



Army MARS: The Road Ahead

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MARS: The Defense Department's Auxiliary Radio Force

New modes of HF radio communications coupled to increased interest in both long and short range radio communications offer MARS the opportunity to increase participation in both of MARS traditional missions for the Department of Defense: support to military operations and Military Support to Civil Authority (MSCA). Today Military Support for Civil Authority goes by the new name of Defense Support to Civil Authority (DSCA).

Defense Support to Civilian Authority is becoming a stronger mission for MARS as the links between the Department of Homeland Security and the Department of Defense strengthen. However MARS must be ready for both missions and hence needs to be operationally competent for both missions. This means that MARS members must understand military radio networks and their purposes for the military support mission; and the documents and culture governing homeland security as addressed by the Department of Homeland Security, its many subordinate federal agencies, state and sub-state agencies as well as Non-Governmental Organizations NGOs. MARS and its members therefore need to be flexible and aware that they, in an emergency, may be the key to all hazards communications involving many situations and entities.

MARS traditionally consists of unpaid amateur radio operators volunteering their time and equipment. Increasingly however, MARS operations are carried out by paid individuals who are members of both military and civilian entities who are trained in MARS procedures and use MARS frequencies and systems on behalf of their agency's missions. These paid individuals are subject to the work requirements of their individual agencies and are always available for emergency duty. In a sense the paid individuals are becoming the active radio force while the unpaid volunteers become the reserve force. In today's world both groups need to be trained and ready.

MARS members must hold amateur radio licenses issued by the FCC and also undergo further training in military communications procedure and Incident Command System (NIMS/ICS) practices. Upon completion of the initial training, the member receives a military station license authorizing use of dedicated military frequencies not available under the Amateur license. The initial training is followed by a continuous flow of more advanced training and exercise participation. The U.S. Army, Air Force and Navy Marine Corps each operate MARS branches. The three branches share the same mission and collaborate in performing it. Army MARS is designated by the Department of Defense as the lead for homeland security support. The three MARS branches are committed to working together to provide the necessary support required in order to fulfill our responsibilities.

The New Emphasis in: “The Road Ahead” is based on analysis of plans and procedures developed from the experience of 9/11/01 and Hurricane Katrina and field-tested in actual deployments during the 2008 hurricane season and subsequent winter events. This experience, under full emergency conditions, included services provided to the National Guard, to state and local government entities at all levels and to non-governmental disaster relief organizations sheltering evacuees.

Since the national framework of emergency response constantly evolves (as does the technology of communication) “The Road Ahead” is not intended as a detailed plan but rather a road map setting the broad direction and priorities for Army MARS leadership. It is, in essence, a mandate for higher levels of training and operational activity at all levels with immediate effect upon promulgation by Chief, Army MARS.

Subsequent annexes, guides and manuals will spell out the details, including a complete revision of the Basic Training Guide, the new Army MARS Winlink 2000 Operations Manual, and individual SOPs for HF Net Operations, Digital Mode Communication, and Phone Patch Operation. All of these new training materials will incorporate the principles reflected in our National NIMS/ICS standards.

It needs to be recognized, however, that no compendium of regulations and procedures can possibly anticipate every situation to be encountered in MARS operation. If a member is uncertain about the “official” way to deal with an issue, the proper response is to reflect on training and experience, apply reason and common sense, and calmly proceed with getting the job done.

Back at the Beginning:

The uniqueness of MARS lies in the fact that a national security mission is entrusted to civilian volunteers who supply their own equipment, conduct their own training and operations and are commanded in the field by fellow volunteers. It has been that way since the early days of radio. The U.S. Army Signal Corps, short of funds and manpower following the First World War, approached the amateur radio community in 1925 seeking assistance in preparing its response for domestic disaster as well as R&D and training support. The American Radio Relay League (ARRL), then as now the preeminent organization of hams, readily signed on.

The early Army Amateur Radio System was replaced by MARS after World War II. Air Force MARS became a separate branch in 1948, Navy-Marine Corps in 1962.

Providing “additional radio channels of communication throughout the continental limits of the United States that can be used in time of an emergency” was the primary mission designated by the Signal Corps in its 1925 agreement with the American Radio Relay League. It hasn’t changed, although from the Korean Conflict through Vietnam and the first Persian Gulf War of 1991, MARS concentrated on providing U.S. service personnel abroad with free telegram and phone patch services.

