

MILITARY AFFILIATE RADIO SYSTEM (MARS)
JOINT EXERCISE (Air Force, Army, Navy/Marine Corps)
DEEP FREEZE '07 - 10 FEBRUARY 2007

After Action Report – 20 February 2007
James Edmonds/AFA1CM
Exercise Coordinator

PURPOSE:

Deep Freeze '07 was originally created as a joint Air Force, Army, Navy/Marine Corps disaster response communications exercise for Air Force Military Affiliate Radio System (MARS) Region 1, which encompasses the 14 Northeast, Middle Atlantic, and Midwest states. As departments, agencies, and organizations with which MARS has worked before were informed of the exercise, the opportunity to expand Deep Freeze '07 into a major multi-agency communications exercise emerged.

Several agencies and organizations desired to participate by requesting permission to directly check into the MARS Command & Control Net on its Air Force frequency, or to connect with the Command & Control Net through the National Communications System Shared Resources (SHARES) Net.

Other disaster response agencies, such as the Amateur Radio Emergency Service (ARES), the Radio Amateur Civil Emergency Service (RACES), and the Civil Air Patrol (CAP) saw the opportunity to hold their own local disaster drills in concert with Deep Freeze and easily dovetail into the exercise by collocating MARS Liaison Stations or establishing a VHF link to a MARS Liaison Station. The Transportation Security Administration and the New York State Division of Military and Naval Affairs (parent command of the Air National Guard, Army National Guard, NY State Guard, and NY Naval Militia) sent observers to Hancock Air National Guard Base in Syracuse, NY where the 174th Fighter Wing NY Air National Guard and the 134th Central New York Group Civil Air Patrol hosted the exercise White Cell controllers.

RESULTS:

Joint MARS Voice and MT63 Digital Traffic Nets – 144 stations/ 134 exercise messages transmitted and received

Air Force MARS Phone Patch Net – 10 stations/ 7 exercise phone patches completed while continuing to respond to phone patch requests from US military aircraft

Army MARS WinLink Digital Traffic Net – 70 stations/192 exercise messages transmitted and received

ARES/RACES Amateur Radio Nets with MARS Liaison Stations – 101 stations/ 17 EEI messages transferred to MARS in addition to numerous Red Cross and EOC messages passes within the ARES/RACES Nets

SHARES Net – 5 stations/ 2 messages transmitted and received

NY Military Emergency Radio Network – 6 stations and continuous on-the-air training and testing with coordination through MARS Liaison Stations to the Command & Control Net

SCOPE:

The exercise scenario was built around the “Storm of the Millennium” which devastated the area of operations with snow, sleet, freezing rain, rain, high winds, massive snow drifts, flooding, power outages, building collapses, road wash-outs, and disruptions to airport and harbor operations.

Participants and supporters of Deep Freeze '07 include: all services MARS, NY Air and Army National Guard, NY State Guard, US Air Force Research Laboratories, North Carolina Air National Guard, Georgia Air National Guard, US Air Force Youngstown Air Reserve Station, Civil Air Patrol, Transportation Security Administration, Amateur Radio Emergency Service, Radio Amateur Civil Emergency Service, US Department of Agriculture, US Coast Guard, American Radio Relay League, Medical Reserve Corps, Central NY Regional Resource Center, Iroquois Healthcare Association, National Weather Service, Department of Homeland Security SHARES Program Office, University of Pittsburgh Medical Center, Allegheny County Emergency Management Agency, and numerous other state and county Emergency Operations Centers.

The Operations Plan for Deep Freeze '07 called for the creation of a Combined Communications Network consisting of the White Cell Exercise Control function which would simulate the FEMA and Northern Command (NORTHCOM) federal response planners, the joint Air Force, Army and Navy/Marine Corps MARS network, participating Air and Army National Guard units, and the civilian amateur radio emergency response organizations.

