

Letterkenny Workforce Provides Exceptional Support to 35th ADA
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Ready. Willing. Able. Three words synonymous with Letterkenny Army Depot (LEAD) for more than 75 years. Three words that describe the Depot workforce's dedication to Soldier support. Three words that produce successful outcomes.

The depot stood ready to support a directive from the Vice Chief of Staff of the Army to reduce stress and modernize forward-stationed Patriot forces as soon as possible. LEAD's workforce was more than willing to support this priority effort to upgrade and modernize the 35th Air Defense Artillery (ADA) Brigade Patriot missile system equipment to the latest configuration, C3+. And, not only was Letterkenny able to complete the mission by the target date of September, it pulled out all the stops and accomplished the mission two weeks ahead of schedule.

The major modification effort included two Patriot Battalions' major end items and one Operational Readiness Float asset. This seven-month effort was comprised of a total of nine Engagement Control Stations (ECS), nine Radar Sets (RS), two Information Control Centrals (ICC), six Communications Relay Groups (CRG), and eight Battery Maintenance Centers (BMC).

Raytheon, the Lower Tier Project Office (LTPO), and Letterkenny understood the magnitude of this effort and the fact that any single one of these modifications would be a major mission in itself, but installing all of these simultaneously was a ginormous undertaking. A modernization of this size had not been accomplished since the 1990s.

This was a depot-level modernization effort, where teams actually brought Patriot systems into a large building and tore them down to nothing and basically rebuilt them with new components according to Col. Mark Holler, commander of the 35th ADA during the time of this modernization.

At the helm of that effort was LEAD, the Department of Defense's Center of Industrial and Technical Excellence for Air Defense and Tactical Missile Ground Support Equipment. The Directorate of Industrial Operations' (DIO) Jim Woolf and Tom Gagahan were instrumental in the planning and coordination efforts with Raytheon and LTPO that produced and executed an aggressive, mission-focused schedule to accomplish the objectives set forth. "It wasn't a matter of whether or not we could do it, it was how and when to execute," said Woolf.

He referred to Gagahan as being the 'master mind' behind the operation as Gagahan led the coordination of the depot's teams. The team of highly skilled electronic integrated systems mechanics, augmented by other depot personnel, basically set up an entire Depot operation. This team was the 'hands-on' artisans in the field who applied the modifications, validated hardware, ensured test requirements were met and, ultimately, provided the Soldier a fully mission-capable air defense system.

Four continuous rotations of 10-14 depot personnel began the modernization effort late in January. The depot's fielding teams performed the modifications in an airplane hangar outside the continental United States (OCONUS). This was the only facility available that had the size and work space to accommodate four shelters and two radars in addition to having room to spread out modification kits and tooling necessary to meet this very large and combined upgrade effort. Twelve-hour workdays were many times necessary to maintain schedule.

Gahagan attributes the depot's success primarily because of the determination and drive of the employees. "Give them a mission and move out of their way!" Other factors he accredits with the success are: being able to apply the C3+ modifications on a school radar at the Depot's test site prior to traveling to OCONUS; assembling a diversely skilled team for the first modification because of the many unknowns; being able to alternate the fielding teams to maintain the integrity of the teams; and providing 24-7 support to the teams by keeping the same skillsets back at the depot in constant contact with the deployed technicians.

For the shelter modifications, the team needed to remove cables and chassis from the shelters and replace with new, modernized command and control stations. Legacy-style cathode ray tube (CRT) man stations were replaced with flat screens and touch controls. New encryption communication devices (data or voice) were also installed. The radar modifications consisted of removing large amounts of obsolete hardware, modifying bracketry within the shelter, and installing newer, modernized digital technology. This also included routing new cabling throughout the radar. All end items required extensive integration testing conducted with mobile test equipment to validate hardware operability.

DIO planned for the same teams to rotate through the four trips. The first and third rotations consisted of the one team; the second and fourth rotations were made up of another team. This ensured continuity of skill sets and familiarity with the working environment. And DIO overlapped rotations of personnel to enable efficient hand-off procedures and a thorough understanding of where the incoming team needed to focus their efforts.

