SET-2011

Exercise Strategy

Strategy for the October SET

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Abstract

Each October the ARRL holds a national event called the Simulated Emergency Test. Although ARRL's view of this event is more of a contest, it has been the practice of the Michigan Section to use the SET as an exercise opportunity.

For the past few years the Section has been using exercises as an opportunity to improve the interface between the ARES and NTS organizations. During the May 20011 National Level Event, additional opportunities for improvement became apparent. This document is an attempt to elucidate some ideas which would permit the 2011 Simulated Emergency Test to be used to help move those improvements forward.

1. Introduction

Each October, the ARRL holds a "Simulated Emergency Test". Although it provides an excuse for an exercise, the SET is actually a contest. Unlike most contests where points are awarded for the number of contacts and number of sections contacted, points for SET are awarded for the number of agencies involved.

For several years, Michigan has used SET as an excuse for an exercise, and has focused on various skills. In some years we focused on packet, others on deployment, more recently we have been working on the NTS interface.

After the May NM11 exercise, a post exercise meeting was held at the Midland Hamfest. A number of issues became evident during the May exercise which were discussed. Much of the discussion centered around congestion at the SEOC.

With this backdrop, this paper introduces some thoughts for the 2011 SET and how we might use it to test some alternative methods for interfacing with the SEOC.

2. Capabilities to be exercised

Exercises should be designed to test specific capabilities. FEMA has provided a "Universal Task List", identifying the specific tasks reqiured for responding to all hazards. These tasks are grouped into five areas; an area for each of the emergency management missions, and a "Common Capabilities" area representing those capabilities needed across all missions:

- Common Capabilities
- Prevent
- Protect
- Respond
- Recover

Each of these areas is further subdivided. As communications providers, much of our responsibility falls under the Common Capabilities area, and especially the subcategory, "Communications". However, most of the tasks within the Common Capabilities area apply to us, as do many of the tasks within the other mission areas, especially Respond. A complete list of the tasks witin the Common Capabilities area is included in the appendices to this paper

Based on the deficiencies exposed in the May exercise, it would make sense to focus the next exercise on two tasks:

- ComA2.4.3.1 - Develop Standard Operating Procedures and Standard Operating Guides in support of Emergency Operations Plans
- ComC1.2.2 - Develop common communication and data standards to facilitate the exchange of information in support of response management

Clearly, many of the taks within the Communications section are applicable to almost any action taken by ARES/RACES, but these two seem appropriate areas of focus for this upcoming exercise.

For reference, the tasks within the "Common Capabilites" are listed in Appendix A. Appendix E lists all the Target Capabilities, along with the top level headings for the tasks within those capabilities. The entire Universal Task List encompasses thousands of tasks.

3. Issues to address

A number of issues have arisen in past exercises that should be addressed. Not all will or should be addressed in a single exercise, however, some of the key issues should be touched, and are enumerated below.

3.1. SEOC as Net Control

On some occasions, the SEOC has atrempted to act as a net control station. While at times this has worked, at other times, especially when there is a lot of traffic or when the SEOC becomes particularly busy, this has not worked well. Indeed, most counties have found that it is better to run SKYWARN net control from an isolated location, so NCS may focus on the net, and be isolated to a degree from operational distractions. During some SEOC activations, the level of distraction at the station, even though it is isolated from the SEOC proper, can be substantial.

Given the large number of stations that are active when the SEOC station is active, it may not even make sense for the SEOC station to join a net, let alone serve as NCS.

3.2. Interface between ARES and NTS

In recent exercises the Section has attempted to route most taffic through NTS. This leads to a large number of advantages, and has worked well. However, improvements are still possible. A few of the shortcomings noted:

- NTS operators do not always know what frequency to report to or when
- ARES operators are unaware of nets or their capabilities
- ARES operators are unfamiliar with NTS procedures
- ARES operators are unfamiliar with directed nets
- NTS operators are unfamiliar with ARES procedures and organization
- NTS leadership does not take ownership of emergency operations

4. Possible Approaches

If one steps back and looks at what we are attempting, it seems we largely have the capabilities in place, but have failed to exploit them. It would seem that falling back to "standard" operational procedures, and adding some permanance to the relationships may help significantly.

4.1. ARES-NTS Relationships

For this exercise, it is proposed that we implement what we hope to become a more or less permanant relationship between the Affiliated Section Nets and the ARES Districts. Each District will be assigned a net, and each net a District, with the expectation that this relationship will remain past the exercise, extending not only to future Section-wide exercises, but quite possibly also to District and local exercises where it becomes appropriate.

It is expected that each Net Manager will develop a relationship with a District Emergency Coordinator. In this way each can develop an understanding of the skills, capabilities and needs of the other. We have moved in this direction in earlier exercises, but never with the intention that the relationship be more or less permanent. The nets do not neatly overlay the Districts, so the relationship isn't always obvious.

Key criteria for matching the District with the net should include such considerations as the net's coverage, distribution of membership, and proximity of the Net Manager to the District Emergency Coordinator.

4.2. Liaison to the SEOC

It has long been the practice of traffic nets to collect traffic on a net, then send a liaison to another outlet to forward the traffic. Rather than encourage congestion on the SEOC operating frequencies, it only makes sense for the nets to each send a liaison to SEOC to bring traffic to/from the SEOC station.

Since the SEOC can operate two frequencies simultaneously, and the nets need only one member to act as liaison to the SEOC, rather than 83 stations all trying to contact the SEOC on a single frequency, there would be only four stations on each of two frequencies. This would imply that some phone nets would contact the SEOC on CW, but all of the HF nets (at least) have some CW capable members.

