Title: Logistics Demonstrations: a strategy to reduce cost, maintain schedule, and mitigate risks to achieve performance goals

Abstract Text: Logistics Demonstrations (Log Demos) are conducted on all acquisition programs per Army policy. The Log Demo consists of both a physical teardown/reassembly and a maintainability demonstration. The maintainability demo contains fault identification, isolation, repair, and operational check. Log Demos are conducted during the Engineering and Manufacturing Development (EMD) phases and/or Production & Deployment (PD) phases of the acquisition life cycle using production representative equipment and target audience Soldiers. The Log Demo has many stakeholders including the Program Manager who conducts the Log Demo; prime and subcontractors, Combat Developers, Testers/Evaluators, and Life Cycle Managers, who all have different objectives from the demo. The purpose of the Log Demo is to evaluate the adequacy of the System Support Package (SSP), and ensure that the gaining unit has the logistical capability to achieve initial operational capability (Army Regulation 700-127, 29 April 2009). The Log Demo influences the Integrated Logistics Support (ILS) process that uses a framework of the 10 elements (i.e. maintenance planning, technical data). Most acquisition programs conduct the Log Demo as a single test event in the production phase of the program. An alternate approach, the incremental Log Demo may be executed by various levels of maintenance, complexity of tasks, mature subsystems, or by available troubleshooting procedures and automated diagnostics. The incremental process has emerged as the preferred process for complex developmental programs, due to the following benefits which will be outlined in greater detail in the full version of this presentation: 1. Influence of both supportability and design: Log Demos that take place during PD phase, after the Low Rate Initial Production (LRIP) decision, occur when the contractor is in initial production and ramp up of assets prior to fielding. Any significant design changes could require a retrofit or modification work order to complete, at a cost. The use of incremental Log Demos allows better feedback via the systems engineering process, and for evolving maintenance and supply concepts prior to Milestone C, to incorporate these changes earlier in the process. 2. Reduced risk for Operational Testing: Initial Operational Test & Evaluation (IOT&E), required by Title X of US Code, is conducted prior to the Full Rate Production Decision. Thus, IOT&E is critical to the acquisition of new technology. The IOT&E allows the test and evaluation community the ability to evaluate the performance, suitability, and survivability of the weapon system. A mature SSP is a requirement for the IOT&E in order to keep the weapon system fully mission capable during the test. Stand alone Log Demos during the PD phase do not allow for modifications to the SSP if scheduled too close to the IOT&E date. To mitigate this risk, PMs are forced to increase spare parts within the SSP and rely on Contractor Logistics Support (CLS), which add cost to the program. 3. Support of Milestone Decisions: Incremental Log Demos provide insights for the evaluator to support those milestone decisions that follow the various increments. Log Demos are an evaluation data source for maintainability, manpower and personnel integration (MANPRINT), and technical manuals. The incremental Log Demo provides this key information into the supportability of the weapon system during
milestone reviews, the most influential of which are the milestone C (LRIP), and Full Rate Production decisions. The US Army Logistics Community is developing tools that allow Program Managers to meet the challenges they are faced with regarding incremental Log Demos. The greatest of these is configuration management of the systems under test. To address this, the US Army Logistics Support Activity (LOGSA), in support of the Program Executive Office for Integration (PEO-I), has developed a tool that tracks Log Demo tasks that have been completed for each design configuration. This includes both level of maintenance required, and level of indenture for that task. A configuration tracking module then determines which tasks require evaluation, or re-evaluation (in the case of failed tasks). The tracking tool is incorporated in PowerLog-J, LOGSA’s Logistics Management Information (LMI) tool, and requires LMI data in the format of GEIA-0007 or MIL-STD-1388-2B format. The second issue being addressed is the need to standardize data collection during Log Demos. To address this concern, the Army Test and Evaluation Command (ATEC), has developed a standard data collection process using Test Incident Reports (TIRs) and the Vision Online Digital Library (VDLS). An expanded TIR contains data fields for various ILS elements addressed during the Log Demo. The data is loaded into VDLS and relational database for customer use. The database allows for export of the data in various formats.