Teaching Sensor Managers How to Reach Out and Touch Something

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The world continues to evolve with theater and strategic ballistic missile technology and the associated threats have grown over the years with the continuing development of ballistic missiles. Government and Non-Government actors can use Weapons of Mass Destruction carried on ballistic missiles to blackmail and intimidate the United States and our allies, and having the potential to hold hostage hundreds of thousands of people. Iran continues their pursuit of ballistic missiles and poses an evolving threat to the United States and our allies. Meanwhile, the combination of its recent nuclear and long-range missile tests makes North Korea a real threat to international peace and security.

As a result, missile defense organizations must keep up with the demands of a changing world by creating a missile defense system that will see the threat further, identify the threat location faster, and have the ability to send this data to our missile defense systems to eliminate the threat quicker. (Picture-1)

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One of the key pieces of equipment that allows us to do this is a cutting edge radar system whose nomenclature is the AN/TPY-2 Forward Based Mode (FBM) Radar

The AN/TPY-2 (FBM) is high-resolution, X-band, phased array radar based upon the Terminal High Altitude Area Defense Radar hardware and software design. This commonality allowed for the accelerated procurement and development of a forward based capability. AN/TPY-2 (FBM) includes modified software algorithms for

tracking and discrimination from a forward-based perspective. The radar has a direct interface with the Ballistic Missile Defense System command and control system. The radar will perform surveillance autonomously or as cued by other sensors and it will acquire, track and discriminate threat missiles and missile components, and pass this information to other BMDS tracking, discrimination, and fire control radars downstream.

The AN/TPY-2 radar (FBM) (Picture-2) is designed to first detect a ballistic missile as close to the country of origin as possible. This maximizes the capability of the Ballistic Missile Defense System to identify, assess and engage ballistic missile threats to U.S, deployed forces and allies. The role of the Army Sensor Managers is to remotely operate the AN/TPY-2 (FBM) radar, in addition to providing situational awareness of other Ballistic Missile Defense assets to multiple combatant commands. The Army's Sensor Manager Qualification Course is new to the Ballistic Missile Defense System community and is intended to train Army Sensor Managers to manage and control the radar.

Training Development, the TRADOC way

Like any qualification course taught by the Army, Space and Missile Defense Command (SMDC) Future Warfare Center Directorate of Combat Development Training Division was given the requirement of lead service on Feb. 11, 2006. This led to the development of the Sensor Manager Qualification Course. This course required SMDC to meet the U.S. Army Training and Doctrine Command standards. The first step in the course development process was to identify the Sensor Manager critical tasks. This step was completed by holding a Critical Task Selection Board in February 2007 using soldiers from the 94th Army Air Missile Defense Command. These Soldiers were also part of SMDC's 1st Space Brigade, and they sat as voting members on the board. The Critical Task Selection Board started with a large total task list, and after two days, selected the 23 most important tasks. These 23 tasks became the critical task list by which the Qualification Course was developed.

Following the Critical Task Selection Board, SMDC and Soldiers from the 94th Army Air Missile Defense Command developed the performance steps and measures (conditions and standards) for each task. At the time, the only subject matter experts were 94th Army Air Missile Defense Command personnel. As the development of the course progressed, more assistance was needed. SMDC approached the Missile Defense Agency, and in February 2008, Missile Defense Association's Ballistic Missile Defense System Training and Education Center provided two instructors to assist with course development and instruction. Clem Morris and Bruce Betts dedicated themselves to providing countless hours of training development, course material preparation and instruction. They together with the U.S. Strategic Command and Missile Defense Agency hosts, the FWC DCD team of Chip Graves and Mike Madsen guaranteed the success of this training initiative.

In April/May 2008, the course was offered for the first time at Offutt Air Force Base, Neb. The purpose of the first course was to validate the course material, and make appropriate changes based on instructor observations and student recommendations. The attending students came from the 94th Army Air Missile Defense Command, Joint Functional Combatant Command-Integrated Missile Defense and Future Warfare Center-Directorate of Combat Development. Following improvements to the course material, the second offering of the course was given to warfighters at Offutt Air Force Base in July 2008. Those students came from the 94th Army Air Missile Defense Command and Joint Functional Combatant Command Integrated Missile Defense. Future course offerings are being considered and planned at this time, with assistance from a number of people and organizations. Future students could come from the again the 94th Army Air Missile Defense Command and Joint Functional Combatant Command Integrated Missile Defense, as well as several different combatant commands (U.S. Pacific Command, U.S. Northern Command, U.S. European Command and U.S. Strategic Command).