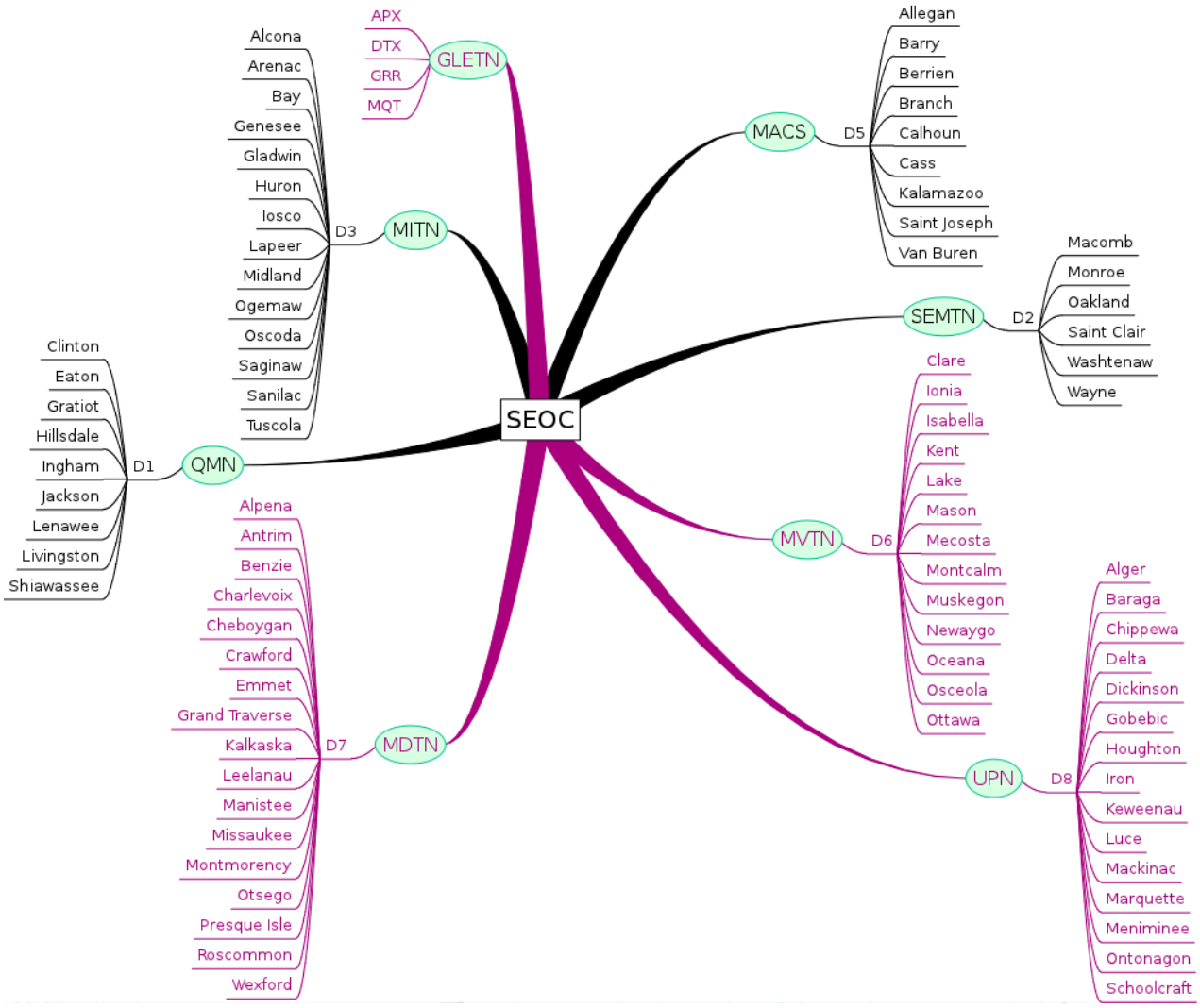

Figure 1. Traffic Flow

The above figure outlines the proposal for alignment between Districts and nets. Black lines indicate liaison with SEOC on 3.563 MHz, while violet lines indicate contact on 3.932 MHz.

4.3. Net ownership of response duties

In previous exercises, nets were often micromanaged by the STM, specifying meeting times, frequencies, etc. This worked better than giving vague instructions

to the net manager with the expectation that they would "deal with it", but in the event of an actual incident, is quite unrealstic.

If they are to be at all useful in an actual event, the nets must understand their responsibilities, and net managers must develop strategies for activating their net at unusual times and/or frequencies. By assigning Districts to nets more or less permanently, the nets have a better defined scope, and a "customer" with whom they may develop a relationship.

For the coming SET (and hopefully future exercises and incidents), it is expected that each Net Manager will contact the corresponding District Emergency Coordinator and arrange net schedules, frequencies, net controls and liaisons. Note that all nets should expect to send a liaison to the SEOC early in the event, but other times need to be worked out between the net and the District.

Since exercises typically last only a few hours, a net may choose to meet for the duration of the event, or may elect to schedule specific times of contact so that the counties have targeted times for which to prepare traffic. While most nets may choose to meet on their normal frequencies, note that the SEOC will be occupying the GLETN and QMN frequencies, which happen to be the Michigan phone and CW emergency frequencies, so these nets will need to select alternate frequences.

4.4. "Outlier" nets

There are a few affiliated nets which have unusual duties or are omitted. There are seven districts and four NWS offices. The NWS offices do not offer the complexity of a District; i.e. they have no further subdivisions. There are some nets that share a Net Manager. Not every District has a Net Manager residing in that District. This inevitably leads to a certain amount of unevenness in how the nets are treated. The strategy shown above attempts to minimize that unevenness.

MITN and SEMTN share a Net Manager. That Net Manager happens to reside in a district not fully covered by SEMTN, but adjacent. That Net Manager has double work for this exercise.

TMMTN is in District 3, but covers only a small fraction of that District. The Net Manager for TMMTN is also the Net Manager for GLETN. In addition, GLETN has some special challenges, so rather than assign that Net Manager double duty, TMMTN was left out of the plan.

GLETN has the widest coverage of all the nets, so that net was assigned the 4 NWS offices which represent the most geographically disparate group. There is considerable unevenness in the NWS offices, so even though this assignment represents the smallest group of contacts, it presents some special challenges.

NLEUP is without a Net Manager and appears to have been more or less dormant for some time. NLEUP has thus been left out also.

QMN has an assignment that is outside the District where the Net Manager resides, similarly for MACS. However, both of these Net Managers reside within repeater

range of their served Districts and both nets include membership from these Districts.

5. Exercise Evaluation

In order to gain as much as possible from the exercise, a more formal evaluation will be used (although not quite as formal as expected in the HSEEP).

Each DEC is expected to recruit an evaluator who will not participate in the exercise, but rather will stand by and observe. The evaluator is expected to join a phone conference for evaluators prior to the exercise.

5.1. No players at the evaluators conference

In order to maintain the integrity of the exercise, and especially the evaluation, it is important that anyone who attends the evaluator conference does not participate as a player in the exercise.

5.2. Exercise Evaluation Guide

The SEC will provide the evaluators with an Exercise Evaluation Guide (EEG) prior to SET. This guide is only available to evaluators and will be used by the evaluator during the exercise.

In preparing the EEG, the SEC will select a small number of the "Preparedness Criteria" listed by FEMA for the tasks we are exercising. The complete list of the relevant preparedness criteria may be found in Appendix D.

5.3. After Action Evaluator's Conference

Following the SET and the return of the EEGs to the SEC, an After Action conference will be held with the evaluators and the controllers. Using information collected in this conference, a draft After Action Report will be developed. A second conference including Net Managers and DECs will be held to finalize the report.