Damage Assessment and Impact Assessment reports were taken from Amateur Radio, MARS, and military field teams deployed throughout the 14 state area or operations, transcribed into Department of Defense/MARS Essential Element of Information messages, and communicated by voice and digital modes to the White Cell.

In addition, the Central New York Regional Resource Center and the University of Pittsburgh Medical Center conducted a patient evacuation drill within the context of the Deep Freeze exercise.

DISCUSSION:

The goal of the Deep Freeze '07 exercise was to create the combined military, government, MARS, and civilian communications net to collect and disseminate information on the effects of the simulated disaster. In doing so, the Exercise Planning Team hoped to identify inefficiencies and disconnects preventing the smooth flow of information from the field to the federal emergency response planners.

The unique capabilities of the Combined Communications Network include:

1. Effective combination of the resources of the Air Force, Army, and Navy/Marine Corps MARS organization is a complex joint operation.
2. Utilization of the special communications capabilities of MARS such as special purpose voice nets with frequency agility to adapt to changes in propagation, MT63 and WinLink digital modes, 10 phone patch stations dispersed across North America to connect air and ground units with their operations centers, command posts, and air control parties.
3. Interoperability and communications with deployed Air National Guard aircraft and Tactical Air Control Parties.
4. Access to information available through the amateur radio ARES and RACES nets.
5. Unique ability to channel critical information to higher military and civilian government Operations Centers for development of situational awareness.

The level of participation and exercise messages transmitted and received exceeded all expectations! Operations reports indicate that over 400 people took part in the exercise as members of MARS, ARES, RACES, CAP, SHARES, the military, National Weather Service, Red Cross, Department of Homeland Security (TSA and US Coast Guard) Medical Reserve Corps, hospital staff, and numerous state and county EOC's.

Over 325 Essential Element of Information (EEI) reports, Field Spot Reports, and tactical coordination messages were sent and received.

OBSERVATIONS AND RECOMMENDATIONS:

1. The plan to launch Deep Freeze '07 on 10 FEB 2007 was approved in NOV 2006. Announcements of the exercise were issued beginning the first week of DEC 2006. As late as 9 FEB 2007, the day before the exercise, the Exercise Planning Team was contacted by individuals and organizations stating that they had just heard of the exercise and wanted to participate.

Recommend that two large-scale Joint MARS exercises be held each year with 6 month advanced notification to all MARS services and organizations desiring to participate in these multi-agency exercises.

2. Deep Freeze '07 was planned to last 4 hours. Since this was the first exercise of this type, it was not known what level of participation to expect. In an effort to

utilize the Crawl-Walk-Run approach to training, it was thought that asking the volunteer participants to devote 4 hours on a Saturday was reasonable.

In actuality, MARS members began creating and transmitting their EEI reports almost 24 hours in advance of STARTEX and continued for 48 hours after the announced ENDEX.

In addition, some federal agencies that were interested in participating stated that their employees would not be available on weekends.

Recommend that large-scale exercises such as this be scheduled for Friday, Saturday, and ½ day Sunday to allow all individuals and agencies an opportunity to participate. The interest is certainly evident.

3. The atmosphere concerning joint operations and mutual aid has dramatically changed since 9/11 and was strongly affected by the events surrounding Hurricanes Katrina and Rita. Where previously there was a sense of apathy, isolation, or even competition among various agencies, today there is a strong sense of cooperation and “jointness.”

Deep Freeze '07 was the largest attempt to fuse the information gathering capabilities of ARES, RACES, CAP, National Guard, and other response agencies with organization direct communications links through MARS to the Department of Defense (DoD) and Federal Emergency Management Agency (FEMA). The reporting of EEI messages, Spot Reports, Impact Assessment and tactical messages to the White Cell Controllers was essentially seamless.

4. Prior to the STARTEX on 10 FEB, the Exercise Planning Team was continually refining the Operations Plan and Communications Plan as well as creating the systems necessary to support a large-scale exercise. Some of these systems already existed for the transmittal of actual EEI and other emergency traffic, but not for what amounted to being a Field Training Exercise and detailed simulation.

