16270 - MIL-STD-882E: Contracting - Task 108 and NAS 411

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NDIA Systems Engineering Conference
Arlington, VA
October 30, 2013

Agenda

- Requirement to Use Military Standard (MIL-STD) 882E, Standard Practice Systems Safety
- Contracting for MIL-STD-882E
- Contracting for MIL-STD-882E Task 108, Hazardous Material Management Plan
- Role of National Aerospace Standard (NAS) 411, Hazardous Materials Management Program
- Summary

Requirement to Use MIL-STD-882E

- Per DoD Instruction 5000.02, E12.6, date 8 Dec 2008
  - "The Program Manager (PM) shall integrate ESOH risk management into the overall systems engineering process for all developmental and sustaining engineering activities. As part of risk reduction, the PM shall eliminate ESOH hazards where possible, and manage ESOH risks where hazards cannot be eliminated."
  - "The PM shall use the methodology in MIL-STD-882D (now E), "DoD Standard Practice System Safety."
  - "The PM for all programs, regardless of ACAT level, shall prepare a PESHE which incorporates the MIL-STD-882D process and …"
- Putting MIL-STD-882E on contract is one option available to programs for meeting their requirement to use 882E methodology

There is no requirement to put MIL-STD-882E on contract

Contracting for MIL-STD-882E

- Placing MIL-STD-882E on contract is an efficient way to instruct the contractor to meet the DoD policy requirement.
- When MIL-STD-882E is required in a solicitation or contract, only the following Sections apply:
  - Section 3 – Definitions, and
  - Section 4 – General Requirements.
- Section 4 includes System Safety Requirements, System Safety Process (the eight elements), and Software Contribution to System Risk.

Contracting for MIL-STD-882E, Cont.

- Contractors may prefer to use ANSI-GEIA-STD-0010, Standard Best Practices for System Safety Program Development and Execution, or internal corporate system safety standards.
  - To anticipate this contingency, the RFP should require the contractor to demonstrate how its proposed alternative meets the minimal mandatory requirements in MIL-STD-882E Section 4.
  - The RFP could preclude the use of alternative standards in order to avoid the potential for future disconnects with risk acceptance authorities, safety review boards, program support reviews, etc.
- RFPs that require the use of MIL-STD-882E should identify the program's approved risk assessment matrix (to include the descriptions for each severity category and probability level) if it is not the one specified in MIL-STD-882E.

Contracting for MIL-STD-882E, Cont.

- There are 25 optional Tasks in MIL-STD-882E.
- These Tasks add additional detail to the system safety process requirements in Section 4.
- The ESOH staff will have to be prepared to justify the cost of adding optional Tasks to a contract based on the value added to the program.
  - May have to address this with the Program Manager, Lead Systems Engineer, contract administrator, and budgeting staff.
  - A strategy may be to include the optional Tasks in the Request for Proposal (RFP) and make a final determination on including the tasks on contract based on the respondent's price for each optional Task.

Note: A contractor's response to a RFP may include recommendations to add optional tasks not requested in the RFP.

Task Section 100 - Management

- Task 101 Hazard Identification and Mitigation Effort Using The System Safety Methodology
- Task 102 System Safety Program Plan
- Task 103 Hazard Management Plan
- Task 104 Support of Government Reviews/Audits
- Task 105 Integrated Product Team/Working Group Support
- Task 106 Hazard Tracking System
- Task 107 Hazard Management Progress Report
- Task 108 Hazardous Materials Management Plan

Task Section 200 - Analysis

- Task 201 Preliminary Hazard List
- Task 202 Preliminary Hazard Analysis
- Task 203 System Requirements Hazard Analysis
- Task 204 Subsystem Hazard Analysis
- Task 205 System Hazard Analysis
- Task 206 Operating and Support Hazard Analysis
- Task 207 Health Hazard Analysis
- Task 208 Functional Hazard Analysis
- Task 209 System-of-Systems Hazard Analysis
- Task 210 Environmental Hazard Analysis

Task Section 300 – Evaluation

- Task 301 Safety Assessment Report
- Task 302 Hazard Management Assessment Report
- Task 303 Test and Evaluation Participation
- Task 304 Review of Engineering Change Proposals, Change Notices, Deficiency Reports, Mishaps, and Requests for Deviation/Waiver

Task Section 400 - Verification

- Task 401 Safety Verification
- Task 402 Explosives Hazard Classification Data
- Task 403 Explosive Ordnance Disposal Data

Contracting for MIL-STD-882E, Cont.