6. Specific Assignments

Prior to the exercise the Net Managers and DECs need to take care of a few details.

6.1. District Emergency Coordinators

Prior to SET each DEC should:

- Contact the appropriate Net Manager and arrange meeting times, frequencies (refer to Appendix B)
- Identify an evaluator for the District. The Evaluator should be expected to monitor the District's on the air activities during the SET, participate in the Evaluator's Conference on September 21, return the EEG to the SEC promptly, and participate in the Evaluator's After Action Conference.

Advise the SEC of the Evaluator by September 14, providing call and contact information.

- Contact each member county, identify who intends to participate, and arrange for appropriate contact between the county and the District (in case the net frequency is expected to be congested or a county cannot muster the necessary capabilities).
- For each county, identify any served agencies that intend to participate, and provide that information to the Training and Exercise Officer no later than September 14 (hutchesonjohn@att.net).
- Remind each Emergency Coordinator that they should plan to send a report in to Headquarters following SET. Emergency Coordinators should report on "Form A" found at *http://www.arrl.org/public-service-field-services-forms*. Remind ECs that this report is much easier to fill out on the day of SET than later on after the details have become fuzzy.
- For each resource to be used, be aware of emergency power capabilities; type of power, running time available, ability to be reloaded.
- For any repeaters or other resources to be used, coordinate with the owners of those resources to ensure their availability for the SET.

6.2. Net Managers

Prior to the SET, each Net Manager should:

- Contact the appropriate DEC (refer to Appendix C) and arrange meeting times, frequencies, and get an understanding of the groups maturity with respect to traffic handling procedures and net discipline.
- Schedule net controls as needed for the event.

- Recruit liaison stations having the capability to contact the SEOC as well as to participate with the counties.
- Advise net members of meeting times, frequencies, and your expectations for the members.
- Be aware of each net member's emergency power capabilities. Remember that not all types of emergency power have the same useable lifetime. Keep in mind that, for example, it may not be possible to refuel a gasoline powered generator if there is a widespread outage, and gas stations will not be able to pump fuel. Consider fallbacks such as CW so that stations may extend their lifetime by operating at lower power. Alternatively, consider rotating NCS stations so that any one station's transmitting time is reduced.

Note that in most cases, the SEOC is in a position to receive CW on the phone as well as CW frequency.

- Net Managers should review ARRL "Form B" found at *http://www.arrl.org/public-service-field-services-forms* and send in the completed form after the event. Net Managers should note that this is a pretty simple report if completed the day of the SET, but could be challenging if put off until near the due date of Feb, 2012.

A. Universal Task List - Common Capabilities

A.1. Planning

ComA 1	Develop scalable strategic plans, based on normal response plans, to prevent, protect against, respond to, and recover from natural and man-made disasters as well as acts of terrorism
ComA 1.1	Establish the National Response Plan
ComA 1.1.1	Facilitate implementation of the National Response Plan
ComA 1.1.2	Update and maintain the National Response Plan
ComA 1.1.2	Update and maintain the National Incident Management System
ComA 1.1.3	Develop regional, and State/local Strategic Plans
ComA 1.2	Establish the National Incident Management System
ComA 1.3	Establish and maintain a national preparedness assessment and reporting system
ComA 1.3.1	Develop and coordinate jurisdictional preparedness programs
ComA 1.3.2	Develop a preparedness planning and review cycle that encompasses planning, training, exercising, evaluation and the incorporation of After Action Reviews (AAR) and Lessons Learned (LL)
ComA 1.3.2.1	Track implementation AARs and LLs for improvement and corrective actions that enhance exercises and inform subsequent corrective training efforts
ComA 1.3.3	Develop and promulgate national preparedness security guidance and/or best practices, policies and monitor conformance
ComA 1.3.4	Conduct gap analysis to identify training, exercise needs and to facilitate investment and personnel decisions
ComA 2	Develop/Revise Operational Plans
ComA 2.1	Conduct a hazard analysis to identify threats, vulnerabilities, and consequences to be addressed by emergency management plans
ComA 2.1.1	Establish readiness and response levels
ComA 2.1.2	Establish criteria for local disaster or emergency declarations
ComA 2.1.3	Develop and maintain Comprehensive Emergency Management Plans (CEMPs) or similar emergency management/preparedness plans
ComA 2.2	Define and implement the responsibilities for standardized emergency management system planning
ComA 2.2.1	Define responsibilities of agencies and departments
ComA 2.2.2	Coordinate and integrate all response and recovery agencies/organizations in the planning process
ComA 2.2.3	Coordinate and integrate nongovernmental organizations and the private-sector entities into emergency management planning and decision making processes
ComA 2.3	Develop and execute mutual aid assistance agreements and compacts

ComA 2.3.1	Facilitate the development of international, regional, and inter- and intra-State mutual aid agreements
ComA 2.3.2	Coordinate mutual aid agreements with public and private organizations
ComA 2.3.3	Develop regional coordination plans or activities that involve all Federal, State, local, territorial, tribal, NGO, and private stakeholders
ComA 2.4	Develop Emergency Operations/Response Plans that describe how personnel, equipment, and other governmental, nongovernmental, and private resources will support and sustain incident management requirements
ComA 2.4.1	Develop procedures to maintain related emergency operations plans
ComA 2.4.2	Coordinate scientific and technical expertise in developing emergency operations plans
ComA 2.4.3	Establish procedures for implementing emergency operations plans
ComA 2.4.3.1	Develop Standard Operating Procedures and Standard Operating Guides in support of Emergency Operations Plans
ComA 2.4.3.2	Develop protocols for joint investigation
ComA 2.4.3.3	Develop emergency response protocols with private-sector partners
ComA 2.4.4	Develop procedures that translates tasking to an organization into specific action-oriented checklists for incident management operations
ComA 2.5	Develop and maintain Emergency Operations Plan (EOP) annexes for hazard specific response to include natural and man-made disasters as well as acts of terrorism, and other hazards
ComA 2.6	Develop plans for military support to civil authority
ComA 2.7	Develop National, State/Local, and Non-Governmental Continuity Plans. All-level Continuity Plans will describe how personnel, equipment, and other governmental, non-governmental, and private resources will support the sustainment and/or reestablishment of essential functions. Plans shall identify the critical and time sensitive applications, processes, and functions, to be recovered and continued, following an emergency or disaster, as well as the personnel and procedures necessary to do so, such as business impact analysis, business continuity management, vital records preservation and alternate operating facilities
ComA 2.7.1	Establish and implement an order of command succession or continuity consistent with NIMS
ComA 2.7.2	Identify alternate work sites and essential tasks/functions
ComA 2.8	Develop cooperative plans and means to respond across international borders
ComA 2.9	Establish organization and leadership of regional and State emergency management structure
ComA 2.9.1	Develop organizational structure of regional and State EOC
ComA 2.9.1.1	Establish roles and responsibilities of regional and State EOC
ComA 2.9.1.2	Coordinate with unions and private-sector groups concerning employee/employer issues

