# *Acquisition Environment, Safety, and Occupational Health (ESOH)*

# *– Follow Through After the Policy is Printed – ESOH in Acquisition*

**NDIA 2010 Systems Engineering Conference**

**October 27, 2010**

**Mr. David Asiello**

**Office of the Deputy Under Secretary of Defense**

**(Installations & Environment)**

# Outline

- Acquisition ESOH Mission
- The Policy
- Traditional Oversight
- Current Initiatives
- Path Forward

# Acquisition ESOH Mission

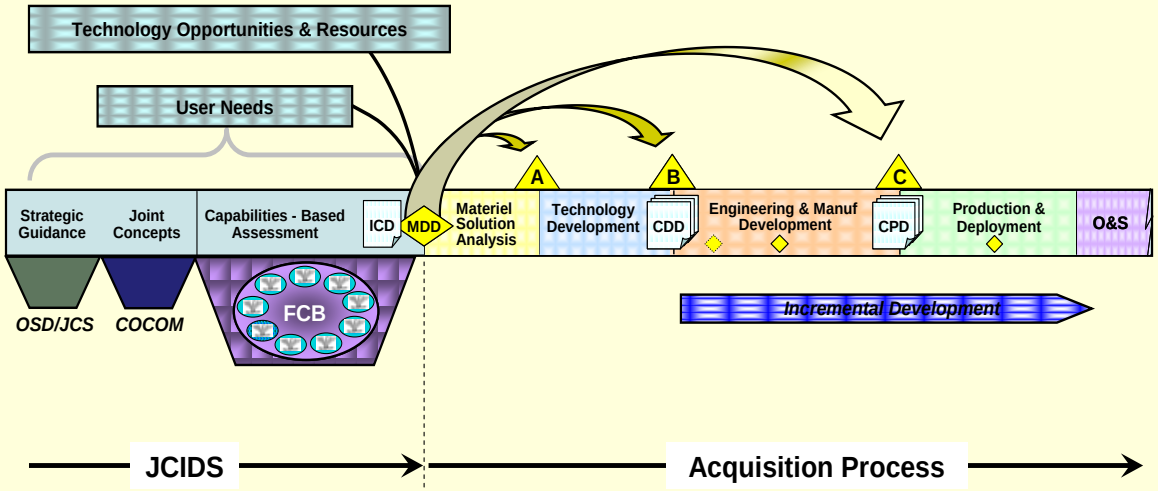
- **As part of sustaining its mission DoD is committed to avoiding**
  - Loss of life or serious injury to personnel
  - Damage to facilities or equipment
  - Harm to the environment and the surrounding community
  - System failure with adverse impact on mission capability or mission operability

**"The mission of the Department of Defense is to provide the military forces needed to deter war and to protect the security of our country."**

# ESOH Acquisition in Policy

## To accomplish our ESOH mission

- Use the System Safety methodology across ESOH disciplines to identify hazards and mitigate risks through the systems engineering process
  - ESOH refers to all individual, but interrelated, disciplines that encompass environment, safety, and occupational health
- Work throughout the Acquisition Life cycle / Framework



