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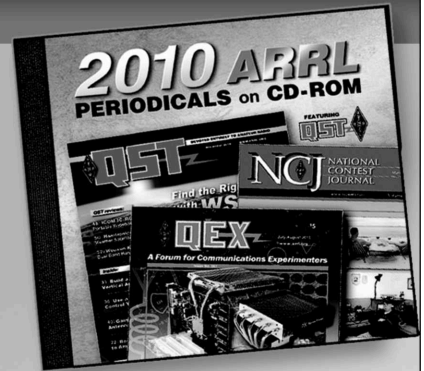
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**QST Issue:** Mar 2006

**Title:** Tulsa Hams Respond to Hurricane Katrina and Human Storm Surge

**Author:** Doug Lee, KC5ZQM

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## PUBLIC SERVICE

# Tulsa Hams Respond to Hurricane Katrina and Human Storm Surge

Doug Lee, KC5ZQM  
kc5zqm@juno.com

The tropical storms and hurricanes that cause so much damage, destruction, chaos and havoc start out as ripples in the trade winds blowing off the sub-Saharan regions of Africa and over the Atlantic Ocean. Such a distant event, like one of those ripples, can eventually have an effect closer by. One ripple became Hurricane Katrina, which hit the Gulf Coast on Sunday, August 28, 2005.

The Tulsa (Oklahoma) Red Cross has a partnership with the Tulsa Repeater Organization (TRO), a public-service oriented ham radio club. As the Activities Chair of the TRO, I had been working to assemble a team of hams to staff the Red Cross Communications Center that was gearing up for hurricane-relief support for the Gulf Coast.

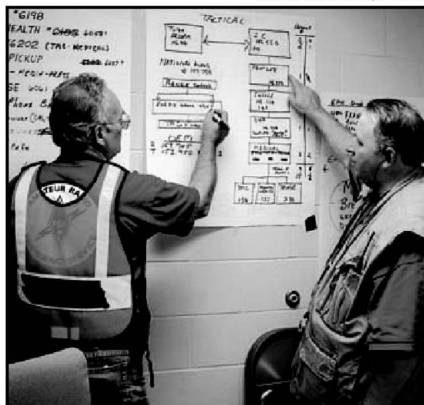
The need for support came quickly as the Red Cross called team member and long-time Red Cross volunteer Paul Papke, WB5MPU, who also asked Ben Joplin, WB5VST, to assist in letting emergency personnel in Louisiana know to rescue a group of 15 people that had been stranded on the roof of a house in New Orleans. Details of this story are recounted in the November 2005 issue of *QST*, pp 47-48.

### Local Response Continues

I was unaware of what Paul and Ben had done until Tuesday morning. Mark Conklin, N7XYO, called me and told me about Ben and that Ben was headed back to the Red Cross that morning for a second day of traffic handling on the SATERN net on 14.265 MHz. The Red Cross requested that HF operations continue through Friday, September 2. That day I went through my address book and the TRO club roster, and sent a mass e-mail to every HF operator I had a listing for.

Of course, the need for HF operators came up during the Tuesday evening Tulsa Area ARES/RACES Net. Steve Miller, AA5V, also put an announcement on the 146.940 TRO repeater's DVR. Mark, N7XYO, did the same thing on the club's 146.880 MHz repeater.

MARK CONKLIN, N7XYO



Ed Compos, K5CRQ (left), and Mark Conklin, N7XYO, were among Oklahoma amateurs helping out at the Camp Gruber sheltering operation.

Harry Mueller, KC5TRB; Lou Hinshaw, WB0NRU, and Paul King, N5XJW, agreed to cover Wednesday. By the end of Wednesday, I had everything covered through Friday.

Mark called me again on Thursday. The Red Cross already had decided to extend operations to the following Tuesday. Back to the e-mails and phones for me. I got a general commitment from Pat Lane, K5QOP, and a possible for Saturday from Steve, AA5V.

### The Surge Heads for Tulsa

One of the most damaging features of a hurricane is the storm surge, a wall of water that the storm pushes up in front of itself. Sometimes the storm surge can push ashore and affect areas that never see hurricane force winds.

Hurricane Katrina did something very similar. She created a "human storm surge" that reached Oklahoma on the night of Saturday, September 3. Hams from Tulsa and surrounding areas, and even further away, responded to this surge.