ComA 2.9.1.3	Organize liaison structure for supporting organizations
ComA 2.9.1.4	Identify and define liaison staff responsibilities and responsibilities to support incident prevention and response activities
ComA 2.9.1.5	Designate liaison representatives to incident response management structure
ComA 2.9.2	Identify, develop, and convene local preparedness planning organization(s)
ComA 2.9.3	Facilitate implementation of the National Incident Management System
ComA 2.9.4	Address other specific communication issues in planning
ComA 3	Validate Plans
ComA 3.1	Develop exercises/drills of sufficient intensity to challenge management and operations and to test the knowledge, skills, and abilities of individuals and organizations
ComA 3.2	Develop integrated national, regional, and State/local level exercises/drills
ComA 3.3	Develop regional, and State/local level exercises of sufficient intensity to challenge management and operations and test knowledge, skill and abilities of individuals and organizations
ComA 3.4	Develop lessons learned reports and procedures based on real world events and exercises
ComA 3.5	Develop, review, evaluate and update emergency management and/or preparedness plans based on lessons learned and/or AARs to address problems/ gaps and needed corrective actions
ComA 3.6	Ensure that trained, exercised and equipped personnel are available to execute all planning requirements as determined by applicable standards of proficiency

Table A.1. Common A - Planning

A.2. Resource Management

ComB 1	Develop resource management plans, policies, procedures, and systems
ComB 1.1	Develop systems for resource recovery and rehabilitation, replenishment, disposition and retrograding
ComB 1.1.1	Develop reimbursement programs and processes to maintain readiness of resources
ComB 1.2	Develop plans, policies, procedures, and systems to coordinate non-governmental support and resources
ComB 1.2.1	Develop plans, policies, and protocols for coordination and deployment of private industry
ComB 1.2.2	Review and update resource typing under FEMA National Mutual Aid Resource Aid and Resource Management inventory to reflect animal health requirements
ComB 1.3	Develop plans, policies, procedures and systems for financial management support
ComB 1.3.1	Establish standardized financial management controls, guidance, and organization

ComB 1.3.2	Develop State and local commitment documents for reimbursement of response costs and activate support agreements for supplemental staffing
ComB 1.3.2.1	Issue secretary's request to transfer additional funds within the department, if needed
ComB 1.3.2.2	Identify liaisons and personnel responsible for financial management response operations
ComB 1.3.2.3	Maintain records of agencies engaged in financial management response operations
ComB 1.4	Identify and prioritize capabilities for emergency operations
ComB 1.4.1	Identify resources required
ComB 1.4.2	Develop lists of required personal protective equipment and the training required to operate it
ComB 1.4.2.1	Maintain current estimates of responder availability
ComB 1.4.2.2	Develop a multi jurisdictional decision matrix
ComB 1.4.2.3	Identify resource shortfalls and means of procurement
ComB 1.4.3	Assess industry and community response capabilities
ComB 1.4.4	Apply Federal guidelines and laws
ComB 2	Develop and implement personnel qualification and certification programs
ComB 2.1	Facilitate the development and leveraging of existing qualifications and certifications and dissemination of international, national, regional, State standards, guidelines and protocols for qualifications and certification
ComB 2.2	Review and approve requirements submitted by functionally oriented incident management organizations and associations of national, regional, and State governments
ComB 2.3	Facilitate the development of integrated national, regional and State data systems to provide incident managers with detailed qualification, experience, and training information needed to credential personnel
ComB 2.4	Develop personnel qualifications and certifications for NIMS specified roles
ComB 3	Develop and implement equipment acquisition and certification standards
ComB 3.1	Facilitate the dissemination of national standards, guidelines, and protocols for equipment certification region and Statewide
ComB 3.2	Develop and publish national standards, guidelines and protocols for equipment certification
ComB 3.3	Review and approve lists of emergency responder equipment that meet national certification standards
ComB 3.4	Identify and integrate agencies and organizations currently involved in certifying equipment to ensure that changes to protocols to meet new standards can be instituted efficiently
ComB 4	Develop and implement national authentication security certification system for use at all levels of jurisdictions and agencies

ComB 4.1	Develop credential policy for access to key facilities
ComB 4.2	Coordinate required qualifications of responders
ComB 4.3	Coordinate required qualifications of responders
ComB 5	Establish and maintain process for obtaining scientific and technological resources and other support for preparedness
ComB 5.1	Develop a strategy to obtain scientific and technological support
ComB 5.1.1	Conduct knowledge exchange with industry and education institution
ComB 5.1.2	Establish strategic research and development policies and procedures
ComB 5.1.3	Establish collaboration forum for incident management among national incident management system partners
ComB 5.1.4	Develop technology standards for government and private sector
ComB 5.2	Develop science and technology concepts and principles
ComB 5.2.1	Identify technology support to enhance all aspects of incident management and emergency response including data exchange of as-built building plan, evacuation plans and other technical data
ComB 5.2.2	Participate in development of national standards by preparedness organization, building and fire code organizations and national voluntary standards bodies
ComB 5.2.3	Provide means for aggregating and prioritizing new technology from the local to the national-level
ComB 5.2.4	Coordinate basic, applied, developmental, and demonstration research, testing, and evaluation activities across the incident life cycle
ComB 5.2.4.1	Coordinate basic, applied, developmental, and demonstration research to support technologies that harden structures including such things as preventing progressive collapse of buildings, reduce vulnerability of building electrical, mechanical and plumbing
ComB 5.3	Provide science and technology support to incident management
ComB 5.3.1	Gather operational scientific support from Federal, State and local agencies and incident management preparedness organizations
ComB 5.3.2	Requisition and provide operational scientific support via national incident management system
ComB 5.3.3	Research and develop technologies for detecting chemical, biological, radiological, and explosive material
ComB 5.3.4	Validate analytical methods to detect biological, chemical, radiological and nuclear material
ComB 5.3.4.1	Develop analytical methods
ComB 5.3.4.2	Validate methods
ComB 5.3.4.3	Deploy detection systems
ComB 5.3.4.4	Exercise/validate deployed systems
ComB 5.3.4.5	Develop and promulgate associated consequence management procedures