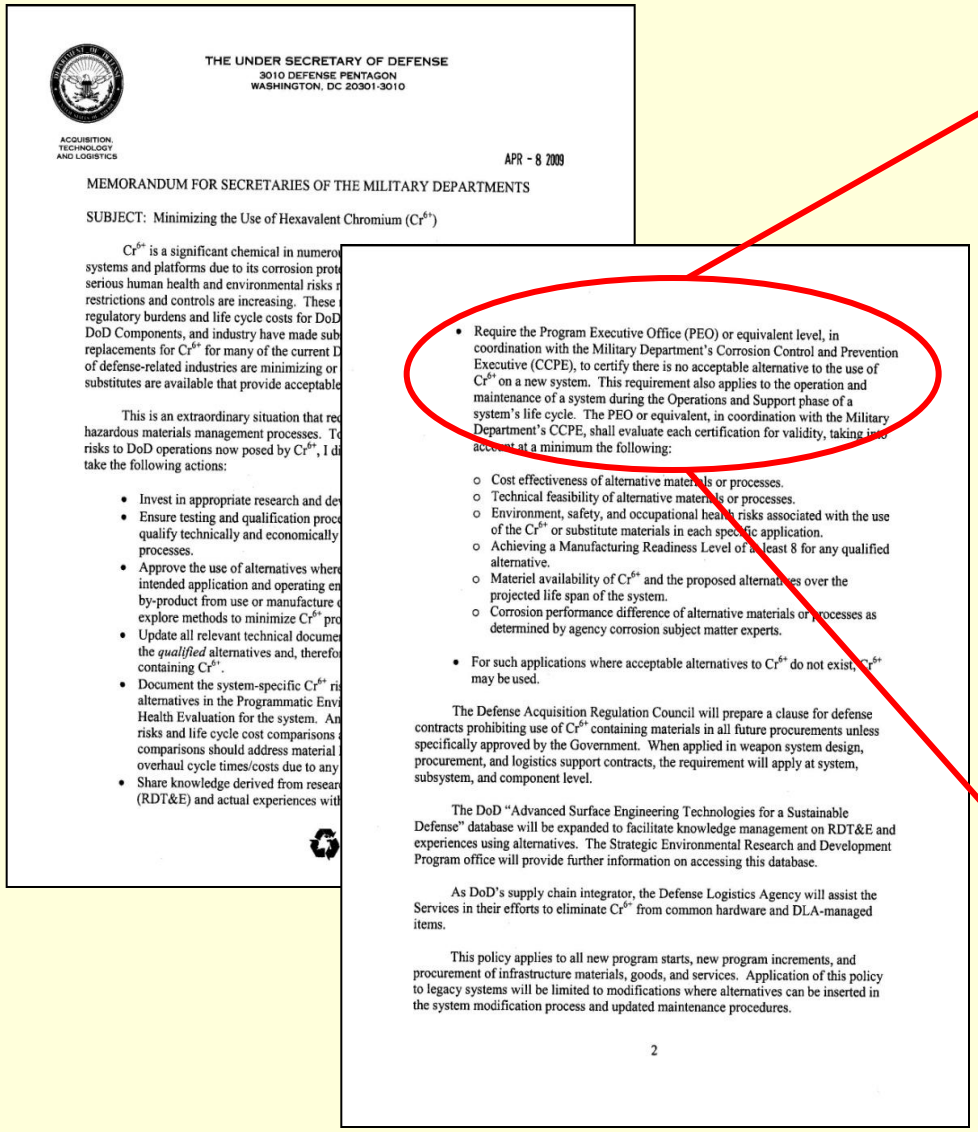
# *Policy & Guidance*

- DoD Directive (DoDD) 5000.01, The Defense Acquisition System (May 12, 2003)
- DoD Instruction (DoDI) 5000.02, Operation of the Defense Acquisition System (December 08, 2008)
- Defense Acquisition Guidebook, https://dag.dau.mil/
- Acquisition Community Connection, ESOH Special Interest Area, https://acc.dau.mil/esoh

# Policy (DoDI 5000.02, E12.6)

- **Use MIL-STD-882D, *DOD Standard Practice for System Safety*, in all developmental and sustaining engineering activities**
- **The PM must report the status of all High and Serious ESOH risks and applicable ESOH Technology Requirements for program reviews and fielding decisions**
- **Prior to exposing people, equipment, or the environment to a known system-related ESOH hazards,**
  - Risks must be accepted by the appropriate authority
  - User concurrence for High and Serious risks.

# Policy Memo: Minimizing the Use of Hexavalent Chromium



THE UNDER SECRETARY OF DEFENSE
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WASHINGTON, DC 20301-3010

ACQUISITION, TECHNOLOGY AND LOGISTICS

APR - 8 2009

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS

SUBJECT: Minimizing the Use of Hexavalent Chromium ($Cr^{6+}$)

$Cr^{6+}$ is a significant chemical in numero systems and platforms due to its corrosion prot serious human health and environmental risks r restrictions and controls are increasing. These regulatory burdens and life cycle costs for DoD DoD Components, and industry have made sub replacements for $Cr^{6+}$ for many of the current D of defense-related industries are minimizing or substitutes are available that provide acceptable

This is an extraordinary situation that re hazardous materials management processes. T risks to DoD operations now posed by $Cr^{6+}$, I di take the following actions:

- Invest in appropriate research and de
- Ensure testing and qualification proc qualify technically and economically processes.
- Approve the use of alternatives where intended application and operating en by-product from use or manufacture explore methods to minimize $Cr^{6+}$ pro
- Update all relevant technical docume the *qualified* alternatives and, therefo containing $Cr^{6+}$.
- Document the system-specific $Cr^{6+}$ ri alternatives in the Programmatic Envi Health Evaluation for the system. An risks and life cycle cost comparisons comparisons should address material overhaul cycle times/costs due to any
- Share knowledge derived from resear (RDT&E) and actual experiences wit

- Require the Program Executive Office (PEO) or equivalent level, in coordination with the Military Department's Corrosion Control and Prevention Executive (CCPE), to certify there is no acceptable alternative to the use of $Cr^{6+}$ on a new system. This requirement also applies to the operation and maintenance of a system during the Operations and Support phase of a system's life cycle. The PEO or equivalent, in coordination with the Military Department's CCPE, shall evaluate each certification for validity, taking into account at a minimum the following:
  - Cost effectiveness of alternative materials or processes.
  - Technical feasibility of alternative materials or processes.
  - Environment, safety, and occupational health risks associated with the use of the $Cr^{6+}$ or substitute materials in each specific application.
  - Achieving a Manufacturing Readiness Level of at least 8 for any qualified alternative.
  - Materiel availability of $Cr^{6+}$ and the proposed alternatives over the projected life span of the system.
  - Corrosion performance difference of alternative materials or processes as determined by agency corrosion subject matter experts.
- For such applications where acceptable alternatives to $Cr^{6+}$ do not exist, $Cr^{6+}$ may be used.

The Defense Acquisition Regulation Council will prepare a clause for defense contracts prohibiting use of $Cr^{6+}$ containing materials in all future procurements unless specifically approved by the Government. When applied in weapon system design, procurement, and logistics support contracts, the requirement will apply at system, subsystem, and component level.

The DoD "Advanced Surface Engineering Technologies for a Sustainable Defense" database will be expanded to facilitate knowledge management on RDT&E and experiences using alternatives. The Strategic Environmental Research and Development Program office will provide further information on accessing this database.

As DoD's supply chain integrator, the Defense Logistics Agency will assist the Services in their efforts to eliminate $Cr^{6+}$ from common hardware and DLA-managed items.

This policy applies to all new program starts, new program increments, and procurement of infrastructure materials, goods, and services. Application of this policy to legacy systems will be limited to modifications where alternatives can be inserted in the system modification process and updated maintenance procedures.

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**"…the Program Executive Office (PEO) or equivalent level, in coordination with the Military Department's Corrosion Control and Prevention Executive (CCPE), to certify there is no acceptable alternative to the use of Cr6+ on a new system."**