The first word I received of this surge came through another call from Mark Conklin, N7XYO, on Friday, September 2. The Red Cross indicated the possibility of a Mass Care Shelter somewhere within 100 miles of Tulsa, and the shelter could receive up to 5000 evacuees from New Orleans. Later on,

we received confirmation the shelter would be at Camp Gruber, a National Guard training facility southeast of Muskogee, and the number of evacuees would be 2000. The Red Cross expected them at anytime that night. Once again, back to the e-mails and phones I went. My initial concern was to have two operators for overnight at Gruber. We also considered the use of packet.

Ed Compos, K5CRQ, and Mike Gauldin, KE5EHI, went to stay overnight at Gruber. Zach Miller, K5BCT, and Mike Darrol, KD5RJZ, also went down that night to try to set up a portable packet station. They did get it running, but the lack of packet capabilities at the Red Cross Communications Center prevented the use of that mode. Paul, WB5MPU, also took his ARES box and flatbed trailer with tower and J-pole antenna down to Camp Gruber that night.

On Saturday, Fred Williams, KD5NBR, and Joe Gorkos, N5TEX, went to Gruber. Ed, K5CRQ, and Mike, KE5EHI, agreed to stay another night. John Grace was willing to go, but I was reluctant to send him because he was still recovering from a broken foot. I needed someone for overnight at the Red Cross EOC. I figured that was the best place to assign him.

### Organizing Chaos

The National Weather Service describes storm systems, from thunderstorm cells to the largest hurricanes, as becoming organized when the activity begins to rotate around a well-defined center. That is similar to what happened with this situation. The Red Cross Center in Tulsa took the tactical call sign of Tulsa ARCOM and the operation at Camp Gruber became Shelter One. Things also got bigger.

Mark, N7XYO, went to Gruber on Sunday as the ARRL Oklahoma Section Public Information Coordinator, to get some documentation of what hams had done and were doing. The various agencies operating at Camp Gruber for this event had problems communicating with each other, and the situation was chaotic. Rick Bondie of the Tulsa Police Department, there on behalf of the Oklahoma Department of Emergency Man-

Steve Ewald, WV1X ♦ Public Service Specialist ♦ sewald@arrl.org

agement (ODEM), recognized Mark and the presence of other hams and asked him to put together a communications network around the base. Mark informed me they needed 5 or 6 operators on duty at all times. At that time, I did not have access to a reliable computer for e-mail, so I went back to the phones for another run through the roster. I found Ed K5CRQ; Mike, KE5EHI; Fred, KD5NBR; Joe, N5TEX, and John, KD5VSB willing to help. Soon after 1900 on Saturday, I had exhausted the list — and myself!

Mark, N7XYO, called me to check on my progress. I told him I had done all I could do with the resources I had. He agreed and said it was time to hand this job off to someone else. He said he'd make a few calls to find someone to take over, and he'd contact the presidents of other ham radio clubs in the area to enlist their help. The call for help went even further.

Gary Parham, KC5ZQP, went over to the Tulsa Area Emergency Management Agency's EOC to use their radio to make announcements on area repeaters. Later, Mark assigned the recruiting and scheduling duties to Tulsa ARCOM. On Sunday afternoon, Gregg Wonderly, W5GGW, added a DVR message to the Tulsa Amateur Radio Club's UHF Superlink repeater system.

### Changes in the Wind

The changes meant we could have Techs and HF operators working together at Tulsa ARCOM. The HF operations were beginning to drop off anyway due to the backlog of messages waiting to be passed. The plan was for HF operations to run only between 0700 and 1700, and the VHF/UHF operations would go for 24 hours a day.

Plans also called for working the same 12-hour shifts as the Red Cross: 0700-1900 and 1900-0700. We allowed split shifts, but we had to make sure the entire shift was covered by sufficient numbers.

Mike Darrol, KD5RJZ, and Zach Miller, K5BCT, took on Net Control, recruiting, and scheduling duties at ARCOM, with Mike taking the day shift and Zach taking the night shift. Mike and Zach also continued with some repairs through the week.

Three important developments occurred on Sunday. First, the National Guard and the Red Cross tightened security. Hams going to Camp Gruber had to first report to the Communications Center to fill out some paperwork and receive a photo ID, placards for their vehicles, plus maps and instructions. Later in the week, the credentialing and badge issuing process moved to a location in Muskogee.