ComB 5.3.4.6	Develop, analyze and determine effectiveness of consequence management procedures
ComB 5.3.4.7	Conduct incident management research and development
ComB 5.3.4.8	Develop and provide high tech equipment to support building officials to locate and assess buildings following a disaster
ComB 5.4	Coordinate the establishment of technical standards for national incident management system users
ComB 5.4.1	Establish a performance measurements infrastructure
ComB 5.4.2	Develop consensus-based performance standards among standards development organizations
ComB 5.4.3	Establish working relationships among incident management organizations
ComB 5.5	Evaluate communications and response equipment against national incident management system technical standards
ComB 5.5.1	Establish private and public sector testing laboratories
ComB 5.5.2	Issue guidelines to ensure testing organizations are technically proficient and objective
ComB 5.6	Conduct R&D planning for national incident management system users
ComB 5.6.1	Determine operational needs of national incident management system users
ComB 5.6.2	Validate, integrate, and prioritize user needs
ComB 5.6.3	Submit user needs in development of incident management R&D agenda
ComB 5.6.4	Coordinate R&D with preparedness organizations at all levels
ComB 5.6.5	Integrate incident management into the national R&D agenda
ComB 5.7	Develop scientifically-based technical guidelines for use of emergency response equipment
ComB 5.7.1	Gather inputs from vulnerability analysis, equipment developers and standards experts
ComB 5.7.2	Account for threat and vulnerability, and equipment and system capabilities, under varying conditions in developing training guidelines
ComB 5.8	Enhance laboratory capabilities and capacities to enable protection from a wide spectrum of traditional and non-traditional agents
ComB 5.8.1	Establish local awareness regarding a requirement to use the laboratory response network (LRN) to confirm biological agents
ComB 5.9	Facilitate the improvement of analytical and technical capabilities in screening, surveillance, monitoring, detection and testing

Table A.2. Common B - Resource Management

A.3. Communications

ComC 1	Develop communication plans, policies, procedures, and systems that support required communications with all Federal, regional, State, local and tribal governments and agencies as well as voluntary agencies
ComC 1.1	Establish policies and procedures for communications and warnings
ComC 1.1.1	Develop a continuous improvement plan that enriches interoperable communications to provide advanced customer service, reliability, and operational effectiveness
ComC 1.2	Develop interoperability and compatibility criteria
ComC 1.2.1	Develop procedures for the exchange of voice and data with Federal, regional, State, local and tribal agencies as well as voluntary agencies
ComC 1.2.2	Develop common communication and data standards to facilitate the exchange of information in support of response management
ComC 1.2.2.1	Establish common response communications language
ComC 1.2.2.2	Develop a standard set of data elements for sharing information (e.g., status and pollution) across regional, State and local agencies
ComC 1.2.2.3	Facilitate the development of sampling and data collection information exchange standards
ComC 1.2.2.4	Facilitate the development of geospatial information exchange standards
ComC 1.2.3	Facilitate the development of wireless communication and computer procedures and protocols to permit interoperability between government and local public safety organizations
ComC 1.3	Establish and maintain information systems across response entities
ComC 1.3.1	Develop interoperable telecommunication and Information Technology systems across governmental departments and agencies
ComC 1.3.2	Develop and maintain surveillance and detection systems
ComC 1.3.2.1	Develop and maintain geographic information systems (GIS)
ComC 1.3.2.2	Develop and maintain the health alert network
ComC 1.3.2.3	Establish role of National Biosurveillance Integration System (NBIS) at the EOC
ComC 1.3.4	Coordinate with telecommunications service providers to ensure all telecommunications service requirements are satisfied
ComC 1.4	Design reliable, redundant, and robust communications systems for daily operations capable of quickly reconstituting normal operations in the event of disruption or destruction
ComC 1.4.1	Design reliable, redundant, and robust communications systems for daily operations capable of quickly reconstituting normal operations in the event of disruption or destruction
ComC 1.4.1.1	Establish role of the operation area satellite system (OASIS) at the EOC
ComC 1.4.2	Establish a secure and redundant communications system that ensures connectivity between health care facilities and health departments, emergency

	medical services, emergency management agencies, public safety agencies, blood collection agencies, building departments, neighboring jurisdictions and Federal health officials
ComC 1.4.3	Establish a national database of incident reports to support response management efforts and analysis
ComC 1.5	Develop information systems protection procedures
ComC 1.5.1	Develop and maintain automated credential verification systems to ensure proper credentialing for controlled access areas
ComC 1.5.2	Coordinate the maintenance and safeguarding of key records, building plans and documents
ComC 1.5.3	Establish a national authentication and security identification certification system for emergency responders, Federal, State, local and tribal personnel and other nongovernmental personnel requiring access to affected areas
ComC 1.6	Develop supplemental and back-up communications and information technology plans, procedures, and systems
ComC 1.6.1	Promote and facilitate the development of redundant communications networks
ComC 1.6.2	Identify emergency communications and data requirements for each stakeholder
ComC 1.6.3	Identify emergency communications staff roles and responsibilities
ComC 1.6.4	Identify available operational telecommunication assets needs for use on and off-incident site
ComC 1.6.5	Complete an assessment of standard communication capabilities for the Public Safety Answering Points (PSAPs) and Public Safety Communication Centers to ensure an appropriate Continuity of Operations Plan (COOP) is in place for public safety and service agencies' communications
ComC 1.7	Implement the national telecommunication support plan
ComC 1.7.1	Identify priority telecommunications programs and services
ComC 1.7.2	Coordinate procurement and placement of technology communication systems based on a gap analysis of requirements versus existing capabilities
ComC 1.7.3	Develop plans to provide telecommunication and information technology support to Federal, regional, State, local and tribal officials and the private sector
ComC 2	Develop and Implement Training and Exercise Programs for Response Communications
ComC 2.1	Develop and Implement Training Programs for Response Communications
ComC 2.1.1	Develop and implement awareness training programs for response communications
ComC 2.1.2	Develop exercises/drills of sufficient intensity to challenge management and operations and to test the knowledge, skills, and abilities of individuals and organizations for response communications
ComC 2.2	Develop and Implement Exercise Programs for Response Communications