# *Traditional Oversight*

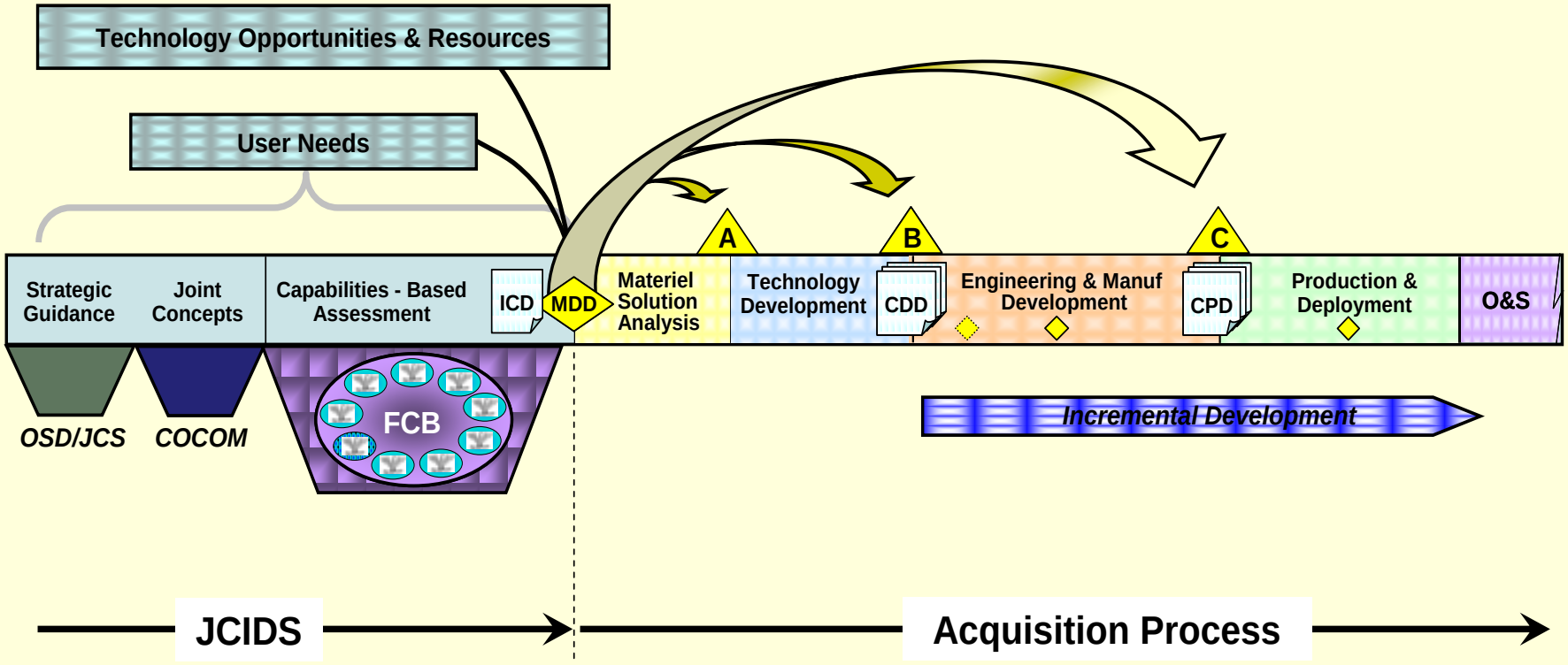
- **Document "Review-Centric" Approach**
  - Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE)
  - Acquisition Strategy (AS)
- **Pentagon Level Meeting Participation**
  - Overarching Integrated Product Team (OIPTs)