Recommend that a Joint MARS Standing Operations Procedure (SOP) be established for the addressing and transmittal of digital and voice messages in an exercise.

5. There was a high degree of confidence among the Exercise Planning Team members that the exercise would go well. It was emphasized to the members that their taskings were nothing new. They were simply to perform their tasks in accordance with the MARS Memorandum of Instruction and common sense.

Leading up to the exercise, the MARS members were encouraged to just do what they do every day in terms of maintaining net discipline and passing formal traffic. The Net Manager arranged for permission to use multiple frequencies throughout the HF spectrum to provide the necessary frequency agility to adapt to

changing propagation conditions. This allowed for coordination on the Command & Control Net and the passing of traffic on the Army MARS, AF MARS Phone Patch, and World Wide Space Support Network frequencies.

This utilization of a matrix of frequencies, each with an assigned experienced Net Control Station operator, was extremely effective.

6. Incorporated into the Deep Freeze '07 exercise was a patient evacuation exercise involving the Iroquois Healthcare Association, the Central New York Regional Resource Center, 8 Upstate NY hospitals, the Amateur Radio Emergency Service (ARES), the Radio Amateur Civil Emergency Service (RACES), the Medical Reserve Corps (MRC), the NY Air National Guard (NYANG), the Military Affiliate Radio System (MARS), the Allegheny County, PA Emergency Management Agency, and the University of Pittsburgh Medical Center.

The scenario called for each hospital to generate 5 simulated patients to be evacuated, develop detailed Patient/Resident Emergency Critical Evacuation Information forms, and a single Patient and Medical Record Tracking Sheet which is a patient manifest of the total number of patients to be evacuated from the hospital.

The patient manifests were to be given to the ARES/RACES operators in the hospitals to transmit the summary information through a network of relays to the Airhead established at the Hancock Air National Guard Base. Patient transport information was to be given to the joint MRC/NYANG medical team for preparation for incoming patients.

When the simulated patients were to arrive, Exercise Staff gave the detailed Critical Evacuation forms to the medical team as if these forms had arrived with the patients. The medical team was to reconcile the information between the civilian EMS forms and the military AF IMT 3830 Patient Manifest and AF IMT 3899 Patient Movement Record forms.

Once the patients completed the hand-off from the civilian EMS system to the military patient transport and tracking system, they were simulated to be loaded onto a C-130 transport to the Pittsburgh Airport where the process would be reversed, the patients transferred back into the civilian EMS system, and transported to the University of Pittsburgh Medical Center.

An immediate problem arose when radio operators did not arrive at three assigned hospitals because of incomplete or incorrect pre-exercise instructions.

An additional problem occurred when some hospitals confused the detailed patient status form with the summary patient transport manifest forms and insisted that the radio operators transmit all of the detailed patient medical information this created significant delays on the ARES voice nets.

Further, when the military AeroMed personnel started reviewing the patient status sheets, certain patients were eliminated from the Air Evacuation. There is a list of specific criteria to allow a patient to be evacuated on board an aircraft climbing to higher than 2,000 feet, and this was not known by the civilian medical personnel.

The lack of a single controlling authority at the Airhead also contributed to delays, debates, and a lack of efficiency.

The leaders of the Medical Reserve Corps, military AeroMed Team, and ARES are providing their individual After Action Reports.

Subsequent discussions with the Syracuse coordinator and the Upstate NY Federal coordinator for the National Disaster Medical System revealed that their emergency response plan calls for the deployment of Disaster Medical Assistance Teams who have numerous responsibilities, including providing the field coordination between the local civilian EMS personnel and the evacuation transport resources, military and/or civilian.

Follow-up meetings and closer coordination with the National Disaster Medical System is planned by all agencies involved in patient evacuation.