The task of collecting situational information developed in a hurry after Department of the Army HQ found itself unable to obtain “ground truth” on the deadly Northridge CA earthquakes of 1994. Land lines were destroyed. Via HF radio from Army MARS HQ, members were tasked to survey the status of transport and medical facilities so relief supply could be coordinated. Their exemplary response led to the still active MARS “early warning” program serving other emergency response agencies.

Army MARS: The Road Map

In order to accomplish our MARS mission the force needs three components. First, it needs an active, well trained, disciplined and dedicated membership. Secondly, it needs the communications tools to accomplish the mission in an effective manner. Thirdly, it needs the “Army, Joint and Federal Agency” groups to recognize the value of the communications services that we are able to provide and plan for the use of these vital assets in any emergency situation. These three needs can best be accomplished by:

1. Introducing new and more effective standards and methods of training.
2. Frequent use of the various modes of communication technologies that are available to us with a focus on digital record traffic and interoperability in an all radio process.
3. True relationship building at all levels within our defined served agencies.

Our personnel need a nationwide training program that not only includes training in how to operate in the MARS environment, but we also must include training in how to properly interface with our customers (interoperability). Currently neither is sufficiently in place. The training will likely take the form of the interactive style ICS courses as well as other sources and forms of training that will differ from our traditional on the air net approach. Our training must and will be consistent throughout the entire force.

Before 9/11/01: During the “MARSGRAM” days, the vast majority of the work done by MARS members did not involve leaving the “radio room”. Previously one of the attractions of MARS was the ability to serve without having to leave the comforts of the member’s home. The new mission requires a significant degree of personal contact with federal, state, and other agency personnel. MARS has historically specialized in “long haul” traffic. The recent addition of “local” traffic provides a means to support large metropolitan areas or population centers. The decision as to which locations below the State Emergency Management or National Guard level are to be directly supported by MARS should be determined through joint planning with the respective state level organizations. The majority of local traffic has been, and will likely continue to be the responsibility of other EmComm organizations (i.e. ARES, SATERN and RACES) within the “amateur” community. The primary exception to this may be the major population centers as defined by the state and federal governments.

The transformation of the MARS force from a group that basically stayed in the home radio room to a group that is fully trained with deployable elements and capable of meeting the needs of our served agencies, while complementing the rest of the Emergency Communications Community, is one of the prime challenges to be faced. Although it is not envisioned that all MARS members will be required to deploy it is very important that we have a sufficient number of Emergency Response Teams available to meet the defined needs of our served agencies.

It is expected that there will be more occasions when the membership is going to need to be ready to deploy to agency locations to supplement agency resources in providing access to the "HF Radio Email" system as well as use other communications tools either through prepositioned systems or with personal "Go-Kits". The membership needs to stay focused on the mission and not get distracted and drawn into other areas outside of our mission and defined areas of expertise. We would be operating under the guidelines of the NIMS/ICS process as defined by the agencies which we serve.

The primary method for moving hard copy message traffic is currently the MARS HF Winlink 2000 messaging system. Utilization of this "HF Radio Email" technology requires a wider implementation throughout the entire membership. Effective use of VHF 'hubbing' around large metro areas will provide an efficient means of optimizing access to our national HF (long haul) system. In addition, our renewed focus to revive the concept of phone patch traffic for voice relay into and out of an effected area needs to continue to be expanded. Other digital means must also be used for the dissemination of bulletins and messages throughout the force.

Technology is constantly changing and MARS needs to continue experimenting and keeping ourselves involved in developing new methods of communication and modes of operation. Again, the emphasis needs to be on training the force, consistently on a nationwide basis, to use these tools professionally and to interface them both effectively and efficiently with our served agencies.

Working with Partners:

Our interface with agencies needs to follow a two-pronged approach. To be most effective, our interface needs to use a top-down and a bottom-up approach. HQ Army MARS will continue its efforts to encourage agencies at the national level of the value of using MARS. The primary responsibility for the bottom-up coordination rests with the Region and State Army MARS Directors. The bottom-up approach requires the membership to get involved at the lower levels, including one-on-one contact with the specific served agencies so that information about the local interface goes up the agency chain of command. Shared training and exercises will go a long way toward building this relationship.