**Weaknesses – Limited:**

**Insight into Implementation Effectiveness**

**Ability to Impact Early Decision Making**

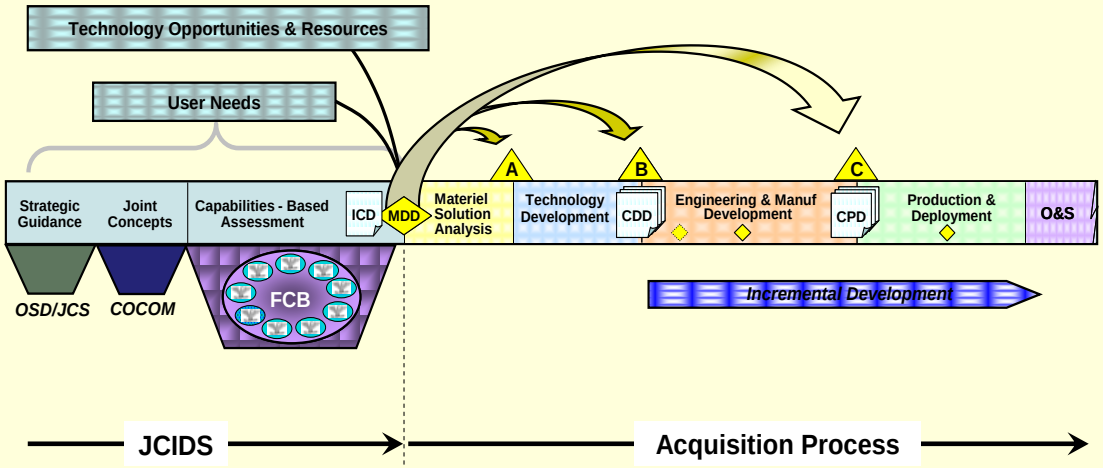
# Defense Acquisition Management System




**ESOH needs to be a consideration from conception to disposal**

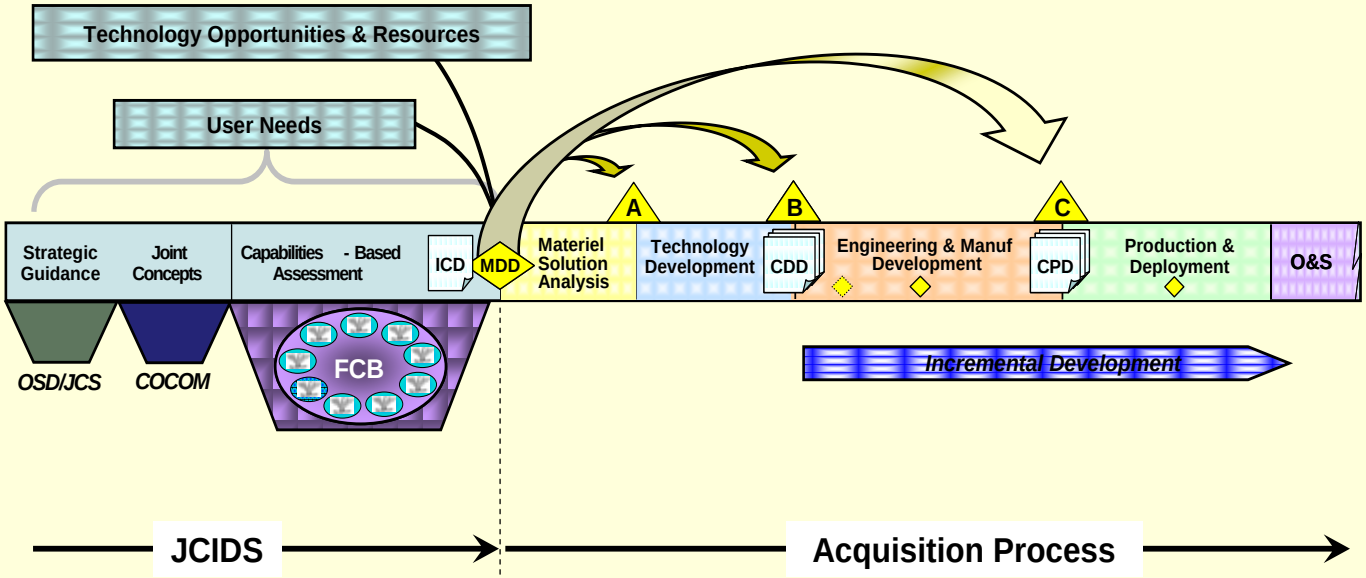
# Current Initiatives Target the Entire Life Cycle Framework (1 of 2)

- ESOH in Joint Capabilities Integration & Development System (JCIDS)
- Environmental Sustainability Criteria used for decision making



# Current Initiatives Target the Entire Life Cycle Framework (2 of 2)

- Expanded use of DFAR Clauses
- Expanded review of documentation
- **Participation in Program Support Reviews**



# *Program Support Reviews (PSRs)*

- **Office of Director of Development, Research and Engineering (DDR&E) leads PSRs**
  - Mandated by DoDI 5000.02
  - Provides a Systems Engineering Focused Review
  - Examines multiple aspects of Program
  - Supports Defense Acquisition Board Decisions
- **ODUSD(I&E) is providing ESOH Subject Matter Experts and coordinating with DDR&E**

# *Participation in PSRs*

- **Validate program compliance**
  - Determine accuracy of PESHE and fill in unknowns
- **Assess effectiveness of Acquisition ESOH policy**
  - Re-enforce reporting of High and Serious category ESOH risks
  - Compliance with ESOH technology requirements
  - DDR&E prefers this approach
- **Work closely with program teams**
  - Provide ESOH guidance and direction
  - Educate the work force
  - Establish an “ESOH network”

# Participation

# *Example PSR ESOH Findings/Issues*

- PESHE does not describe actual ESOH program execution
- Program Office 'System Safety' and 'ESOH' efforts not integrated
- Lack of emphasis on implementing ESOH mitigations
- Failure to address USD (AT&L) policy
- ESOH risk data and technology requirements not in PESHE

# Path Forward

- **Implement a Five Year Strategy**
- **Continue to influence programs via oversight**
- **Improve effectiveness of the workforce**
  - Education
- **Program resources**
  - Continue to provide ESOH Subject Matter Experts for PSR's
- **Address root cause issues to ESOH risks**
  - Policy and Guidance
    - » Improve content and timing of the PESHE
    - » Incorporate into SEP, etc.
  - Work with DDR&E/SE to integrate ESOH design considerations earlier in the acquisition / SE process



