Navy Fleet Maintenance, Logistics & Procurement Strategies: Selected Excerpts from "Naval Aviation Vision 2014-2025"

----------Maintenance & Logistics Systems----------

The Maintenance & Logistics Team, a sub-team within Current Readiness, oversees force-wide maintenance & supply processes to ensure production of prescribed levels of equipment "ready for tasking" at reduced product-line costs. This team focuses on the efficiency & effectiveness of all integrated logistics support processes, including material requirements forecasting, scheduling, contracting, purchasing, buying & inventory administration, distribution, repair induction, planning, diagnostics, repair & quality assurance.

The Integrated Logistics Support Management System [ILSMS] assessment tools assists in identifying root causes of readiness cost degradation, enabling logistics assessment triage processes as platform teams enter into briefing cycles. The ILSMS tool uses a 10-year historical baseline to identify components that perform outside established parameters, providing early indications of potential degradation before they affect readiness or costs. ILSMS also provides more than 100 top-level metrics with detailed transactional data to assist in trend assessments. The logistics assessment process standardises the way teams identify readiness costs & degradation via assessment capabilities, standardised process models, and improved access to aggregated information. At the end of logistics assessments, teams work on initiatives and courses of action to reduce the ready-for-tasking gaps, as well as operations & sustainment costs.

The Fleet Readiness Centers' Aviation Rapid Action Team comprises engineering, maintenance & logistics experts who quickly develop, test, and deploy solutions to maintenance problems. They identify potential opportunities, improve or create repair capabilities, certify procedures, train technicians, helping sites establish their own permanent capability & support. Since it was launched as a reduction of total ownership cost initiative in 2011, the team has generated $31.8 million in cost avoidance, keeping on track to achieve nearly $200 million in cost avoidance over the Future Years Defense Program.

Co-located maintenance alters the traditional depot-level maintenance repair process by moving the intermediate and depot maintenance capabilities closer to each other. Under this new process, Navy personnel work at the depot site & perform intermediate repairs on items inducted into the depot repair cycle. When finished, they hand the items over to civilian artisans who perform the remaining depot repairs. This process lowers the charges for aviation depot-level repairable items. A demonstration of this process at Fleet Readiness Center Southeast has resulted in a cost avoidance of nearly $713,000 for FY11-12.

Naval Aviation maintenance & repair organization, Fleet Readiness Centers [FRC] utilise Beyond Capabilities of Maintenance Interdiction [BCM] methods that has reduced three main levels of aircraft maintenance to two, with associated cost savings. The BCM process carefully selects Aviation Depot- Level Repairs [AVDLRs] that are 'beyond the capability' of the local level. Then, by co-locating a depot-trained and authorized artisan, a collaborative repair is made without having to BCM that AVDLR off-station into the wholesale system. This reduces overall repair cycle time, often enhances readiness, and results in less total system cost to effect the repairs. During FY13, the NAE's FRCs utilised BCM techniques over 5,000 times & achieved a net cost change of $136.6 million. These BCM repairs also positively influenced readiness by increasing the availability of ready-for-issue AVDLRs.

Similar initiatives are being applied to all platforms. Root cause assessments are performed in four areas–maintenance practices, maintenance planning, repair capability & contract strategies–with an eye on depot-level repairable & consumable cost drivers that present potential opportunities to reduce costs per flying hour. In the process, actual failure rates are compared to current maintenance plans, opportunities to turn high-cost consumables into repairables are investigated & additional repair capabilities are established as needed.

Under contract strategies, supply chain management support contracts are reviewed for opportunities to reduce sustainment costs by broadening the vendor base. A good example of root cause analysis driving smart business and technical decisions is the change in maintenance planning on the single-point hook on the H-53, used to pick up and deliver cargo loads. The original maintenance plan mandated depot repair if the safety wire was broken, which involved unnecessary costs for every trip to the depot. NAVAIR engineers have since determined that Navy personnel can perform these repairs at the squadron level. This adjustment will avoid costs of $384,000 per year.

------Better Buying Power: “Should Cost” vs. “Will Cost” Procurement Strategies------

The Under Secretary of Defense for Acquisition, Technology, and Logistics has released a memorandum titled “*Better Buying Power: Guidance for Obtaining Greater Efficiency & Productivity in Defense Spending*.” One of the actions in this memo was to drive productivity improvements during contract negotiation and program execution through “will cost” vs. “should cost” administration. Simply put, “will cost” is an independent cost estimate used to forecast what a program will cost based on historical experience. Its purpose is to support budgeting & programming. While “will cost” estimates are reasonable extrapolations of historical program costs, they do not define what the program “should cost” if appropriate efficiency & productivity enhancing actions are taken. “Should cost” analysis and management justifies each element of program cost and shows how it is improving year after year.

