

FEATURE

Mobile Microwave Landing System always running at North Field

By Staff Sgt. Michael Duhe
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Sitting near the runway at North Auxiliary Airfield, S.C., is a piece of equipment that looks like an unmanned NASA space probe.

But the real purpose of the equipment is earthly in nature. Known as the Mobile Microwave Landing System, it helps provide valuable training for pilots making microwave-aided precision approaches and landings at airfields worldwide.

Although MMLS is designed to be mobile, it has become a permanent fixture at North Field, according to Tech. Sgt. Joel Obman, a meteorological and navigational aids technician with the 437th Mission Systems Flight, part of the 437th Communications Squadron. MMLS includes an azimuth antenna, an elevation antenna, a distance measuring equipment antenna and a monitor antenna. The pieces of equipment at North Field sit on two cement pads, with the monitor antenna on a separate pad.

MMLS is used by the C-17 and C-130, which are equipped with microwave receivers. It provides information on azimuth, horizontal and vertical course guidance and glide slope guidance. It also provides pilots with information on the distance to the landing end of the runway.

The benefit of MMLS is that it provides a computed approach for pilots, according to Tech. Sgt. Eric Lentner, also a meteorological and

navigational aids technician with the 437 MSF. MMLS also allows pilots to vary their angle of approach to the airfield.

"What we have here is to train the pilots, so that when they go into austere locations around the world, they'll be trained on MMLS approaches," Obman said.

MMLS has already been used in real-world contingency situations, such as Bosnia and Albania, and the system is permanently located at airfields such as Ramstein AB, Germany.

MMLS is designed to be set up quickly (usually within an hour) by two or three communications technicians once a site survey has determined the best location for the equipment. Obman said a site survey usually takes half a day.

"The initial set up is for us to go into a remote location, set it up in a short amount of time and allow aircraft to do instrument approaches to an airfield, where it would take a lot longer to get a fixed system installed," Obman explained.

MMLS can be broken down and stored in 11 cases. The heaviest component of MMLS is the 400-pound azimuth antenna, according to Obman. The entire system is worth \$1 million.

Obman and Lentner provide maintenance and repairs for MMLS at North Field. They make sure the system is running correctly and within its parameters, Obman said. MMLS is constantly operating at North Field, but doesn't require a technician to permanently be on



Courtesy photo

Tech. Sgt. Joel Obman, 437th Communications Squadron, adjusts the MMLS as a C-17 prepares to land.

hand to run it. Obman and Lentner travel to North Field when MMLS is not operating properly. "We have test equipment to see on the ground what they (pilots) see in the air," Obman said.

"Once in a while, they'll (pilots) call us to change angles," Lentner added.

MMLS is also used at McChord AFB, Wash., Pope AFB, N.C., and Hurlburt Field, Fla.

"I was in Bosnia last year and installed a fixed ILS (Instrument Landing System)," Obman said. "They recently removed the MMLS."

The North Field MMLS set up is unusual because it is operating constantly, Lentner said. Because of this, cement pads and permanent power and communications lines were installed.

To stay proficient with MMLS, Obman and Lentner recently attended a class with members of the Federal Aviation Authority to review flight check procedures of MMLS. "As with any nav aid you install, the FAA has to fly it with

their flight check aircraft to verify specific parameters are being met," Obman said.

From a pilot's view, MMLS is simple to interact with in the C-17.

"It's easy to deal with," said Capt. John Russi, a pilot and flight examiner with the 17th Airlift Squadron. "We just dial in the frequency and it comes up for us. It's very simple."

MMLS works similar to an Instrument Landing System, which is much larger and more complicated to set up, Russi said.

North Field is an ideal location to train with MMLS because the air traffic is not as heavy as Charleston AFB, where a steady stream of military and commercial aircraft flows in and out, according to Russi.

"The MMLS is good practice for us because, in a contingency situation, that's what they would set up for us," Russi said. "At North Field, you use MMLS with a short field runway, so, to practice that at North Field is really valuable training."



Courtesy photo

Tech. Sgt. Eric Lentner (left) and Tech. Sgt. Joel Obman, both from 437th Communications Squadron, set up an azimuth antenna.