- Assessing the need to include optional Tasks on a contract
  - The basic system safety process is already required as described in Section 4
  - Reasons for adding optional tasks:
    - Ensure the Contractor performs certain tasks in a specified manner, e.g.
      - Task 106 - Hazard Tracking System (HTS)
      - Task 304 – Review of Engineering Change Proposals, Change Notices, Deficiency Reports, Mishaps, and Requests for deviation/waiver
    - Respond to the complexity of the system, e.g.
      - Task 203 – System Requirements Hazard Analysis
      - Task 208 – Functional Hazard Analysis
      - Task 209 – System-of-Systems Hazard Analysis
    - Specific types of systems , e.g., for ordnance systems consider
      - Task 402 – Explosives Hazard Classification Data
      - Task 403 - Explosive Ordnance Disposal Data

Contracting for MIL-STD-882E, Cont.

- Assessing the need to include optional tasks on a contract, Cont.
  - Reasons for adding optional tasks, Cont.:
    - Concerns about potential Contractors' ESOH capability, e.g.
      - Task 103 - Hazard Management Plan
      - Task 106 – Hazard Tracking System
    - Potential for high consequence mishaps, e.g.
      - Task 202 – Preliminary Hazard Analysis
      - Task 203 – System Requirements Hazard Analysis
      - Task 204 – Subsystem Support Hazard Analysis
      - Task 205 – System Hazard Analysis
      - Task 206 – Operating and Support Hazard Analysis
    - Potential for significant environmental impacts, e.g.
      - Task 108 – Hazardous Materials Management Plan
      - Task 210 – Environmental Hazard Analysis

Contracting for MIL-STD-882E Task 108

- Task 108, Hazardous Materials Management Plan (HMMP)
  - Requires Contractor to implement plan addressing the following elements for integrating hazardous materials (HAZMAT) management into systems engineering:
    - The processes to properly identify, analyze, and control HAZMAT risks to protect human health, safety, and the environment, as well as to support end user needs.
    - Procedures for tracking and reporting HAZMAT
  - Requires Contractor and Government to agree upon a HAZMAT list:
    - Contained in delivered hardware and/or required for system operation and support
    - Categorized as Prohibited, Restricted, or Tracked
    - Managed by the Contractor
  - Excludes HAZMAT used for production or manufacturing; unless mutually agreed upon by the Government and contractor

Purpose: Focus Contractor efforts on a limited set of HAZMAT

Goal: Focused versus Diluted HAZMAT management

Contracting for MIL-STD-882E Task 108, Cont.

- HAZMAT Categories:
  - Prohibited HAZMAT require the contractor to obtain Government approval before those materials can be included in the system, subsystems, and support equipment or planned for system operation or support.
  - Restricted HAZMAT are those materials that the contractor will target for elimination or minimization.
  - Tracked HAZMAT are those materials that do not require specific contractor action other than tracking and reporting
- Contractor must track and report all “Prohibited, Restricted, or Tracked” HAZMAT to include Location, Quantity, Application, Etc.
- Latest version of National Aerospace Standard (NAS) 411 provides additional implementation guidance supporting Task 108

Role of NAS 411

- National Aerospace Standard (NAS) 411, Hazardous Materials Management Program
  - Developed by Aerospace Industries Association (AIA) in conjunction with DoD
  - Designed to provide detailed Contractor Guidance on implementing Task 108
  - Published September 30, 2013
- NAS 411-1 contains Baseline Listing of Prohibited and Restricted HAZMAT
  - AIA and DoD continue to work on developing Tracked HAZMAT list,
  - Will publish in update to NAS 411-1
- Contracting Options for Using NAS 411
  - Government can require NAS 411 with or without Task 108
  - Contractor can propose NAS 411 in response to requirement for HAZMAT management, with or without specifying Task 108 or NAS 411

Summary

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- Contracting for MIL-STD-882E
- Contracting for MIL-STD-882E Task 108, Hazardous Material Management Plan
- Role of National Aerospace Standard (NAS) 411, Hazardous Materials Management Program

Questions?

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