## ODUSD(I&E), Chemical & Material Risk Management Directorate

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# BACKUP SLIDES

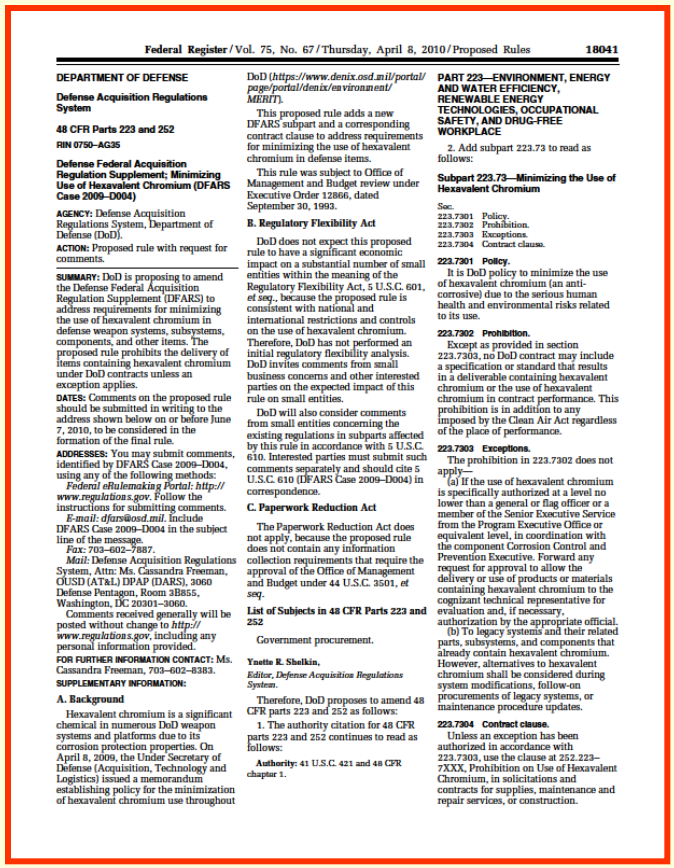
# ESOH in JCIDS

- **ESOH Senior Leadership endorses all JCIDS documents**
  - ESOH communities have opportunity to provide inputs
  - Raise awareness with leadership
  - MILDEP's to set up internal process
- **Developing training to support ESOH SME participation**
- **Issue JCIDS ESOH Policy**
  - USD(AT&L) memo is ready to enter formal staffing

# Factoring Sustainability into Acquisition Programs

- **Tool to help field, maintain, and upgrade weapons systems more rapidly and economically**
- **Identify sustainability factors to be considered and the appropriate decision point**
  - Use physical, chemical, and toxicity data to make smart choices
  - Possible weighting or scoring system for alternatives
  - Provide examples of the types of life cycle costs that need to be considered
- **Develop "Sustainability in Acquisition" guidance**
- **Construct training module**

# Expanded Use of Defense Federal Acquisition Regulation (DFAR)



Federal Register / Vol. 75, No. 67 / Thursday, April 8, 2010 / Proposed Rules 18041

DEPARTMENT OF DEFENSE

Defense Acquisition Regulations System

48 CFR Parts 223 and 252

RIN 0750–AG35

Defense Federal Acquisition Regulation Supplement; Minimizing Use of Hexavalent Chromium (DFARS Case 2009–D004)

AGENCY: Defense Acquisition Regulations System, Department of Defense (DoD).

ACTION: Proposed rule with request for comments.

SUMMARY: DoD is proposing to amend the Defense Federal Acquisition Regulation Supplement (DFARS) to address requirements for minimizing the use of hexavalent chromium in defense weapon systems, subsystems, components, and other items. The proposed rule prohibits the delivery of items containing hexavalent chromium under DoD contracts unless an exception applies.

DATES: Comments on the proposed rule should be submitted in writing to the address shown below on or before June 7, 2010, to be considered in the formation of the final rule.

ADDRESSES: You may submit comments, identified by DFARS Case 2009–D004, using any of the following methods:

*Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.

*E-mail: dfars@osd.mil.* Include DFARS Case 2009–D004 in the subject line of the message.

*Fax:* 703–602–7887.

*Mail:* Defense Acquisition Regulations System, Attn: Ms. Cassandra Freeman, OUSD (AT&L) DPAP (DARS), 3060 Defense Pentagon, Room 3B855, Washington, DC 20301–3060.

Comments received generally will be posted without change to *http://www.regulations.gov,* including any personal information provided.

FOR FURTHER INFORMATION CONTACT: Ms. Cassandra Freeman, 703–602–8383.