ComC 2.2.1	Develop and conduct training to improve all-hazard incident management capability for response communications
ComC 2.2.2	Conduct an after action review to determine strengths and shortfalls and develop a corrective plan accordingly for response communications
ComC 3	Conduct alert and dispatch notification
ComC 3.1	Dispatch first responders
ComC 3.2	Dispatch secondary response agencies
ComC 3.3	Implement government and NGO agency notification protocols and procedures
ComC 3.4	Request external resources using EMAC and other mutual aid/assistance processes (inter- and intra-State)
ComC 4	Provide Incident Command/First Responder/First Receiver/Interoperable Communications
ComC 4.1	Establish and maintain response communications systems on-site
ComC 4.1.1	Verify immediately that critical communication links among first responders are functioning
ComC 4.2	Implement response communications interoperability plans and protocols
ComC 4.2.1	Communicate internal incident response information
ComC 4.2.1.1	Use established common response communications language (i.e., plain English)
ComC 4.2.2	Coordinate incident site communications within a National Incident Management System (NIMS) compliant framework
ComC 4.2.3	Report and document the incident by completing and submitting required forms, reports, documentation, and follow-up notations on immediate response communications
ComC 4.3	Implement information systems protection procedures
ComC 5	Provide EOC Communications Support
ComC 5.1	Develop NIMS compliant incident site communications plan
ComC 5.2	Establish and maintain communications organization/operation with EOC/MACC
ComC 5.3	Establish and maintain interoperable information systems within EOC
ComC 5.3.1	Establish communications resource requirements
ComC 5.3.1.1	Coordinate placement of latest technology that is available to agencies participating in response
ComC 5.3.1.2	Coordinate and provide telecommunication and information technology support to Federal, regional, State, local and tribal officials and the private sector
ComC 5.3.1.3	Coordinate and open State communications support/channels to local and tribal government and the private-sector to assist in awareness, prevention, response and recovery communication activities
ComC 5.3.2	Implement communication security procedures and systems
ComC 5.3.3	Assure redundant communications circuits/channels are available for use
ComC 5.3.4	Activate back-up information systems as needed

ComC 5.4	Coordinate communications policy and procedures across response entities
ComC 5.4.1	Disseminate information to emergency managers and responders
ComC 5.4.2	Coordinate with the response organization and other responders to share information
ComC 5.4.3	Coordinate information transfer between and among Incident Command Post
ComC 5.4.4	Coordinate information transfer from the incident scene to the MACS (e.g. Emergency Operations Center (EOC))
ComC 5.4.5	Provide direction, information, and/or support as appropriate to the incident command (IC), unified command (UC), and/or joint field office(s)
ComC 5.4.6	Provide response information across jurisdictional boundaries
ComC 5.5	Maintain a common operating picture (COP) for real time sharing of information with all the participating entities to ensure all responder agencies are working from the same information
ComC 5.6	Monitor communications and information systems
ComC 5.6.1	Develop incident log
ComC 5.6.2	Update responder information
ComC 6	Provide Federal Facilities, Task Force, and Recovery Assistance Interoperable Communications
ComC 7	Return communication system to normal operations
ComC 7.1	Initiate interoperable deactivation procedures
ComC 7.2	Assist in deactivation of telecommunication resources and assets .
ComC 7.3	Maintain audit and reports on all telecommunications support provided.

Table A.3. Common C - Communications

A.4. Training and Exercises

ComD 1	Develop and conduct training to improve all-hazard incident management capability
ComD 1.1	Develop preparedness plans for identifying and meeting training needs
ComD 1.1.1	Conduct gap analysis to identify training needs
ComD 1.2	Develop and disseminate national standards, guidelines and protocols, for incident management training and exercises
ComD 1.2.1	Facilitate the definition of general training requirements and approved training courses for all NIMS users
ComD 1.3	Develop standardized training courses
ComD 1.3.1	Develop standardized training courses on incident command and management, structure, coordination, processes, and procedures

ComD 1.3.2	Develop standardized training courses focused on discipline-specific and agency-specific subject-matter expertise applicable to all jurisdictions and sectors for all incident management
ComD 1.3.2	Provide information through training on how to access Federal subject matter experts and necessary Federal assets
ComD 1.3.2.1	Review and approve discipline-specific requirements and courses
ComD 1.3.3	Develop and conduct training courses for the incident command safety officer emphasizing all-hazards approach to responder health and safety
ComD 1.3.4	Develop training for non-responder personnel
ComD 1.4	Implement standardized training courses
ComD 1.4.1	Coordinate training of responders, emergency staffs, health care providers and trainees
ComD 1.4.2	Coordinate training of emergency operations center staff
ComD 1.4.2.1	Maintain and expand training and exercise programs to prepare volunteers for terrorism incident support
ComD 1.4.3	Coordinate training with mutual aid and volunteer organizations and volunteers to assist with response service needs
ComD 1.4.4	Train elected officials on incident command structure and emergency management responsibilities
ComD 1.4.5	Develop and conduct refresher training course in a condensed form that emphasizes any changes or additions
ComD 1.4.6	Ensure that trained and equipped personnel are available to execute the planning requirements
ComD 1.5	Evaluate standardized training courses
ComD 1.5.1	Develop readiness assessments of responders and emergency staffs
ComD 1.5.2	Evaluate training through multiple methods including drills and exercises
ComD 1.5.3	Identify existing training courses that can be incorporated into a master list that addresses the new critical aspects of incident management including the interaction of skilled support workers and traditional first responders including building official
ComD 2	Develop exercises/drills of sufficient intensity to challenge management and operations and to test the knowledge, skills, and abilities of individuals and organizations
ComD 2.1	Participate in jurisdictional, regional, interState and cross border exercises
ComD 2.2	Develop a process to review and analyze lessons learned from real-world incidents and exercises/evaluations for best practices to implement corrections and update plans
ComD 2.2.1	Develop lessons learned reports and procedures
ComD 2.2.2	Review incident after-action reports and update preparedness plan

ComD 2.2.3	Develop and review after-action reports (AAR) to identify problems and lessons learned
ComD 2.2.4	Develop plan to correct problems and evaluate AAR improvement/corrective actions
ComD 2.2.5	Track implementation of lessons learned and AAR improvement/corrective actions
ComD 2.2.6	Collect and compile best practices from industry and government to enhance existing security practices
ComD 2.2.7	Develop improvement/corrective action and mitigation plans

Table A.4. Common D - Training and Exercises

A.5. Risk Management

ComE 1	Develop Risk Framework
ComE 1.1	Ensure senior leadership communicates in writing the risk framework and intent to use risk analysis to all stakeholders
ComE 2	Assess Risks
ComE 2.1	Conduct criticality analysis (also known as screening) to identify potential targets
ComE 2.2	Conduct vulnerability assessments to assess vulnerability of potential targets to identified threats
ComE 2.3	Conduct consequence analysis of critical targets
ComE 2.4	Conduct threat assessment of potential targets
ComE 2.4.1	Conduct or obtain intelligence community threat/hazard analysis through State or local Interagency Working Groups (Joint Terrorism Task Force) to identify threats to potential targets
ComE 2.4.2	Obtain intelligence reporting and the receipt of the threat data through the Department of Homeland Security's Homeland Infrastructure Threat and Risk Analysis Center (HITRAC)
ComE 2.5	Calculate risk to potential targets based on threat, vulnerability, and consequence
ComE 2.6	Establish relative order of priorities for risk mitigation among risk portfolio
ComE 2.7	Conduct response and recovery capabilities analysis to determine capability to respond to and recover from the occurrence of identified risks
ComE 3	Prioritize Risks
ComE 3.1	Identify potential protection, prevention, and mitigation strategies for high-risk targets
ComE 3.2	Prioritize identified strategies by risk reduction expected outcomes appreciating the various threat, vulnerabilities, and consequences that affect that community, system or asset
ComE 4	Develop Business Case
ComE 4.1	Select risk reduction solutions for implementation based on risk reduction strategies