Next, an easier way to disseminate information came through a Yahoo group that Steve, AA5V, had set up in February but had not found a good use for until this situation came up. Dustin Stinson, KD5OOD, helped enter the volunteers' information into the [wa5lvt@yahoo.com](mailto:wa5lvt@yahoo.com) database on

MARK CONKLIN, N7YXO



**Fred Williams, KD5NBR, announced the arrival of the caravan of buses with shelter clients aboard them to the network of hams that were supporting Camp Gruber.**

Sunday night.

Finally, Rob Coughlin, KE5BGX, set up his fold-up J-pole antenna for the Camp Gruber network. It performed better than the other radio systems used there.

When I was recruiting, I left a large number of messages on answering machines or with relatives. Some returned my calls on Sunday, some responded to the DVR messages. I referred everyone to Tulsa ARCOM and the Yahoo group. James Nocker, K5JCN, called from Edmond, Oklahoma. He and his wife were willing to come up in their camper. He had heard about the need from John Thomason, WB5SYT, the Oklahoma ARRL Section Manager, and fellow member of the Edmond Amateur Radio Society.

### Operations Overview

When Ed, K5CRQ, and Mike, KE5EHI, first went to Gruber, the plan was to use the TARC UHF link system. But Brian Gnad, KB5TSI, who was there as a Citizen's Corp volunteer, was able to get a noisy but readable signal into the Tulsa Repeater Organization's 146.94 repeater, located northwest of Tulsa, from the main gate at Camp Gruber. We preferred using the .94 repeater because the UHF link system covers the eastern third of Oklahoma and parts of northwestern Arkansas.

Volunteers at Camp Gruber used 146.550 FM simplex on handheld transceivers to link together the following locations around the base: medical, triage, gate, shelter, warehouse, and security (Oklahoma Highway Patrol).

The first few days of the shelter activation ranged from hectic to confusing, with a constant undertone of desperation. The first night, Friday, September 2, fit the old military saying, "Hurry up and wait!" We did not know for sure when the evacuees would arrive, but we knew they were coming and we needed someone there at Camp Gruber

when they did arrive.

The caravan encountered several delays, including stops for meals, refueling, and medical situations. Fred Williams, KD5NBR, announced the arrival of the first buses around 2145 to 2200 on Saturday, the 3<sup>rd</sup>.

Over the next few days, the need for more organization grew at Camp Gruber. The operation was much more than a mass care shelter. It was a disaster response requiring a more formal management structure such as the Incident Command System. The number of operators needed grew to 16.

The Oklahoma Highway Patrol assumed the role of Incident Command. The Oklahoma Department of Emergency Management ran operations. Communications (hams) came under operations. The operation at Gruber changed tactical call signs from Shelter One to Incident Command.

Mark, N7XYO, implemented a management structure for hams by creating positions called NIC's — Net controllers In Command. In his words, they were "point(s) of contact and head dude(s)" at their assigned sites.

Through all this, the regular nets held on the 146.94 repeater took place — the Tulsa Area ARES/RACES Net on Tuesday nights at 2100 and the Saturday Night BAT (Bringing Amateurs Together) Net at 2300.

The hams went to Camp Gruber to tie together the various agencies operating there. They also became the 911 system, because the post did not have one single number to call for emergencies.

### The Passing of the Storm

No storm lasts forever. Even a hurricane will dissipate or combine with another weather system. Just as the weather in affected areas returns to normal, the disaster responders were able to return to their regular lives.

On Saturday, September 10, Mark, N7XYO, made a communications needs assessment around the post by noting who else had radios and telephones together at the same location. He compiled a list of phone numbers for people to call for various services and resources. This meant that many dedicated, capable, and tired hams could finally think about going home. When ODEM announced that Amateur Radio operations were ceasing, representatives of all served agencies heartily gave their thanks for all the effort and time that hams dedicated to this endeavor.

### WINLINK 2000 AND APRS

After the Amateur Radio response to some recent disasters, Bob Bruninga, WB4APR, presented the idea of using the Automatic Position Reporting System to enable mobile and remote APRS users to access their Winlink 2000 e-mail accounts under emergency or unusual conditions. In response, the Winlink 2000 Development Team developed APRSLink.