

Technology Takes Flight

McGhee Tyson Airport Integrates Systems

by Travis McGee

Located 12 miles south of downtown Knoxville, TN, the McGhee Tyson Airport is the premier air facility of east Tennessee, serving the commercial airline industry, air cargo, military aviation and general aviation. In October 2000, the airport completed a 3-year, \$70 million renovation and expansion project of its main terminal and concourses.

Playing a large role in the project was Gallaher and Associates of nearby Alcoa, TN, which, with the help of consultants Neil Traylor and Associates and engineer Robert Enger of the MEA Group, provided the airport's paging, teledata, security and fire alarm systems, as well as the systems for the rental car companies. The 29-year-old company has had a long and fruitful relationship with the McGhee Tyson Airport, having done maintenance on the fire alarm system for the last 20 years. When the time came for the airport to decide on whom to delegate the remaining systems installations, Gallaher and Associates already had a foot in the door.

Since the systems installations were done in conjunction with the actual construction of the new sectors of the airport, the project proved to be a constant work-in-progress, particularly when installing the phone system. "The airport owns the phone system, and they rent out a certain number of lines to the individual tenants," said Roy Gallaher, president and owner of Gallaher and Associates. "So we had to put the backbone in to accommodate the approved number of lines for each facility, and as the project progressed, everybody started saying they don't have enough data lines or not enough telephone lines, so the scope of the project increased by about 50 percent."

Because the majority of the work was done during regular operation hours, Gallaher was forced to run parallel systems, maintaining the old one while putting in the new. "There were situations, especially in the paging and fire alarm end of it, where a couple of areas became totally disconnected because while the existing wings were taken away, connections from point A to point B were broken," Gallaher said. "We could use temporary lines occasionally, but in many cases they were blasting, trying to get the ground supporting system taken out in those areas, and there wasn't much we could do about it. It definitely presented problems, but we kind of anticipated that, and I think we were successful in keeping them to a minimum."

An unexpected challenge lay in the addition of a 115-foot indoor mountain stream that provided some surprising competition. "No one actually anticipated how much volume that was going to generate with that water falling, and it falls about five foot over about 100 yards," Gallaher said. "Trying

to overcome that so announcements could be heard—but not so loud that we got echo and bleeding—was rather tough. We basically dealt with it by the seat of our pants. There wasn't a good way of doing it other than just by trial and error. We could take some level ratings and try to go about it from the technical end of it, but we have basically learned that you take that so far and then you do it by ear, and essentially, that's what we did."

For the sound system, Gallaher went with a rig comprised of TOA amplifiers (including 21 A-912MK2s, nine P-924MK2s, and 20 L-41S telephone modules), 486 Atlas Sound FA116 loudspeakers, and 54 Shure 514B microphones. The fire alarm system uses Notifier products, and will eventually be networked to 10 other exterior terminal buildings like UPS and Federal Express.

According to Gallaher, the TOA amps fit the bill for this particular project. "It's hard to argue with their reputation, reliability, and experience," he said. "I've used TOA products in the past and have never had performance problems with a TOA product."

As someone who has moved from working in specialized fields of operation to cover a broader range of services, Gallaher noted that more and more companies are making the same type of transition. "We started as a company that only sold fire alarm systems, we didn't even do the installations," he said. "It very quickly became aware to me that as a result of having to spend so much personal time holding contractors' hands making sure they were installing it according to code and so forth that we could provide the installation ourselves. We don't run conduit, but we do pull the wire, run the cable or whatever the case may be. Then we realized that a communications package would fit in closely with that in places like schools and offices. So I've seen an incorporation of more of the communications package into one company a lot more often lately. Also, as technology advances, you're going to have to have companies that are systems-oriented more so than just power-oriented like the typical electrical contractor has been in the past."

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▲ Knoxville's McGhee Tyson Airport recently completed a 3-year, \$70 million renovation and expansion project of its main terminal and concourses.



▲ The paging, teledata, security and fire alarm systems were installed by contractors Gallaher and Associates, consultants Neil Traylor and Associates, and engineer Robert Enger of the MEA Group.



▲ The McGhee Tyson Airport sound system is comprised of numerous TOA amplifiers, including these A-912MK2s.