SURVICE
ENGINEERING COMPANY

RELIABILITY, AVAILABILITY, AND MAINTAINABILITY (RAM)

BACKGROUND

The SURVICE Engineering Company is a small business specializing in the application of the systems engineering approach to support the design, development, testing, and fielding of systems that are sustainable, survivable, and effective.

It is critically important that today's modern weapon systems demonstrate good reliability, availability, and maintainability (RAM) characteristics. Poor system RAM has a profound impact on mission performance and effectiveness, survivability, operating and support costs, and the size of the logistics footprint. Thus, the ability to develop realistic and testable requirements; provisions for a sound design approach with built-in reliability; a robust test program that will uncover remaining design deficiencies and facilitate growth; and a sound executable reliability program plan that supports the aforementioned tenets of reliability is crucial in fielding reliable and maintainable systems.

To improve RAM, the Army developed and implemented the Bolton Memo (6 Dec 2007), which requires systems to demonstrate high reliability thresholds early in development or face termination. This policy has also been extended to other DoD components via the Young Memo (1 July 2008), which enhances the importance of weapon system reliability.

EXPERIENCE

Based on three decades of experience supporting Government and industry customers, SURVICE offers expertise in RAM T&E and systems analysis capabilities, including:

- Requirements analysis/development, including trade-off analysis
- Reliability Program Plan development and Growth Curve development
- Methodologies for tracking and projecting system reliability.
- Modeling of reliability & availability system and system of systems
- Analysis of O&S cost

- Development, modeling, and tracking of materiel availability (key performance parameters) and materiel reliability (key system attributes)
- Development of RAM/Durability system, subsystem, and component test strategies
- Analysis and evaluation of system RAM characteristics and their influence on performance, effectiveness, cost, and logistics
- Development of Bolton Threshold criteria and reliability entrance/exit criteria
- Development of Programs of Instruction, Handbooks (e.g., the RAM Primer), and guidance on all facets of RAM test and evaluation, as well as associated methodologies
- RAM policy formulation and consultation
- Studies on various RAM ad hoc topics

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