The 21st Chemical Company Provides Aid in New Orleans

By Captain Aimee Hemery

On 5 September 2005—exactly one week after Hurricane Katrina ravaged the U.S. Gulf Coast—the 21st Chemical Company rolled out of Fort Bragg, North Carolina. Though the mission was not detailed prior to deployment, leaders and paratroopers of the company expected to support the relief cause with decontamination assets, traffic control, and security missions. Company personnel were eager to make a difference in the disaster efforts, but no one expected that within 72 hours, the company would make history amidst the crumbled structures and desolate streets of posthurricane New Orleans.

The 1,002 mile trip from North Carolina to Louisiana took the 22-vehicle convoy along interstates littered with punctured billboards, twisted road signs, and endless forests of snapped trees. The company slept in parking lots during the six-day journey before reaching their final destination—New Orleans Naval Base—on the southern side of the great Mississippi River.

The company, along with the main body of Task Force Katrina, quickly established base operations; deployed paratroopers to the flooded streets of downtown New Orleans; and prepared to provide personnel and equipment decontamination support to infantry, engineer, military police, and division support assets.

The threat of biological hazards and industrial waste was great in the waters where task force paratroopers were operating. The four fundamental decontamination principles—as soon as possible, only what is necessary, as far forward as possible, and by priority—were the foundation of operations. Performing decontamination operations—

- "As soon as possible" meant immediately decontaminating personnel and equipment when the workday was over. For most personnel, the end of the workday was between 1700 and 2000, which created a rush hour situation where the volume of decontaminating operations peaked.
- "On only what was necessary" focused on vehicle undercarriages (where most contamination collected), the interiors and exteriors of boats, and the vehicles on which the boats were placed.
- "As far forward as possible" meant that the decontamination site was established as close to the edge of the receding waters as possible and along a main avenue of egress out of the flooded portion of the city to allow for the timely decontamination of personnel and equipment and limit the spread of contamination.
- "By priority" meant decontaminating all personnel (military and civilian) who traveled through or worked in the flooded areas of the city. Urgent cases were treated on an individual basis.

Setting up operations in an urban environment presented constraints and limitations. The decontamination site had to have a reliable water source abundant enough to sustain large numbers of personnel and equipment and ample space to accommodate trucks, trailers, boats, and large equipment (including a turnaround area). On 10 September 2005, the 21st Chemical Company established a decontamination site in a secluded corner of the farmers' market, located on the southern boundary of the French Quarter. The site was situated about 10 miles forward of the naval base command post (over the Mississippi River) and in a severely damaged part of New Orleans. The site was centrally located in the city, close to civilian emergency support personnel, close to the flood waterline, and near one of the major boat-launching points.

It was also able to accommodate large equipment and personnel decontamination operations.

In the farmers' market, where fruit and vegetable stands once stood, canvas tents with attached shower pipes were erected. Sandbags covered with trash bags provided a rudimentary means of preventing contamination spread by channeling contaminated water away from the decontamination site and into the city sewer system. The parking lot and the traffic lane that ran along the site were cordoned with metal barriers to guide vehicles through the equipment decontamination site. Any available space was taken up by decontamination equipment, water blivets, and bottles of soap and bleach mixtures. With M17 Lightweight Decontamination Apparatuses, 3,000-gallon water blivets, maintenance tents, and 20 paratroopers, the 21st Chemical Company opened the division's first urban decontamination site.

Water, electricity, and latrine availability created obstacles that needed to be addressed immediately. Finding an adequate water supply was a critical and constant issue. Initially, the decontamination platoon coordinated with the New Orleans Fire Department to receive a daily supply of potable water. Although very efficient, this method of water resupply was only available the first three days. Due to an overwhelming demand, the fire department began limiting water distribution to their organic units. The second option was to tap into a fire hydrant. So with a borrowed wrench and improvised M17 hose adapters, water was pumped into blivets. Since the water was clearly nonpotable, it was treated with a 0.5 percent bleach solution, heated to 120 degrees in the M17, and pumped through shower heads for personnel decontamination operations.[1] To create a decontamination solution, generous amounts of antibacterial soap were also added to water blivets.

