



# CRST NEWSLETTER



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## WHEN CONDITIONS ARE CONDITIONAL: CONDITION BASED MAINTENANCE

As the budget continues to impact all facets of the Army, Commands are preparing themselves to face a harsh opponent: the future. While the Pentagon, Congress, and the President determine the most effective course of action to solve the budget crisis, it is clear we must continue to focus on preserving the technological advantages gained over the last decade. The spotlight is on our military and combat readiness in a period of fiscal uncertainty. Commands must alter business processes and operations to be more progressive and resourceful in order to methodically enhance life cycle investment decisions and put a system in place to supply Soldiers with the necessary tools to meet assigned missions, on and off the battlefield.



One of the initiatives within DoD's emerging "arsenal" to simultaneously provide cost avoidance and increased equipment Operational Ready status and guarantee successful life cycle management is the utilization of Condition Based Maintenance (CBM). The Army Material Command (AMC) and the Army Materiel Systems Analysis System (AMSAA) are at the forefront of endorsing CBM within the Army as a means of maintaining and sustaining the Army's air and ground fleets. The CRST and the Army logistics community are leading the charge and developing standards and criteria to meet doctrinal, operational, and readiness requirements to optimize life cycle investment decisions for facilities and infrastructure using CBM. These organizations will pursue condition based maintenance to optimize time and resources to present the Army with a proactive approach to a downsizing fleet.

CBM is the DoD initiative for reducing sustainment cost, improving availability, maintenance, and effectiveness of legacy and future systems. CBM incorporates advanced diagnostic and prognostic processes through a health and usage monitoring system (HUMS). This strategy allows real-time data to be provided to the operators and maintainers of a piece of equipment and the capability to take preventative measures on mission critical equipment only when needed rather than based on a fixed time schedule as currently practiced (e.g., phase maintenance). Condition based maintenance has made numerous strides in Aviation systems and lessons learned in developing performance metrics are now being applied to Ground systems.

The CRST is examining how CBM lessons and objectives can be applied to building systems and evaluating whether the same successes in the materiel world can be derived for facilities and infrastructure worldwide. As the CRST assesses the foundation of CBM, knowing a "smart facility" will require essential characteristics to be cost effective in addition to being smart for the Soldier.

The "smart building" must possess predictive modeling to forecast the progression of damage to determine when a failure may occur rather than simply measure operational or useful life based on manufacturer's "promise". The key is to not wait for system failure to determine when replacement of system components is needed. Essentially, predict when maintenance is critical to avoid a failure based on the system "reporting" its condition. Sensors and predictive modeling will assess the buildings health, providing the capability to accurately anticipate repair and maintenance over time, allowing for soldiers to feel safer in their equipment and secure that their equipment is mission ready.

# WERE THE MAYANS ONTO SOMETHING?

2012 presented numerous challenges for the Department of Defense (DoD). Not only were there budget cuts for the DoD, Industry members are feeling the heat of budgetary constraints. 12-21-12 was not only the anticipated day the world would end for some, but also the day Industry began a declaration for their continued involvement with their Defense partners.

On 21 December, the National Defense Industrial Association (NDIA), an organization committed to aligning and communicating government and Industry initiatives, sent a memo to the Deputy Secretary of Defense, asserting their position as the “communications bridge” between the DoD and Industry. The marriage of Industry and the Government has been notoriously successful and effective in ensuring information exchange, groundbreaking technology, clarification of intent, and presenting valuable materiel to better serve the warfighter. This simple collaboration reduced repetitious change orders, redesign, and accelerated delivery of products and services that Government needed thereby reducing the old “trial and error” approach with an “informed partnering” approach.

In Mr. Lawrence Farrell’s (President and CEO of NDIA) address to the Deputy SECDEF states, “NDIA fully understands and supports the necessity to preserve scarce fiscal resources and is aware of the requirement for DoD to significantly reduce travel costs in FY13 and beyond. In these times of fiscal stress it is more important than ever that senior leaders within the DoD have opportunities for collaboration and communication with their industry partners...In whatever way the current national fiscal crisis plays out, we are all aware that there will be significant (additional) changes – reductions in spending levels, increased program limitations/modifications and most likely more rigid contracting policies and procedures, to name just a few. My purpose in writing is simply to reinforce the fact that the flow of professional communication and dialog, so vital to a robust and productive government-industry relationship, has never been more critical, and at the same time never more constrained (Farrell, NDIA). The once happy marriage is now treading in troubled waters.