ComE 5	Manage Risk
ComE 5.1	Monitor the progress of solution implementation
ComE 5.1.1	Undertake corrective actions
ComE 6	Conduct Risk Communication
ComE 6.1	Share the assessment of sector-specific infrastructure risk with interdependent entities within appropriate sectors

Table A.5. Common E - Risk Management

B. Contact information for District Emergency Coordinators

The following table lists the contact information for the Net Manager each DEC will contact, by DEC call.

DEC	NET	Net Manager	Contact
KI8AF	GLETN	Grant Watson, K8VFZ	810-982-7488 k8vfz@arrl.net
WD8DX	GLETN	Grant Watson, K8VFZ	810-982-7488 k8vfz@arrl.net
KC8ZTJ	MACS	John Wehmer, WB9JSR	616-604-0510 wb9jsr@arrl.net
KG8NK	UP	Aileen Gagnon, WA8DHB	906-428-9789
N8OSL	MITN	Jeff Miller, WB8WKQ	248-330-9335 seismadude2@yahoo.com
WA8RLI	MDTN	Ed Bassett, N8FVM	989-821-7729 n8fvm@arrl.net
KB8VEE	MVTN	Jean Young, AC8AR	231-893-3341 ac8ar@arrl.net
N8VLN	GLETN	Grant Watson, K8VFZ	810-982-7488 k8vfz@arrl.net
WF5X	SEMTN	Jeff Miller, WB8WKQ	248-330-9335 seismadude2@yahoo.com
K8YZA	QMN	Anne Travis, K8AE	313-563-0177 annesivart@woway.com
N8ZSA	GLETN	Grant Watson, K8VFZ	810-982-7488 k8vfz@arrl.net

Table B.1. DEC contact assignments

C. Contact information for Net Managers

The following table lists the contact information for the District Emergency Coordinator each Net Manager will contact, by Net Manager callsign.

Net Manager	District	DEC	Contact
K8AE	1	Joseph Pullen, K8YZA	517-547-6794 jpullen007@comcast.net
AC8AR	6	Tom VanderMel, KB8VEE	231-206-0422 kb8vee@arrl.net
WA8DHB	8	Lou Gembolis, KG8NK	906-485-5442 lgembolis@chartermi.net
N8FVM	7	Thomas 'Red' Duggan, WA8RLI	586-413-2831 wa8rli@arrl.net
WB9JSR	5	John Mathieson, KC8ZTJ	jspokes@chartermi.net
K8VFZ	APX	Jeff Morey, WD8DX	989-390-1133 WD8DX@yahoo.com
K8VFZ	DTX	Ted Davis, N8ZSA	248-842-4077 n8zsa@aol.com
K8VFZ	GRR	Michael Gage, N8VLN	616-538-0502 mrgage1@sbcglobal.net
K8VFZ	MQT	Greg Hanson, KI8AF	906-225-1594 glhanson1783@sbcglobal.net
WB8WKQ	2	Randy Love, WF5X	586-803-1967 wf5x@arrl.net
WB8WKQ	3	Joe Tuscher, N8OSL	810-908-3089 jt14888@aol.com

Table C.1. Net Manager contact assignments

D. Preparedness Criteria

the following tables show the FEMA criteria for evaluating readiness against the capabilities to be tested. Note that the preparedness criteria address multiple capabilities, and many of the criteria are not applicable to ARES/RACES.

Preparedness Measures	Metric
Continuity of Operation (COOP) plans describe how personnel, equipment, and other resources support sustained response/ survivability and recovery for all sectors	Yes/No
Continuity of Government (COG) plans describe the continued functioning of constitutional government under all circumstances	Yes/No
Emergency response plans are consistent with the National Response Plan (NRP) and National Incident Management System (NIMS)	Yes/No
Mutual aid assistance agreements are in place with contiguous jurisdictions	Yes/No
Preparedness plans are consistent with NRP and NIMS	Yes/No
Aid assistance agreements or contracts with private organizations are in place	Yes/No
Pre-identified mechanisms to request assistance from counties, the State, or the Federal Government are in place	Yes/No
Emergency response plans address substantial loss of public safety response capabilities during catastrophic events (to include special needs populations and people with disabilities)	Yes/No
Frequency with which plans are reviewed and updated to ensure compliance with governmental regulations and policies (Review requirements are intended to apply only when no pre-existing review cycle has been established in Federal, State, or local requirements)	12 months

Table D.1. Preparedness Criteria for Com.A2

Preparedness Measures	Metric
Operable communications systems that are supported by redundancy and diversity, that provide service across jurisdictions, and that meet everyday internal agency requirements, are in place	Yes/No
Communication systems support on-demand, real-time interoperable voice and data communication	Yes/No
Plans and procedures are in place to ensure appropriate levels of planning and building public safety communication systems prior to an incident	Yes/No
Plans and procedures are in place to ensure appropriate levels of upgrading/enhancing public safety communication systems and equipment prior to an incident	Yes/No

Preparedness Measures	Metric
Plans and procedures are in place to ensure appropriate levels of replacing public safety communication systems and equipment prior to an incident	Yes/No
Plans and procedures are in place to ensure appropriate levels of maintaining public safety communication systems and equipment prior to an incident	Yes/No
Plans and procedures are in place to ensure appropriate levels of managing public safety communication projects prior to an incident	Yes/No
Assessment of standard communication capabilities for Public Safety Answering Points (PSAP)/Public Safety Communication Centers and Emergency Operations Centers (EOC) to ensure appropriate Continuity of Operations Plan (COOP) for public safety and service agencies' communications has been completed	Yes/No
Communications Continuity of Operations Plan (COOP) that outlines back-up systems available at State and local levels, including protocols for use of systems, is in place	Yes/No
Communications standard operating procedures (SOPs) that conform to NIMS are in place and are used in routine multiple jurisdictional responses	Yes/No
Interoperability policies and procedures to allow information sharing between levels of government and Federal installations involved in incident, as necessary and as possible, are in place	Yes/No
Redundant and diverse interoperable communication systems are available	Yes/No
Plans to coordinate the procurement of communications assets to ensure interoperability are in place	Yes/No
Plans to acquire and influence sustained interoperability and systems maintenance funding have been developed	Yes/No
Plans include a procedure to return communications back to normal operations after each significant incident	Yes/No
A multi-agency and multi-jurisdictional governance structure to improve communications interoperability planning and coordination has been established	Yes/No
Formal interoperable communications agreements have been established through the governance structure	Yes/No
Interoperability communications plans have been developed through governance structure and include all relevant agencies for data and voice communications.	Yes/No

Table D.2. Preparedness Criteria for Com.C2

E. Target Capabilities List

There are 37 target capabilities. Associated with the target capabilities are thousands of tasks. The following sections list those fapabillities for each mission, along with the top-level headings for the associated tasks.