We exist to provide a service to our “served agencies” and cannot and should not expect them to radically change their procedures to fit our system. We must be willing to provide our services in a manner that compliments their methods and procedures as guided by the federal NIMS/ICS process. Cross training is extremely important in order for MARS and the served agencies to properly interface with each other. We should not lose sight of the fact that our long haul capabilities serve to complement the efforts of local EmComm organizations (RACES, SATERN, ARES, etc.).

As Army MARS looks to the Road Ahead our prime mission is defined as: “Operate and provide adjunct communications capabilities to support Army, Joint and Federal Agency Disaster Response to civil authorities as prescribed by DOD”. The key to being able to integrate with these agencies is successful planning and training on multiple levels. Training for them and with them is critical to the success of our MARS mission.

Army MARS: The Authority

Overall policy guidance for MARS administration and operation is provided by the Department of Defense (Assistant Secretary of Defense for Network and Information Integration). Department of Defense Directive 4650.2 and AR 25-6 authorize certified volunteers to operate in an official MARS capacity.

Under the provisions of Army Regulation 25-6, Army MARS is ‘directed and managed’ by Headquarters, Department of the Army through, the Network Enterprise Technology Command/9th Signal Command (Army), based at Ft Huachuca AZ.

The Chief, Army MARS, is the Army’s appointed Executive, and is assisted by a small core of fulltime contract civilian personnel at Ft Huachuca and a Special Staff consisting of well-qualified and experienced senior volunteers. In the final days of 2008 a new Army MARS headquarters gateway station began operation at Ft Huachuca, complete with state-of-the-art transceivers and antenna systems.

MARS operators are organized into 10 CONUS regions coinciding with FEMA US regions and led by region directors (RDs) appointed by HQ Army MARS from the volunteer membership. Two more regions exist in Europe and SWA. Similarly, appointed state directors (SDs) report to the RDs and are directly responsible for leading, recruiting and training members as well as establishing liaison with state emergency management agencies and National Guard commanders.

At the end of 2008, MARS SDs were tasked by Chief Army MARS to initiate state level liaison arrangements in all 50 states.

Army MARS: The Vision and Mission Statement

Vision: The Army's single adjunct communications service provider achieving Army, Joint and Federal Agency interoperability over MARS HF and VHF networks using full spectrum voice and digital operations, attaining disaster Emergency Communications response superiority.

Mission: Operate and provide adjunct communications capabilities to support Army, Joint and Federal Agency disaster response to civil authorities as prescribed by DoD. Provide military communications domain for these operations, and essential Techniques, Tactics and Procedures to enable full spectrum voice and digital operations for all authorized entities within the Army MARS Domain. Prepare for, train and manage Army and Joint Civil Support Disaster Response.

Army MARS: The Tasks and the Services

The Army MARS tool kit has expanded by orders of magnitude to meet the unfolding needs of homeland security. Every member is expected to possess a broad knowledge of radio theory, FCC regulations and on-air operation. The FCC's General Class license will be required of members of the MARS team. The term "amateur" in this use applies to the FCC licensing classification only, whereas "professional" is the standard that MARS operators must pursue. This is true not only for on-air operating style but also the personal image we convey to the official personnel with whom we work. They will reasonably expect of MARS the same level of speech, dress and decorum we expect of them and they expect of themselves. On the job we are ambassadors for MARS, we are professionals working with professionals.

General Requirements:

1. A General Class Amateur Radio License will be a requirement for MARS members. Technician Class licensees will have a period of one year to upgrade to General Class.
2. National Incident Management and Incident Command System courses will be required of all members. The following Independent Study (IS) courses are currently required: IS100, IS-200, IS-700A and IS-800B. Completion of these courses will give today's Army MARS membership the required familiarity with the terminology and structure that they will encounter while providing communications services to our federal, state, other EOC partners. These courses are also required by some Federal Agencies for credentialing. Army MARS members will be required to complete these requirements within one year. As these courses change and are upgraded, Army MARS training requirements will change accordingly.
2. Members are required to have access to e-mail. Current MARS documentation

(bulletins, alert-notifications, etc.) will be distributed via e-mail. Future training may also require internet access to complete online courses and email to send and/or receive other training materials. The Internet also allows Telnet access to the Winlink 2000 message system.