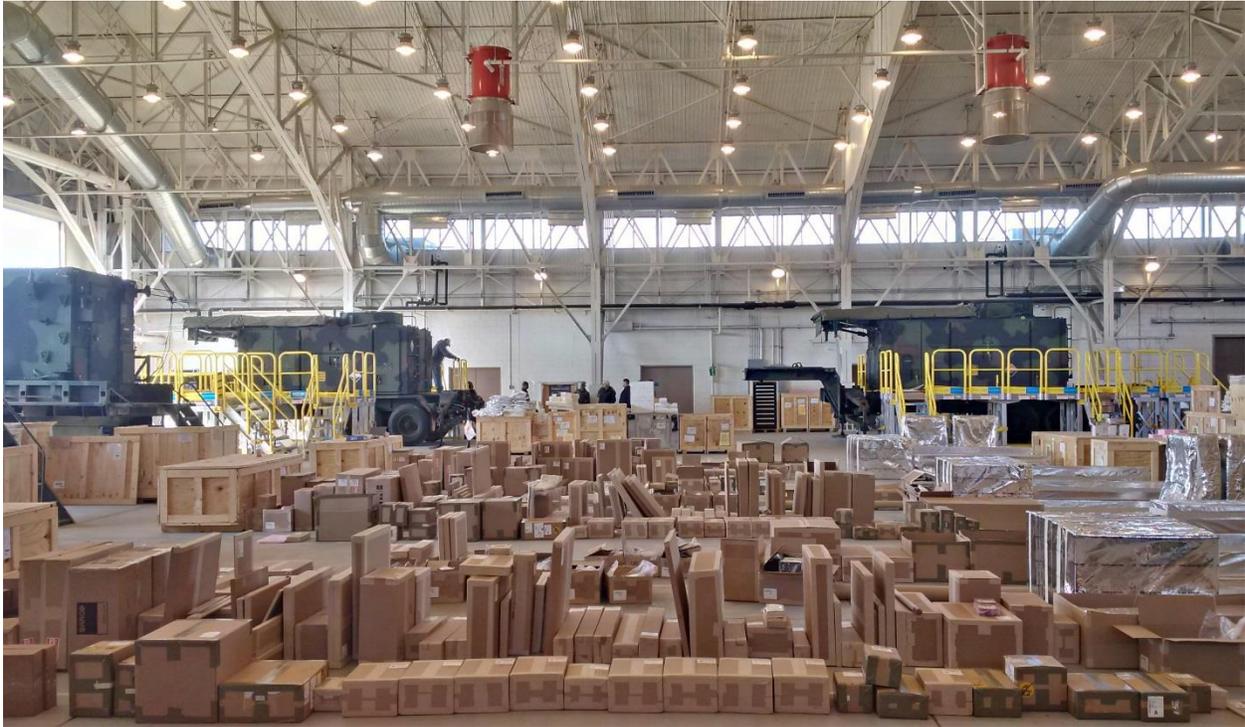
The successful execution of this large scale, complex effort demonstrated the skill, flexibility, adaptability and drive of the Depot employees. According to one of the team leaders, Matt Nicklas, an employee of the depot for seven years, the teams moved, fueled, and placed equipment as needed to keep the pace. One of the biggest challenges for all of the teams was waiting for inbound repair parts. "We couldn't wait 7-10 days for parts to arrive due to the mission's location, so we borrowed parts from existing pieces of equipment in order to meet the rigid schedule," said Nicklas. When the requested parts arrived, the team replaced the items back on the original equipment.

This vital air missile defense modernization strategy required bringing the Patriot system to Configuration 3+ which includes the latest system software and hardware upgrades. The U.S. Army Aviation and Missile Command's Commanding General approved an Urgent Materiel Release (UMR) for the Pacific Command Theater of operations in June 2016. The UMR stated that the Configuration 3+ updates were critical to the Patriot weapon system. This was the first time that the application of this many hardware upgrades were applied overseas, an extremely difficult effort requiring extraordinary coordination of materials, people, and entities.

This was a massive logistical undertaking because of the sheer volume of items needed. LTPO arranged for transporting the Raytheon-developed special test equipment, kits, parts, tools, adhesives and miscellaneous pieces that may be needed to accomplish the mission. For example, the modifications required 13 each, 40-foot MIL-vans, 3 C5 Special Assigned Airlift Mission flights, and dozens of government freight shipping to get all the material OCONUS.

The depot's commander, Col. Stephen Ledbetter, said, "This mission was a big deal and directly supports the Chief of Staff of the Army Gen. Milley's first priority, operational readiness." When it was all said and

done, it was unanimous that Letterkenny did an awesome job all while maintaining the ‘fight-tonight’ readiness mission requirements of the 35th ADA. It doesn’t get any better than that!



Caption: Modification kits await their turn at the OCONUS location. Letterkenny Army Depot personnel applied modifications to the 35th ADA Brigade from January through September 2017.



Caption: Depot employee Josh Gahagan removes the high volt power supply from the radar. Letterkenny provided highly skilled technicians to apply the latest Configuration C3+ to the 35th ADA Battalion stationed OCONUS.



Caption: Depot employee Chad Ramsey removes DSP2/DSP3 chassis mounting points as part of the modifications to the Patriot system for the OCONUS based 35th ADA Battalion.



Caption: Letterkenny's Fern Naugle, one of the electronic integrated systems mechanics providing support to the 35th ADA Battalion, scrapes and sands the interior walls of a shelter.