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HSI Best Practice Standard

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Background



- 1984: NATO DRG Workshop on Applications of Systems Ergonomics to Weapon System Development
- **1986:** US Army establishes MANPRINT program.
- **2003:** DoD requires HSI on major system acquisition programs (DODD 5000.01/DODI 5000.02)
- 2005: DoD establishes Joint HSI Working Group
- 2005-2007: Development of HSI Program Plan DID (DI-HFAC-81743)
- 2007: USAF establishes AFHSIO for policy, advocacy and oversight
- 2008: DOD establishes Joint HSI Steering Committee
- **2008-2011:** Development of HSI Report DID (DI-HFAC-81833)
- 2010: DoD, USAF and US Navy release/update HSI Management Plans
- 2012: DoD establishes HSI Standard Working Group
- 2016-Present: SAE International Leads Development of HSI Standard



Background



- OSD and Service HSI efforts have largely focused on "in-house" (Government) activities.
- Only one Service has a current HSI implementing regulation (AR 602-2).
- The SAE International G-45 Human Systems Integration committee has focused on developing and improving DoD and industry HFE and HSI requirements since 1976.
- SAE International was selected in 2016 to lead development of a new industry HSI Standard.
- Development of a new HSI Best Practice Standard is a challenge due to its complexity and the short development schedule requested by DoD.



Why Do This?



- DODD 5000.01 and DODI 5000.02 require the Services to "plan for and implement HSI beginning early in the acquisition process and through the product life cycle."
- We have an HSI Program Plan DID...
- We Have an HSI Report DID...
- Everyone "Knows" We Should "do HSI" on Acquisition Programs....



But.....



- Application of HSI in contracts is uneven...
- Lots of people think HSI is HFE....
- Most times, a full HSI program is not contracted for...
- Sometimes an HSI Plan is required, but execution is not....



Approach



- Build on HFE, Safety and Training domains; they already have documented standards.
- Force Protection, Manpower, Personnel, and Habitability domains have neither DoD nor industry standards....So, the SAE committee documented task assumptions for the domains that have no documented standards.
- The standard is divided into two major sections;
 - Informational, describing HSI, its domains, and activities
 - Guidance, specifying those HSI activities that "shall" or "should" be conducted on system acquisition programs



Standard Organization



- 1. Forward
- 2. Background
- 3. Terms and Definitions
- 4. General Requirements (HSI and Domain Overviews)
- 5. Detailed Requirements HSI Process (see next slide)
- 6. Notes
- 7. Appendices

Organization (Section 5)



- Human Systems Integration Process
- Program Initiation
- Pre-Milestone B Activities
- HSI Program Advocacy and Coordination
- HSI Tradeoffs
- Requirement Refinement, Decomposition and Flow-Down
- HSI in Subcontracting
- System Architecture Support
- Risk Issue and Opportunity Identification and Management
- HSI Analysis
- Preliminary and Detailed Design and Procedure Support
- HSI Requirement Verification
- HSI in Sustainment
- HSI Documentation and Product Handoffs
- Management and Customer Coordination, Progress Reporting
- HSI Quality Control

Organization (Section 5)



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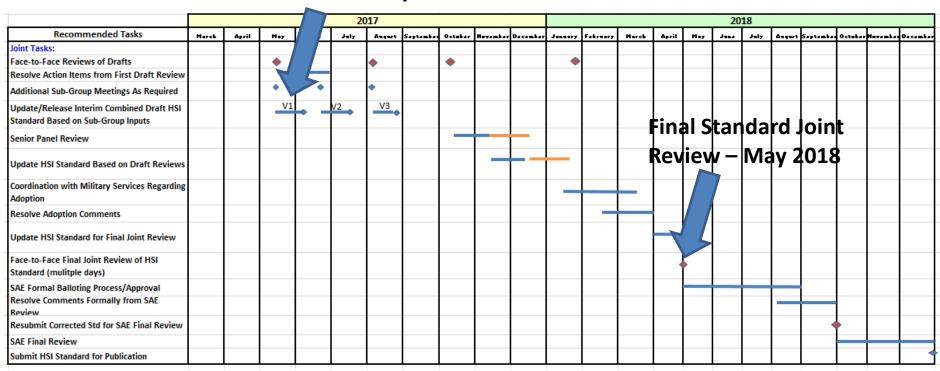
Questions? Additions?



N Development Schedule



First Standard Review- May 2017





Challenges



- Many different and interesting topics to address!
- Not many <u>contractor</u> HSI Leads, experienced with leading "full HSI" programs (all domains)
- Not many <u>contractor</u> SMEs experienced in Manpower, Personnel, Habitability, Force Protection and Survivability
- A two-year standard development schedule is desired by DoD.



Current Status



- First full-draft standard was reviewed on May 22, 2017. A few areas still need some work...
- 95% solution by <u>August</u>, <u>2017</u> face-to-face G-45 meeting in Marietta, GA.
- Assessment by a Senior Review Group is scheduled for November, 2017.
- Final standard should be ready for SAE balloting and DoD adoption review by <u>April</u>, 2018.
- Companion DoD Handbook is expected soon thereafter....



Significance of HSI Standard



- The DoD (and other Federal Agencies) will have a contractible standard for HSI on major system acquisition contracts (15 years after DoD established the HSI requirement!)
- This standard builds upon, and is consistent with, existing DOD Policy and HSI DIDs.



Still to be Done



- Author Domain standards for Manpower, Personnel, Habitability and Force Protection and Survivability domains!
- DoD monitor HSI Standard Implementation, Effectiveness, Cost, and Benefits.... once the standard has been adopted.



Questions/Comments?



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