Company personnel were assigned specific areas of responsibility. The decontamination platoon operated two decontamination stations. Personnel decontamination was handled by 1st Squad; equipment decontamination was handled by 2d Squad. One paratrooper in each squad performed unit and personnel accountability operations. The platoon sergeant was responsible for the overall site management and distribution of personnel and resources. The platoon leader handled the coordination for resources, missions, media coverage, and quality assurance. The maintenance section of Headquarters Platoon ensured that the M17s and generators remained operational.

Individuals and units requiring decontamination reported to the personnel decontamination station where they were given a safety briefing that included the purpose for decontamination, how to minimize cross contamination while showering, and the type of decontamination solution being used. Individuals entering the shower area removed their contaminated clothing and were given 5 minutes to wash it in trash cans filled with hot, soapy water (changed every tenth decontamination). Individuals were then instructed to take "combat showers"—2 minutes to get wet, 2 to 3 minutes to lather in solution, and 2 minutes to rinse. After showering, individuals moved to a dressing area where towels, trash bags for wet clothing, and hand sanitizer were available. Groups of 8 to 10 individuals could be showered and have their clothing washed in about 8 minutes (60 to 70 individuals per hour).

For equipment decontamination, vehicles were lined up just east of the site, accounted for, and positioned in one of two equipment lanes. Passengers were offloaded and directed to the personnel decontamination site, while the driver remained with the vehicle. Vehicles were washed with hot, soapy water for 2 to 3 minutes to remove surface contamination, scrubbed with long-handled brushes, and rinsed for 2 to 3 minutes. The vehicles then moved to a staging area or continued to their final destination.

As waters receded, boat and vehicular traffic increased to assist survivors trapped in homes and businesses. With the increased amount of activity in the water already polluted by oil and fuel products, debris, and decomposing organic material, medical facilities reported an increase in illnesses among relief workers. Biological threats in the water were confirmed when four civilians died from Escherichia coli (E. coli) bacteria. The need for immediate decontamination of all personnel and equipment touching the water was soon realized, and word quickly spread about the decontamination site operated by the 21st Chemical Company. By the third day of operations, the site was processing more than 50 personnel and 100 pieces of equipment daily. Additional tents and

A civilian relief worker showers after his shift.

Total Decontamination Site Operations			
Organization	**Vehicles and Equipment**	**Boats**	**Personnel**
82d Airborne Divison	274	34	344
National Guard, Army Reserve, Navy, and Coast Guard	193	36	37
Emergency medical service	62	0	2
Police, fire department, border patrol, and U.S. marshals	146	1	11
Department of Homeland Defense, Department of Transportation, Drug Enforcement Administration, and Federal Emergency Management Agency	59	2	0
Other agencies	7	0	0
Civilian	36	0	3
Media	3	0	0
Total	**780**	**73**	**397**

pallets of bleach, soap, and hand sanitizer arrived on the fifth day of operations in support of the effort.

To accommodate the increased traffic, the company began operating the site 24/7. Additional decontamination sites were discussed, but a number of issues arose regarding the separation of personnel and equipment operations due to limited manpower. With only 18 people to operate the personnel and equipment facilities, rotating work cycles was impossible. And splitting up equipment needed for decontamination operations opened the door to potential problems. If the backup M17 failed to work, a replacement would be needed. Also, contaminated personnel who arrived in dirty trucks and boats would still be contaminated when they returned to their vehicles and proceeded to the personnel decontamination site, causing vehicle recontamination. Separating the facilities would have been counterproductive. Maintaining operations at the farmers' market location presented the best solution. And the site had already developed an excellent reputation!

Additional decontamination missions were being requested daily. Though most requests could not be fulfilled due to around-the-clock operations and limited personnel and equipment, the company did commit squads to help bleach the emergency rooms of Charity and Tourro Hospitals during the last five days of operations.

When the decontamination site closed after eight days and more than 160 hours of operations, the 21st Chemical Company had decontaminated 780 vehicles and pieces of engineer equipment, 73 boats, and 397 people.

Endnote:

[1]For a full 3,000-gallon water blivet, 6 to 7 gallons of 0.5 percent bleach solution was added. Though the bleach solution was highly diluted, it was still potent enough to fade uniforms and leave a persistent scent on personnel.

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