Standardization Program Update

Requirements and References Decision Database and a Glimpse into the Future

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Air Force Departmental Standardization Office

28-October-2015
Today’s Topics

- Standardization documents tool for use by Program Offices
  - *Requirements and References Decision Database* (aka R2D2)
- Concept of meta-policy and policy-bots
Today’s Topics

- Standardization documents tool for use by Program Offices
  - *Requirements and References Decision Database* (aka R2D2)
- Concept of meta-policy and policy-bots
Standardization Documents

Examples: standards, specifications, handbooks

- Could be military, commercial or other federal agency; examples…
  - MIL-STD-1530, Aircraft Structural Integrity Program (ASIP)
  - MIL-PRF-32058, Chock, Wheel-Track - Aviation, Adjustable Rope Type
  - MIL-HDBK-896, Manufacturing and Quality Program
  - SAE-AS6174, Counterfeit Materiel; Assuring Acquisition of Authentic and Conforming Materiel
  - TSO-C123a, Cockpit Voice Recorder System

- Use of standardization documents, including MIL-STDs, are voluntary
  - Unless mandated in law or policy
R2D2 = “Requirements and References Decision Database”

Output -> List of standardization documents (MIL-STDs and industry standards) that can be placed on contract

- Some mandated by AF policy; which can be ascertained using R2D2
- Also yields useful documents, not intended to be placed on contract, but may be helpful for working level engineers
- Documents in output are systems engineering-centric
Standardization Tool-R2D2

at-a-glance

- R2D2 = “Requirements and References Decision Database”

- Output -> List of standardization documents (MIL-STDs and industry standards) that can be placed on contract
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  - Also yields useful documents, not intended to be placed on contract, but may be helpful for working level engineers
  - Documents in output are systems engineering-centric

Goal:
- Help program managers ascertain which standardization documents they should:
  -- place on contract; and/or
  -- use internally
List of Specifications, Standards and Handbooks that:
- are mandated in policy
- are referenced in policy
- PMs/SPOs should consider using if appropriate
  (e.g. Cockpit Voice Recorder)
<table>
<thead>
<tr>
<th>SYSTEMS ENGINEERING TOPICS from AFMAN 51-101</th>
<th>STANDARIZATION DOCUMENT</th>
<th>CITATION(S) FROM POLICY DOCUMENTS format data release: 20, 21, 25, 29, 31, 33, 35 and 37</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1.2 Operational Safety, Suitability &amp; Effectiveness</td>
<td>MIL-PDBB-504, Operational Safety, Suitability, and Effectiveness for the Aeronautical Enterprise, GAIN No S/5 Document</td>
<td>(C) Compliance required by AFMAN 1-101, PROPULSION LIFE CYCLE MANAGEMENT FOR AERIAL VEHICLES</td>
</tr>
<tr>
<td>5.1.5 Certifications:</td>
<td>MIL-PDBB-515, Airworthiness Certification Criteria</td>
<td>(C) Compliance required by AFMAN 1-101, PROPULSION LIFE CYCLE MANAGEMENT FOR AERIAL VEHICLES</td>
</tr>
<tr>
<td>5.2.1.5 Risk Management. See also: 5-4-10. Environment, Safety, and Occupational Health (EOSH)</td>
<td>MIL-STD-2105, Hazard Assessment Tests for Non-Nuclear Munitions</td>
<td>(C) Compliance required by AFMAN 1-101, NONNUCLEAR MUNITIONS SAFETY BOARD</td>
</tr>
<tr>
<td>ISO 17866, Space Systems - Risk Management</td>
<td>SCC E10-15, Range Commanders Council, Right Termination System Mandatory List</td>
<td>(C) Compliance required by AFMAN 1-101, SPACE SAFETY AND MISHAP PREVENTION PROGRAM</td>
</tr>
</tbody>
</table>
Multiple search options