The loss of knowledge transfer must be reassessed. Industry has continuously presented the DoD with the capabilities of upcoming technologies, vehicles, aircrafts and security measures ensure the United States remains the strongest force worldwide. The spotlight is on DoD, all eyes are watching each move and the impacts following. The Combat Readiness Support Team is additionally feeling the budgetary tension. As their mission for the ARSTAF requires them to forecast impacts on the Army, Army facilities, and Army equipment 20-30 years into the future to meet MILCON long-lead decision timelines, their involvement with industry provides ability to predict the probable, the possible, and the almost certain impacts to facilities and the Army. The CRST’s vital role in the Army’s success cannot be compromised by uncertainty and it’s mantra is ... eliminate surprise.

As the Army continues through its era of uncertainty, looming budget cuts will continue to force DoD to reassess resources, manpower, and initiatives. Less than one month after NDIA strongly recommended a meeting with the Army to discuss future communication tactics, the Deputy Secretary of The Army released a memorandum to the Department of Defense and counterparts, *Risk Mitigation in the Face of Fiscal Uncertainty*. This memorandum states, “Due to this risk, the Deputy Secretary of Defense has issued guidance authorizing each Service to take immediate steps to reduce expenditures and conduct detailed planning in the event the budgetary cuts and shortfalls occur.” Cost cutting measures are currently being enforced including freezing civilian hire, furloughs and stopping facility restoration and modernization projects. The budget restrictions also require a rapid decline in professional training, temporary duties, limited administrative supply purchases and conferences are temporarily curtailed until further direction is released. Cuts will continue to affect all non-mission critical training. Time is ticking and answers are needed by March 1<sup>st</sup>. If Congress has not devised an aggressive approach to the budget, sequestration could cut \$492 billion of the Department of Defense’s budget over a 10 year span, causing tremendous impacts to the soldier’s ability to fight wars, provide for their families and maintain their position in an all volunteer force.



# SFA'S ANSWERING THE CALL

Da Pineapple has directed the SWF Modernization Technical Support Group (MTSG) to tackle a pressing mission: update and create new SFAs for all ground and aviation systems used in the Army. After new and improved incoming systems emerged at conferences and made their way into whispers and press conferences at the Pentagon, the MTSG is working diligently to create the most up-to-date Support Facility Annexes (SFA). As these reports make it into hands of select ARSTAF and IMCOM elements, it is crucial for them to present up-to-date specification sheets, accessible and received through a reputable source. While it is very easy for anyone to search Google, Bing or Yahoo; it is critical in the decision making process for the information to be accurate and represent the current and future impacts on facilities and infrastructures within the Army, which cannot easily be found on the internet.



As the Combat Readiness Support Team (CRST) continues to aid in shaping the Army's future, the Forward Support Offices will continue to push the CRST's message across the USACE Districts. In order to keep the CRST technologically advanced and continuously progressing, it continues to employ the Military Construction (MILCON) Requirements Standardization & Integration Suite. Using the Support Facility Annex Module on the MRSI Suite allows for one location to hold the specifications for incoming, outgoing and groundbreaking systems for the Chief of Engineers and USACE, providing a more effective decision making tool for construction process, encompassing the capability and traceability to integrate and standardize facilities across the DOTMLPF (Doctrine, Organization, Training, Materiel, Leader Development/Education, Personnel, Facilities) decision domains. Since the CRST and COE are in the facilities business, critical questions must be answered, "where, what, and how" to accomplish the necessary integration of materiel and technology using existing facilities for optimized fielding strategies, looking down the road to 2035?" Can this be done? And if so, how? With emphasis on the "64 dollar question", does the SFA module present a possible solution?

The SFA module accommodates the ARSTAF with readily available information, giving them the essential details to comprehend, assess and manages our current resources (vehicles, aircrafts and weapon systems). The use of a consistent enabling tool permits a comprehensive method for design standardization and construction execution to correlate with systems. As the future remains uncertain, the SFA module provides a foundation for prognosticating the future impacts without the examination of each facility to determine if a system is capable of being maintained and repaired on an installation. Maintenance of our facilities is a critical job for the warfighters, and when men and women in uniform continue to serve our country, the Pineapple continues to push his Team to find innovative solutions to aid our warfighters during this time of budgetary uncertainty.

The result of this mission: relevant facilities to support those in service to the Nation.

## Editors Note

This newsletter provides bi-monthly updates on CRST's topics of interest. For CRST information contact: Nadia Abou at 817-886-1803 or [Nadia.Abou-El-Seoud2@usace.army.mil](mailto:Nadia.Abou-El-Seoud2@usace.army.mil)

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