E.1. Common

PLANNING
RESOURCE MANAGEMENT
COMMUNICATIONS
TRAINING AND EXERCISES
RISK MANAGEMENT

E.2. Prevent

INFORMATION GATHERING AND RECOGNITION OF INDICATORS AND WARNINGS
INTELLIGENCE ANALYSIS AND PRODUCTION
COUNTER-TERROR INVESTIGATION AND LAW ENFORCEMENT
CBRNE DETECTION

- A1a Identification and Tracking of Suspected Terrorists
- A1b Information Gathering and Recognition of Indicators and Warning
- A1c Intelligence Analysis and Production
- A1d Intelligence/Information Sharing
- A1e CBRNE Detection
- A2a Identification and Tracking of Terrorist Motivations
- A3a Recognition and Tracking of Extremism
- A3b Determination and Tracking of Terrorist Support
- A4a Determination of Terrorist Ability to Execute Threats
- B1a Pre-Entry Detection
- B2a Port of Entry Inspection
- B2b Infrastructure/Facility Access Screening
- B2c Transportation Screening
- B2d Credentialing
- B3a Border Control
- C1a Law Enforcement Investigation and Operations
- C2a Interdiction/Seizure of Materials
- C3a Defeat of Weapons
- C3b Denial of Access to Materials that may be Weaponized
- C5a Prosecution of Suspects

E.3. Protect

CRITICAL INFRASTRUCTURE PROTECTION
FOOD AND AGRICULTURE SAFETY AND DEFENSE
EPIDEMIOLOGICAL SURVEILLANCE AND INVESTIGATION

LABORATORY TESTING

- A1a Critical Infrastructure Protection
- A2a Defense and Devaluation of Physical Assets & Systems
- A3a Defense and Devaluation of Cyber Assets & Systems
- B1a Epidemiological Surveillance and Investigation
- B1b Food and Agricultural Safety and Defense
- B1c Environmental Monitoring
- B1d Natural Hazard Monitoring
- B1e Public Health Laboratory Testing
- B2a Stockpile Management
- B3a Mitigation and Life Safety Protection
- B4a Community Preparedness and Participation

E.4. Respond

ON-SITE INCIDENT MANAGEMENT
EMERGENCY OPERATIONS CENTER MANAGEMENT
CRITICAL RESOURCE LOGISTICS AND DISTRIBUTION
VOLUNTEER MANAGEMENT AND DONATIONS
RESPONDER SAFETY AND HEALTH
EMERGENCY PUBIC SAFETY AND SECURITY RESPONSE
ANIMAL DISEASE EMERGENCY SUPPORT
ENVIRONMENTAL HEALTH
EXPLOSIVE DEVICE RESPONSE OPERATIONS
FIRE INCIDENT RESPNSE SUPPORT
WMD AND HAZARDOUS MATERIAS RESPONSE AND DECOMTAMINATION
CITIZEN EVACUATION AND SHELTER-IN-PLACE
ISOLATION AND QUARANTINE
SEARCH AND RESCUE (LAND BASED)
EMERGENCY TRIAGE AND PER-HOSPITAL TREATMENT
MEDICAL SURGE
MEDICAL SUPPLIES MANAGEMENT AND DISTRIBUTION
MASS PROPHYLAXIS
MASS CARE (SHELTERING, FEEDING AND RELATED SERVICES)
FATALITY MANAGEMENT

- A1a Scene and Consequence Management
- A2a Incident Scene Investigation
- B1a On-Site Incident Management
- B1b Responder Safety and Health
- B1c Emergency Operations Center Management
- B1d Critical Resource Logistics and Distribution
- B1e Volunteer Management and Donations
- B1f Emergency Public Information and Warning
- B2a Firefighting Operations and Support
- B2b WMD/ Hazardous Materials Response and Decontamination Operations
- B2c Explosive Detection Response Operations

- B2d Animal Health Emergency Support
- B3a Citizen Evacuation or Shelter in Place
- B3b Isolation and Quarantine
- B3c Environmental Health
- B3d Public Safety and Security Response
- B4a Urban Search and Rescue
- B4b Water Search and Rescue
- C1a Triage and Pre-Hospital Treatment
- C1b Medical Surge
- C1c Medical Supplies Management and Distribution
- C2a Mass Prophylaxis
- C3a Mass Care (Sheltering, Feeding, and Related Services)
- C4a Fatality Management

E.5. Recover

STRUCTURAL DAMAGE ASSESSMENT
RESTORATION OF LIFELINES
ECONOMIC AND COMMUNITY RECOVERY

- A1a Long-Term Healthcare
- A2a Long-term Assistance for Affected Persons
- A2b Resettlement and Repatriation of Affected Persons
- B1a Debris and Hazardous Waste Management
- B2a Site Remediation
- B3a Natural Resource Restoration
- C1a Restoration of Lifelines
- C2a Reconstitution of Government Services
- C3a Economic and Community Recovery
- C3b Structural Damage and Mitigation Assessment
- C4a Restoration of Economy & Institutions
- C4a Restoration of Economy & Institutions

F. Revision History

Revision 1-3	Mon Sep 19 2011	John McDonough *wb8rcr@arrl.net*

Additional typos
More introduction to appendices
KC8ZTJ acting DEC for D5

Revision 1-2	Wed Sep 7 2011	John McDonough *wb8rcr@arrl.net*

Correct typos

Revision 1-1	Tue Sep 6 2011	John McDonough *wb8rcr@arrl.net*

Correct N8FVM call
Add evaluation criteria
Add target capabilities

Revision 1-0	Sun Sep 4 2011	John McDonough *wb8rcr@arrl.net*

Correct typos, additional touch up

Revision 0-1	Sun Sep 4 2011	John McDonough *wb8rcr@arrl.net*

First complete draft

Revision 0-0	Thu Aug 25 2011	John McDonough *wb8rcr@arrl.net*

Initial creation of book by publican