Programs that deploy “should cost” administration strategies, such as requirements & acquisition affordability strategies, detailed assessments of all costs, aggressive schedules, active risks & opportunity administration, drive toward a negotiated price that is substantially lower than the historical based “will cost” estimate. “Should cost” administration means driving toward programme execution targets that are based on realistic technical & schedule baselines to implement efficiencies, lessons learned, and best practices. Other “should cost” strategies include reducing life-cycle costs through alternative technologies & materials, open architecture designs, hardware commonality, streamlining program teams for better efficiency, using modeling and simulation to reduce overall testing costs, and using DoD funished equipment instead of items provided by prime contractors. These efforts are in tandem with the Future Readiness Initiatives Process. Naval Aviation programs are developing and executing “should cost” administration strategies, business processes & best practices. NAVAIR is also developing a training methodology to reinforce, sustain & improve these best practices so programme teams can establish a cost baseline and provide a process for showing progress in a consistent fashion.

In response to additional 2012 budget challenges, the *Tactical Tomahawk* weapons system team was tasked to find potential areas to save money or avoid future costs. Through a combination of contract negotiations & DoD furnished Equipment re-use, the program saved $117 million in FY12-13; these funds were either recapitalised within the programme or returned to the resource sponsor. To continue their migration from “will cost” to “should cost,” the *Tactical Tomahawk* weapon systems programme employs a three-step approach: identify & assess cost drivers [acquisition strategy, technical & vendor, schedule & requirements administration]; prioritising cost-savings opportunities [canister manufacturing, competitive procurement of parts, and target production contracts] developing implementation plans & setting cost reduction targets.

The E-2D *Advanced Hawkeye* program is also leveraging "should cost" opportunities. Labor efficiencies of $15.4 million are projected across contractor & DoD teams by combining future engineering efforts. Multi-year procurements between FY14 & FY18 are projected to save $522.8 million in production and delivery. Savings from funding avionics life-cycle efforts will amount to $19.8 million. Event-based maintenance, which requires fewer preventive maintenance hours at the squadron level, will result in operations and sustainment cost reductions beginning in FY15.

During low-rate initial production, the E-2D team implemented a tandem buy concept, where pricing was based on two lots with risk assumed by prime & sub-tier contractors by offering option pricing & self-funding, saving $73 million. The F/A-18 & EA-18 *Growler* programmes procured airborne electronic attack kits, achieving $22 million in savings through competitive pressure, executing affordability trade-offs between requirements & cost on the Infrared Search & Track system [saving $3.1 million] as well as savings of $145.5 million from the FY11 multi-year procurement. Based on the FY12 budget, the projected program savings for the F/A-18 & EA-18G between FY12 and FY17 is approximately $1.09 billion.

The MV-22 *Osprey* programme also has experienced successes in both acquisition & sustainment cost reductions. Two multi-year procurements have saved significant budget dollars expected to yield a cost avoidance of more than $1 billion. A significant number of initiatives have reduced life cycle costs, such as repairing more than 400 parts that otherwise would have been discarded. Another initiative was the application of a phased strategy to programme performance-based logistics support efforts. This strategy involves different levels of supplier maturity, while setting desired levels of performance for industry in key areas [technical assistance & engineering investigation turnaround times, supply response time, etc.]. The programme is maturing its intermediate & depot-level maintenance capabilities by leading depot establishment support, providing equipment, bills of material, drawings, lending training & technical assistance. In addition, the aircraft itself is undergoing improvements through component changes that will avoid life-cycle costs of more than $2 billion. As a result of these cost-reduction initiatives, the MV-22 team achieved a 19 percent reduction in cost-per-flying-hour from FY09 to FY12 & improved the mission-capable rate by 15 percent.

Current budget planning provides funding for operating maintenance & acquisition accounts. Program life cycle costs have tended to exceed expectations during execution. Efforts to account for shortfalls in acquiring systems are often balanced with affordability goals in operation & support of the new & legacy systems. Historical trends and forecasts suggest that the estimated operations and sustainment planning figures would require as much as a 15-percent reduction in costs to sustain fleet operations as currently envisioned. Naval Aviation is making “should cost” a priority to understand and manage affordability, while balancing risk and meeting operational requirements. Reducing the overall cost per flying hour is a key component of reducing operations & sustainment costs. Several initiatives are underway to assist in achieving these goals.