



News Release

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CHARLESTON AFB HOSTS EXCHANGE ZONE TEST

CHARLESTON AFB, SC - Air Mobility Command used Charleston AFB equipment and personnel to conduct an exchange zone test here Sept. 16-19.

An exchange zone test is conducted to evaluate the effectiveness of transferring troops and cargo from a "clean" area into a "dirty" area following a biological or chemical attack, said Senior Master Sgt. Todd Herzog, AMC's airtransportability and aerial delivery test manager.

Herzog said the scenario here represented an intermediate location airfield, located at least three flying hours away from the contaminated base, where the exchange of cargo and troops occurs. In a planning scenario, aircraft from a "clean" location with troops and cargo would arrive at the immediate location and offload on the "clean" side of the airfield. These troops and equipment will pass through an exchange zone, and then be loaded into aircraft on the "dirty" side of the airfield. The "dirty" aircraft would shuttle between the intermediate location and the contaminated theater area of responsibility.

An exchange zone consists of a contamination control area, troop transfer area and a cargo transfer area, said Herzog. The reason for the exchange zone is to ensure contaminants are not transferred from the intermediate location's dirty side to its clean side.

Herzog said when cargo is moved from the clean side of an airfield to a dirty side of an airfield, there is the potential that the equipment working on the dirty side comes into contact with a piece of equipment working on the clean side. The exchange zone tests whether or not the movement of troops and cargo can continue without contamination spreading to the clean side. The exchange zone should prevent cross-contamination. During the cargo transfer operation a mixture of oil of wintergreen and Tinopal was used to simulate the chemical agent. Oil of wintergreen creates vapors that will set-off the detector's alarm, and the Tinopal glows under ultraviolet light. The mixture was applied to the tines of forklifts working on the dirty side of the airfield. Ensuring that personnel will not contaminate the clean side is a top priority.

"Personnel working the dirty side of the airfield will eventually have to go back to the clean side of the airfield to eat meals and rest," said Herzog.

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“That’s why we set up a contamination control area. People working in the dirty zone will have the ability to go through the CCA and clean up before they go back to the clean side of the airfield.”

A group from the Army’s Dugway Proving Ground was responsible for technical support of the test, said Herb Davila, test site manager for DPG.

To test for cross-contamination, DPG set up solid sorbent sampling tubes all over the exchange zone test site to collect air samples, said Herzog. The sorbent tubes are connected to a vacuum pump with rubber tubing, and the pump draws one liter of air per minute through the tubes. Airborne particles are trapped in the tubes, and later analyzed to determine the contaminant levels.

“What we’re hoping is that sorbent tubes on the clean side of the airfield won’t detect anything (vapors from the simulant agent), and that will give one indication that nothing has transferred,” said Herzog.

The Improved Chemical Agent Monitor, a hand-held monitor, was also used as a vapor detector during the test. It is pointed at a person or piece of equipment to ‘sniff’ out any contaminants, said Herzog.

“So when we apply the simulant agent (Bengay) to the outer garments of personnel working in the dirty zone, they will use the ICAM and take a reading so that they will know what the contamination level is,” said Herzog. “They (CE Readiness) will then process the person through the CCA, and when that contaminated person gets to the end of the decontamination line they will take a final reading on the other end. If there’s no vapor reading there, we cleaned the person up good, indicating that cross-contamination to the clean side of the airfield did not occur.”

The last method they used to detect cross-contamination from personnel was “glow germ.” Herzog said it was the same product used in the medical community to train doctors on how to wash up before surgery. Doctors apply the product to their hands and then scrub up for surgery. After the student doctors are finished scrubbing, they put their hands under an ultraviolet light. If their hands are glowing, then they didn’t scrub well. After all personnel working in the exchange zone and dirty zone processed through the CCA, Dugway test team personnel used an ultraviolet light to scan everyone for the presence of glow germ.

“It’s the same with the forklift,” said Herzog. “We’re going to put a simulant agent on the forklift tines, and if we find any glow from the (vapors from the oil of the wintergreen) on the clean side of the exchange zone then we know it transferred from the dirty side to the clean side.”

After the test was completed, DPG collected all of the information gathered from the test and went back to DPG to compute the information.

Davila said after the data has been collected and analyzed at DPG, they send the information to AMC. AMC will take that data and the data collected by the AMC test managers and validate how well it worked.

Herzog said he expected the test results to show that the clean side would stay clean and wouldn’t be exposed to the contamination.

Davila echoed his sentiments.

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“In paper, and everything we’ve seen, it should work,” said Davila. “There should be no reason why it shouldn’t work.”

Davila said the report should be completed by December.

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