E-62 THAAD Soldiers return home after crucial role in FTG-11

By 1st Lt. Anthony Ross

Soldiers from Echo Battery, 62nd Regiment, 69th Air Defense Artillery Brigade returned to Fort Hood, Texas, recently after another groundbreaking test at Wake Island, Flight Test Ground-11 (FTG-11). On March 25, 2019, AN/TPY-2 radar and Prime Power Unit (PPU) operators enabled the radar to successfully track and discriminate an Intercontinental Ballistic Missiles (ICBM) launched from Regan Test Site at Kwajalein Atoll. After the acquisition of the ICBM, the AN/TPY-2 radar successfully cued the Sea Based X-Band (SBX) radar via satellite communications links with command and control, battle management and communications (C2BMC) oversight. The SBX radar provided cueing data to the ground fire control unit in order to launch two ground based interceptors (GBIs) from Vandenberg Air Force Base, Calif. Both the GBI-lead and GBI-trail effectively engaged both the kill vehicle and the next lethal target in the debris field, proving the Ground-based Midcourse Defense’s (GMD) salvo engagement accuracy.

FTG-11 was a crucial step forward for the Ballistic Missile Defense System (BMDS) and the reliability and trust of the United States’ homeland defense. The test was the culminating event of previous flight tests over the past two decades. The $244 million test had high visibility from three major combatant commands and the United States Congress; the importance of the flight test cannot be overstated. Air Force Lt. Gen. Samuel A. Greaves, director of the Missile Defense Agency (MDA), said “This was the first GBI salvo intercept of a complex, threat-representative ICBM target, and it was a critical milestone...The system worked exactly as it was designed to do, and the results of this test provide evidence of the practicable use of the salvo doctrine within missile defense. The Ground-based Midcourse Defense system is vitally important to the defense of our homeland, and this test demonstrates that we have a capable, credible deterrent against a very real threat.”

FTG-11 represents many future opportunities regarding the strategic footprint of the United States Joint Forces across the globe. The test gained confidence in the operability of the BMDS and the ability for warfighters to operate the complex systems involved.

Operators of the AN/TPY-2 radar at Wake Island played a crucial role in the emplacement, calibration, maintenance and operation of the highly valued sensor at Wake Island. The operators from E-62nd ADA, Terminal High Altitude Area Defense Battery included Sgt. Andrew Steffes, Sgt. Tyler Currie, Spec. Joseph Thannisch, Spec. Timothy Broders and Spec. Dustin Maas. The mission started in January 2019 at Fort Hood, Texas, where the group completed new equipment training for the X86 platform and CX 3.0 Software upgrades for the AN/TPY-2 radar. In early February the team deployed to Wake Island to operate the radar in forward based mode (FBM). The operators manually emplaced the radar within tolerance on the first try after a near perfect primary target line alignment and antenna equipment unit elevation. Soldiers overcame obstacles with the tropical climate to successfully calibrate the system without any longstanding or significant issues, logging over 75 hours of satellite tracking. Soldiers put a strong emphasis on maintenance, along with the civilian contractor logistics support team, working hard to ensure the AN/TPY-2 FBM radar remained fully mission capable throughout the flight test. Their efforts set them up for success on test day.

Soldiers from E-62nd ADA Battery pulled shifts to man the
system once mission operations began in early March. They were given a Road to War by Strategic Command, simulating a real world scenario; the anticipation of an ICBM launch continued to build with each update. This gave Soldiers a sense of the normal operability of the BMDS for homeland defense against an ICBM. Without knowing the test date and time, Soldiers were forced to operate the AN/TPY-2 radar as if deployed to a wartime location. On March 25, 2019, the sensor manager at the 94th Army Air and Missile Defense Command established positive communications with the AN/TPY-2 operators to warn of an incoming track. The track was the ICBM launched from Kwajalein, and the operators successfully acquired, identified, recorded and reported the ICBM. Reporting procedures from the operators to the mission operations center (MOC) and the warfighter officer in charge were flawless. Soldiers followed the track from acquisition of sight to loss of sight. The successful intercept of the ICBM with a GBI salvo engagement was observed from the MOC, made possible by accurate AN/TPY-2 cuing data of the ICBM. The mission was a success.

While the AN/TPY-2 operators were the main effort, one must not forget the importance of a major supporting element. Sgt. Shane McKenzie and Staff Sgt. Endetayew Lemma, the PPU operators at Wake Island, were critical to mission success. In support of FTG-11, the operators and civilian engineers labored to provide continuous system power for specific mission needs. Scheduled maintenance and complex system upgrades were conducted throughout the mission timeframe, and detailed diagnostics were completed to enhance the AN/TPY-2 team’s reliability and mission readiness. Special emphasis had to be given to environmental concerns in the tropical environment for the duration of the flight test. Flash rusting of exposed metals and electrical connections, in close proximity to salt air and seawater, required detailed preventive maintenance care in order to prevent poor electrical connectivity or structural deterioration.

Overall, the Soldiers from E-62nd ADA Battery gained a lot of experience and useful information regarding the operation of the AN/TPY-2. When not conducting mission operations, Soldiers learned in-depth knowledge from their MDA, Operational Test Agency, Raytheon and sub-contractor counterparts. The Army personnel at Wake Island gained experience working in a joint environment with all major sensors and components to the BMDS to include C2BMC, Aegis Combat System, SBX, Space Based Infrared Surveillance, and GMD. They enhanced their unit’s readiness, validating the ability to deploy with the AN/TPY-2 radar in an extremely isolated area.

1st Lt. Anthony Ross is currently the sensor platoon leader and Crew 2 tactical control officer for E Battery, 62nd Air and Missile Defense Regiment, 69th Air Defense Artillery Brigade. He commissioned from the United States Military Academy at West Point.