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Technology Developed for Missile Defense Used for Disaster Relief

Technology developed for the Ground-based Midcourse Defense (GMD) element of the Missile Defense Agency (MDA) has been leveraged to support relief operations in the wake of hurricane Katrina.

Paul Gierow, owner of Ground Antenna Transmit/Receive (GATR), a small business working on a contract under MDA's Small Business Innovative Research (SBIR) program, has been developing and constructing lightweight, inflatable satellite antennas for possible use in GMD communication applications. The 2.5 meter antenna system can be set up rapidly by inserting four stakes into the ground, inflating the antenna ball, and pointing it at a satellite. Comparable conventional mobile satellite dish systems weigh tons and must be driven in on trucks.

Soon after it became apparent that Katrina would affect the Gulf Coast's communication infrastructure, Gierow was contacted by the White House Communications Agency, where he had delivered a briefing on the antenna technology. That agency asked Gierow to provide 200 of the antennas for the recovery effort, but Gierow had only one working antenna at the time that could be delivered on such short notice. Working with Senator Jeff Sessions' office, MDA authorized \$50,000 of SBIR funding to initiate the effort to get the antenna to the storm-damaged area. Gierow volunteered his time to deliver the antenna and arrived with it in Woolmarket, Miss. soon after the storm hit.

In Woolmarket, Gierow set up his antenna and had the only internet connection in Harrison County in about an hour. For days, Gierow lived at the shelter, his 24-hour connection the only way hundreds of displaced Mississippians could file assistance forms and receive confirmation receipts from the Federal Emergency Management Agency (FEMA). In addition, the system was used by physicians to prepare assessment reports, as a means for a CBS radio affiliate to broadcast a program and for numerous evacuees to get messages to friends and family.



Paul Gierow works with his inflatable satellite antenna outside an evacuee shelter in Woolmarket, Miss.