Requirements
  - Mechanisms are In-Place to Generate the Data
  - Mechanisms are In-Place to Evaluate Alternative Chemicals and Products
  - Mechanisms are In-Place to Document the Data Required
- U.S. should NEVER Lose a Sale due to REACH compliance requirements

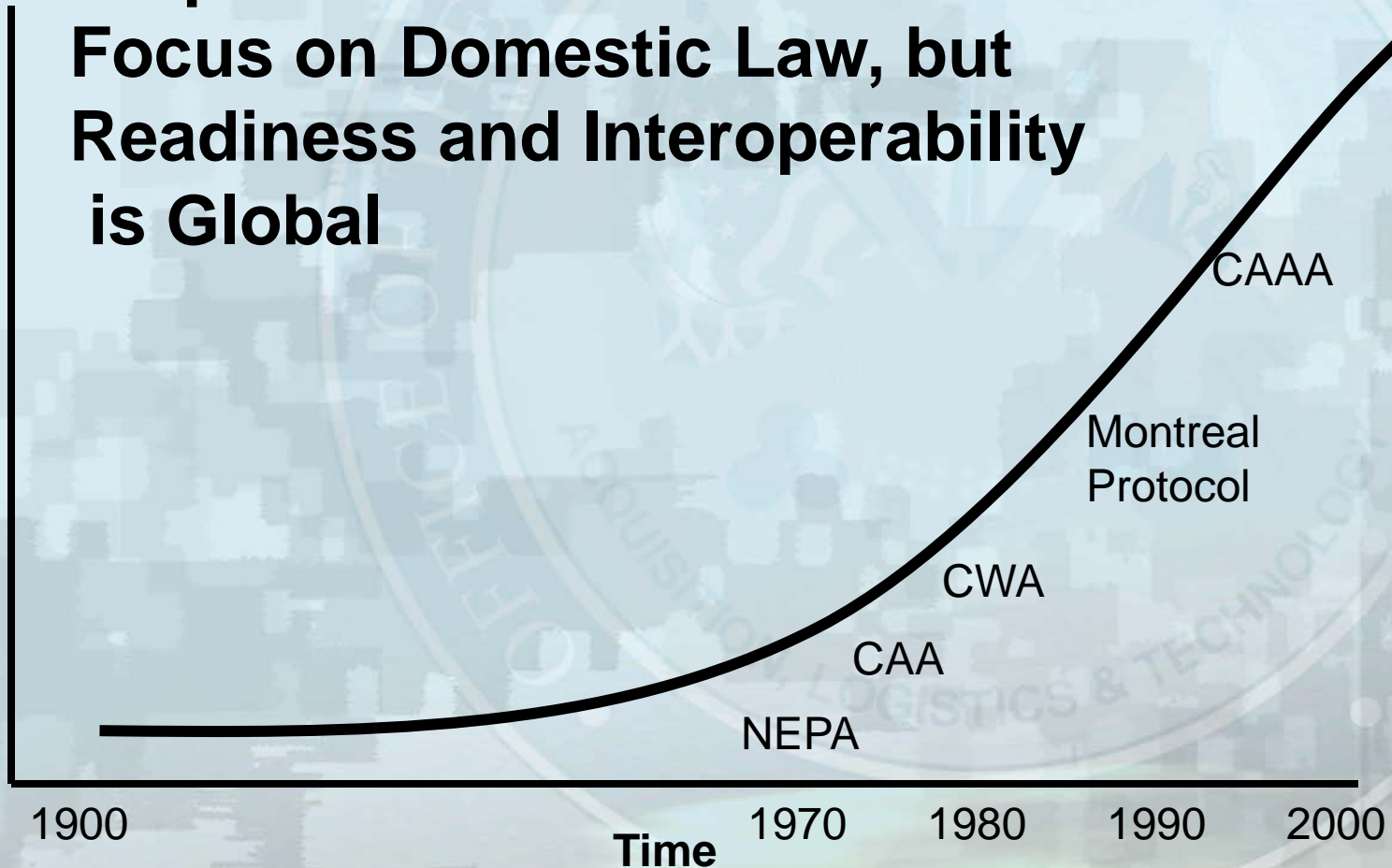




# The Traditional View

**Acquisition Environmental Professionals  
Focus on Domestic Law, but  
Readiness and Interoperability  
is Global**

Number of Environmental Laws







# Global Chemical Restrictions

- European Union REACH is a Wake-Up Call
  - Canada
  - Japan
  - South Korea
  - New Zealand
  - Singapore
  - Australia
  - Philippines
  - Peoples Republic of China
  - Sweden
- Even the United States





# Lesson Three: Global Requirements

- Environmental Laws are proliferating Throughout the World
  - Global Supply and Movement of Chemicals are being constrained to prevent environmental and health impacts.
  - We maintain Bases throughout the World
- EU REACH taught Acquisition Environmental Professionals Not to Focus Solely on US Law





# Host Nations and the U.S. Military

- NATO Status of Forces Agreement
  - Respect Host Nation Law
- DoDI 4715.05 Environmental Compliance at Installations Outside the United States
  - Overseas Environmental Baseline Guidance Document
    - Apply U.S. Law to respect the environment
    - Host Nation Law applied to the Host Nation Military
    - International Treaty Provisions
  - Leads to Final Governing Standards (FGS)







# Possible Conflicting Standards

- Final Governing Standard (FGS)
  - Comprehensive set of country-specific substantive provisions or management practice for environmental protection
- Technical Manuals (TMs)
  - TM work instructions are considered orders
  - Not to be altered in any way without specific authorization by the equipment developer/sustainer.





# Example : R-22

- R-22 is used as a refrigerant for military unique environmental control units
  - FGS constrains the use of R-22.
    - Belgium
    - Germany
    - Greece
    - Italy
    - Netherlands
    - Portugal
    - Spain
    - United Kingdom
- Local logistics work around?
  - Find an Alternative – HFC?
  - Violate FGS (DoD policy) or Violate Orders?





# Lesson Four: Team with Installations

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- Host Nation Laws need to be Respected
  - Installation Managers are sensitive to Host Nation regulators
- Weapon System Technical Requirements must be Maintained
  - Installation Managers also have to be sensitive to Readiness Requirements
- Recommended Advisory in DoDI 4715.05 or the OEBGD







# Path Forward for the Army

- Monitor International Chemical and Product Laws
  - Understand Data Requirements
- Continue EQT Research for Alternatives
  - Army Wide Acceptance of DESHE
- Monitor Impacts of International Laws and Treaties on Readiness Considerations
  - Army ESOH Strategic Plan
- Work Closely with Base Managers to avoid Conflicting Requirements
  - Both CONUS and OCONUS





# Closing Thought

- “If I pollute, the enemy knows I was there.”
- “If I pollute, the local community does not want me there.”

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