Search by standardization document

Search by Design Consideration

Search by Policy Document

R2D2

Screen capture
### Systems Engineering Topics from AIRS-102/20-101: March-2014

<table>
<thead>
<tr>
<th>Standardization Document</th>
<th>Citation(s) From Policy Documents</th>
<th>Impact of Document on Program Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIL-STD-2105, Hazard Assessment Tests for Non-Nuclear Munitions</td>
<td>(C) Compliance required by AFRPS-224, NONNUCLEAR MUNITIONS SAFETY BOARD</td>
<td>Compliance required by AFRS-305, NONNUCLEAR MUNITIONS SAFETY BOARD</td>
</tr>
<tr>
<td>MIL-STD-882, System Safety (Non-Nuclear Citations)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MIL-STD-500E, Airworthiness Certification Criteria</td>
<td>(C) Compliance required by AFRPS-214, PROPULSION LIFE CYCLE MANAGEMENT FOR AERIAL VEHICLES</td>
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</tr>
<tr>
<td>MIL-STD-1004, Operational Safety, Suitability, and Effectiveness for the Aeronautical Enterprise, CMM No V/S Document</td>
<td>(C) Compliance required by AFRPS-214, PROPULSION LIFE CYCLE MANAGEMENT FOR AERIAL VEHICLES</td>
<td></td>
</tr>
</tbody>
</table>

**Most valuable portion of output**
<table>
<thead>
<tr>
<th>SYSTEMS ENGINEERING TOPICS from AF69-101/20-101; March-2014</th>
<th>STANDARDIZATION DOCUMENT</th>
<th>CITATION(S) FROM POLICY DOCUMENTS LEGEND</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1. Systems Engineering (SE) Overview.</td>
<td>Systems Engineering Plan (SEP) Outline</td>
<td>(C) Compliance required by AF63-101, INTEGRATED LIFE CYCLE MANAGEMENT</td>
</tr>
<tr>
<td>5.1.1. Systems Engineering Plan (SEP).</td>
<td>Systems Engineering Plan (SEP) Outline</td>
<td>(C) Compliance required by AF63-101, INTEGRATED LIFE CYCLE MANAGEMENT</td>
</tr>
<tr>
<td>5.1.2. Operational Safety, Suitability &amp; Effectiveness</td>
<td>MIL-HDBK-514, Operational Safety, Suitability, and Effectiveness for the Aeronautical Enterprise; CANX (no S/S document)</td>
<td>(C) Compliance required by AFMAN20-116, PROPULSION LIFE CYCLE MANAGEMENT FOR AERIAL VEHICLES</td>
</tr>
<tr>
<td>5.1.2.1. Operational Safety.</td>
<td>No known Standards exist for this Design Consideration</td>
<td>(C) Compliance required by AF62-601, USAF AIRWORTHINESS</td>
</tr>
<tr>
<td>5.1.2.2. Operational Suitability.</td>
<td>No known Standards exist for this Design Consideration</td>
<td>(R) Referenced in AFMAN20-116, PROPULSION LIFE CYCLE MANAGEMENT FOR AERIAL VEHICLES</td>
</tr>
<tr>
<td>5.1.2.3. Operational Effectiveness.</td>
<td>No known Standards exist for this Design Consideration</td>
<td>(R) Referenced in AF62-6, USAF AIRWORTHINESS</td>
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<tr>
<td>5.1.3. Certifications.</td>
<td>MIL-HDBK-516, Airworthiness Certification Criteria</td>
<td>(R) Referenced in AF63-104, THE SEEK EAGLE PROGRAM</td>
</tr>
<tr>
<td></td>
<td>ANSI/FIA749, Valued Based Management Systems (VBMS)</td>
<td>(C) Compliance required by DoDI 8500.01, Cybersecurity</td>
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<tr>
<td></td>
<td></td>
<td>(C) Compliance required by CNSI 1253, Security Categorization and Control Selection for National Security Systems</td>
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</table>
| SYSTEMS ENGINEERING TOPICS from AF163-101/20-101; March-2014 | STANDARDIZATION DOCUMENT | CITATION(S) FROM POLICY DOCUMENTS LEGEND
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<td>(M) - Citable Defense Standardization Program (DSP) Document (i.e. MIL-STD, MIL-PRF, MIL-DTL, etc.)</td>
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<td>(G) - Citable Government (non-Military) Standard</td>
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<td>(A) - Adopted for DoD Use</td>
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<tr>
<td></td>
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<td>(I) - International Standardization Agreement document (e.g. STANAG)</td>
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<tr>
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<td>(F) - Citable Government (non-DSP) requirements document</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(X) - Non-Citable Guidance or Reference</td>
</tr>
<tr>
<td></td>
<td></td>
<td>series data-mined: 11 (partial), 20, 21, 23, 24, 62, 63, 99, 91 and 99</td>
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<td>No known Standards exist for this Design Consideration</td>
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<td>5.1.2.3. Operational Effectiveness.</td>
<td>No known Standards exist for this Design Consideration</td>
<td>(C) Compliance required by AF63-101, INTEGRATED LIFE CYCLE MANAGEMENT</td>
</tr>
<tr>
<td>5.1.3. Certifications.</td>
<td>MIL-HDBK-510, Airworthiness Certification Criteria</td>
<td>(C) Compliance required by AF63-101, INTEGRATED LIFE CYCLE MANAGEMENT</td>
</tr>
</tbody>
</table>