SUPPLEMENTARY INFORMATION:

A. Background

Hexavalent chromium is a significant chemical in numerous DoD weapon systems and platforms due to its corrosion protection properties. On April 8, 2009, the Under Secretary of Defense (Acquisition, Technology and Logistics) issued a memorandum establishing policy for the minimization of hexavalent chromium use throughout DoD (*https://www.denix.osd.mil/portal/page/portal/denix/environment/MERIT*).

This proposed rule adds a new DFARS subpart and a corresponding contract clause to address requirements for minimizing the use of hexavalent chromium in defense items.

This rule was subject to Office of Management and Budget review under Executive Order 12866, dated September 30, 1993.

B. Regulatory Flexibility Act

DoD does not expect this proposed rule to have a significant economic impact on a substantial number of small entities within the meaning of the Regulatory Flexibility Act, 5 U.S.C. 601, *et seq.*, because the proposed rule is consistent with national and international restrictions and controls on the use of hexavalent chromium. Therefore, DoD has not performed an initial regulatory flexibility analysis. DoD invites comments from small business concerns and other interested parties on the expected impact of this rule on small entities.

DoD will also consider comments from small entities concerning the existing regulations in subparts affected by this rule in accordance with 5 U.S.C. 610. Interested parties must submit such comments separately and should cite 5 U.S.C. 610 (DFARS Case 2009–D004) in correspondence.

C. Paperwork Reduction Act

The Paperwork Reduction Act does not apply, because the proposed rule does not contain any information collection requirements that require the approval of the Office of Management and Budget under 44 U.S.C. 3501, *et seq.*

List of Subjects in 48 CFR Parts 223 and 252

Government procurement.

Ynette R. Shelkin,

*Editor, Defense Acquisition Regulations System.*

Therefore, DoD proposes to amend 48 CFR parts 223 and 252 as follows:

1. The authority citation for 48 CFR parts 223 and 252 continues to read as follows:

**Authority:** 41 U.S.C. 421 and 48 CFR chapter 1.

PART 223—ENVIRONMENT, ENERGY AND WATER EFFICIENCY, RENEWABLE ENERGY TECHNOLOGIES, OCCUPATIONAL SAFETY, AND DRUG-FREE WORKPLACE

2. Add subpart 223.73 to read as follows:

Subpart 223.73—Minimizing the Use of Hexavalent Chromium

Sec.
223.7301 Policy.
223.7302 Prohibition.
223.7303 Exceptions.
223.7304 Contract clause.

223.7301 Policy.

It is DoD policy to minimize the use of hexavalent chromium (an anti-corrosive) due to the serious human health and environmental risks related to its use.

223.7302 Prohibition.

Except as provided in section 223.7303, no DoD contract may include a specification or standard that results in a deliverable containing hexavalent chromium or the use of hexavalent chromium in contract performance. This prohibition is in addition to any imposed by the Clean Air Act regardless of the place of performance.

223.7303 Exceptions.

The prohibition in 223.7302 does not apply—

(a) If the use of hexavalent chromium is specifically authorized at a level no lower than a general or flag officer or a member of the Senior Executive Service from the Program Executive Office or equivalent level, in coordination with the component Corrosion Control and Prevention Executive. Forward any request for approval to allow the delivery or use of products or materials containing hexavalent chromium to the cognizant technical representative for evaluation and, if necessary, authorization by the appropriate official.

(b) To legacy systems and their related parts, subsystems, and components that already contain hexavalent chromium. However, alternatives to hexavalent chromium shall be considered during system modifications, follow-on procurements of legacy systems, or maintenance procedure updates.

223.7304 Contract clause.

Unless an exception has been authorized in accordance with 223.7303, use the clause at 252.223–7XXX, Prohibition on Use of Hexavalent Chromium, in solicitations and contracts for supplies, maintenance and repair services, or construction.

## EXAMPLE:

- Minimizing Use of Hexavalent Chromium (DFARS Case 2009–D004)
- Published in Federal Register April 8, 2010

# *Expanded Review of Documentation*

- **In addition to PESHE and AS, reviewing**
  - Analysis of Alternatives
  - Technology Development Strategy
  - Systems Engineering Plan
  - Life Cycle Sustainment Plan

**More effectively influencing the Systems Engineering process**

# *Program Support Reviews (PSRs)*

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