Members will also be required to qualify on each of the basic services listed below. A member's advancement will be governed by the acquisition of specialist skills spelled out later in this document.

General duties:

The following participation is expected of all members:

1. Collecting "early warning" situational information on developing emergency situations (known internally as "EEIs") for transmission to designated agencies. This requires ongoing liaison with local agencies.
2. Participating in regional HF and VHF radio networks using voice and digital modes for command and control and situational information messaging. These traffic, training and exercise nets immediately convert to emergency status if needed, providing interoperability between states and regions.
3. Serving as a Net Control Station for training, exercise and emergency nets
4. Using the Army MARS Winlink 2000 "HF Radio Email" system and other digital modes for the delivery of longer written communications from, to and between supported agencies.
5. Participating, where appropriate, in radio nets and exercises conducted by supported organizations such as the Radio Amateur Civil Emergency Service (RACES), the Salvation Army Team Emergency Radio Network (SATERN) and/or the Amateur Radio Emergency Service (ARES).

Specialist Qualifications:

Some, but not all, of the members will undergo individual evaluation, training and drill activity prior to assignment to the special services provided by Army MARS during emergencies. These will include, but are not limited to:

1. **Winlink RMS sysop:** This individual is uniquely trained and is able to maintain a 24/7 HF and/or VHF high speed digital station that is capable of operating on multiple frequencies, be supported with a high speed internet connection and have adequate back up power equipment to maintain the server operation during power interruptions.
2. **Phone Patch Operations:** This service bridges disrupted telephone lines by linking each party to a MARS phone patch station still accessible by land line. The two MARS stations, using telephone interface equipment, complete the circuit by radio.
3. **SHARES net participation:** Designated Army MARS members join nets operated by the **SH**ARED **RES**OURCES (SHARES) program of the National

Communication System linking federal agencies by HF radio. SHARES frequency allocations help relieve the load on military channels and to expand the interoperability between Government and Nongovernment Organizations (NGO).

4. **Staffing Assistance for supported agencies.** An EOC or other civil or military command may ask SDs for help from appropriately trained MARS operators not otherwise engaged in an emergency situation. Shared training between the MARS volunteers and the served agencies is critical to the effectiveness of this function. Contact your Army MARS SD.

5. **Monitoring and assisting in development of new communications technology:** Army MARS members are encouraged to offer experience that will improve the overall effectiveness of force communications. There have been certain nets designated for experimental purposes which offer the opportunity to evaluate new technologies. All such efforts should be coordinated through the "chain of command".

6. **State and Region Staff Positions:** Each of the state and region billeted positions require effective leadership and strong technical skills. If you want to lead, then lead train, learn, do. Every effort should be made to develop these skills. Serving as an assistant for a period of time with an experienced leader can provide an opportunity to develop effective leadership skills. In addition there are several advanced IS courses which are provided by FEMA and the State EMA organizations.

Beyond the Road Ahead

This document is published with the frank intention of initiating profound change in the way members of Army MARS approach their mission and their tasks.

The Army MARS mission is constant but dynamic. It says to emergency response agencies at every level: We're here to help. What do you need?

The tasks, modes and methods we employ or provide will vary. During the Korean and Vietnam conflicts, we provided MARSGRAMS and phone patches. During the Northridge Earthquake of 1994 and after, we provided situational information reports. In the aftermath of 9/11 and Hurricane Katrina, we provide E-mail over HF Radio (Winlink), augmenting with a full spectrum of older HF modes. Change is the new normal in Army MARS, and change will continue.

The great strength of Army MARS has been the ability of its members to identify new opportunities for service and then quickly apply their skills and energy to the new need.

Army MARS has traditionally drawn strength from the flexibility of its organizational structure and the technical skills of its membership. In the violent, volatile post 9/11 world of today and tomorrow, a third factor assumes importance. It is the imagination of Army MARS leaders and members to prepare a response to disaster scenarios never before faced that strengthens the value of Army MARS to the American EMCOM community.

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The Tiger Team Members were:

Bob Mims, AAA1RD (Team Leaders)

Michael Barrett, AAA9TS

Paul Drothler, AAV4DJ

Pudge Forrester, AAA9GL

Pat Lane III, AAA9EC

Dave Martin, AAA6TX

Bill Sexton, AAA9PC