**CITATION(S) FROM POLICY DOCUMENTS LEGEND—continued—**

(C) - Compliance required by DoD or AF Policy
(R) - Referenced by DoD or AF Policy
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(G) - Citable Government (non-Military) Standard

---continued next column---

What we mean when we say "Compliance required by..."

series data-mined: 11 (partial), 20, 21, 23, 24, 62, 63, 90, 91 and 99
Today’s Topics

- Standardization documents tool for use by Program Offices
  - Requirements and References Decision Database (aka R2D2)

- Concept of meta-policy and policy-bots
Meta-policy
Pictorial View

Appropriate policy statements based on query:
- actions mandated in policy
- actions referenced in policy
Meta-policy
Packaging, Handling, Storage and Transportation Query

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Meta-policy
Packaging, Handling, Storage and Transportation Query

Appropriate policy statements based on query:
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PHS&T req’ts?

input

policy-bot

output

DISTRIBUTION STATEMENT A -- Cleared for public release by SAF/PA on 14-Oct-2015 -- Case # 2015-0434
## Query: PHS&T requirements

<table>
<thead>
<tr>
<th>ID</th>
<th>TITLE</th>
<th>DOC</th>
<th>PARA</th>
<th>MANDATE?</th>
<th>TEXT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>DOD SUPPLY CHAIN MATERIEL MANAGEMENT PROCEDURES: MATERIEL DATA MANAGEMENT AND EXCHANGE</strong></td>
<td>DoDM 4140.01 V-8</td>
<td>Encl 3, Para 1.b. (6)(c)2</td>
<td>Yes</td>
<td>DoD Components.. Provide to the DLA Logistics Information Service item-identifying characteristics and other logistics management data including identifying characteristics about Critical Safety Items.</td>
</tr>
<tr>
<td>2</td>
<td><strong>SHELF-LIFE ITEM MANAGEMENT MANUAL</strong></td>
<td>DoD 4140.27-M</td>
<td>Ch 2, para 2-1</td>
<td>Yes</td>
<td>PROVISIONING. During acquisition, materiel managers ensure that provisioned support items are coded and reviewed for shelf-life considerations in accordance with...</td>
</tr>
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</table>
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<tr>
<td>3</td>
<td>AIR FORCE MATERIEL MANAGEMENT</td>
<td>AFI23-101</td>
<td>Para 10.2.7.1.</td>
<td>Yes</td>
<td>Storage of Controlled Materiel. AF activities will store controlled materiel according to the security classification and/or security risk or pilferage controls of the item IAW…</td>
</tr>
<tr>
<td>4</td>
<td>PACKAGING OF MATERIEL</td>
<td>AFMAN24-206</td>
<td>Ch 2, para 2-1.h.</td>
<td>Yes</td>
<td>Packaging required to maintain the item from the time of acquisition throughout its anticipated life-cycle will be provided at the time of acquisition.</td>
</tr>
<tr>
<td>5</td>
<td>SAFETY DESIGN AND EVALUATION CRITERIA FOR NUCLEAR WEAPON SYSTEMS</td>
<td>AFMAN91-118</td>
<td>Para 3.18.</td>
<td>Yes</td>
<td>Design air transportable delivery vehicles and support equipment to meet the general specifications of MIL-STD-1791 …</td>
</tr>
<tr>
<td>6</td>
<td>HQ AFMC PACKAGING AND MATERIALS HANDLING POLICIES AND PROCEDURES</td>
<td>AFMIC24-201</td>
<td>Ch 2, para 2.2.3.</td>
<td>Yes</td>
<td>Ensure Air Transportability Test Loading Agency (ATTILA) is considered for new pieces of equipment.</td>
</tr>
</tbody>
</table>

Partial output, for illustrative purposes only
Find R2D2 at SAF/AQRE SharePoint and MilSuite

Recent Upgrades released Summer 2015

-- general refresh – review pubs for updates
-- include 24-series (transportation)
-- include ratified International Standardization Agreements e.g. STANAGS
Questions?

Comments?