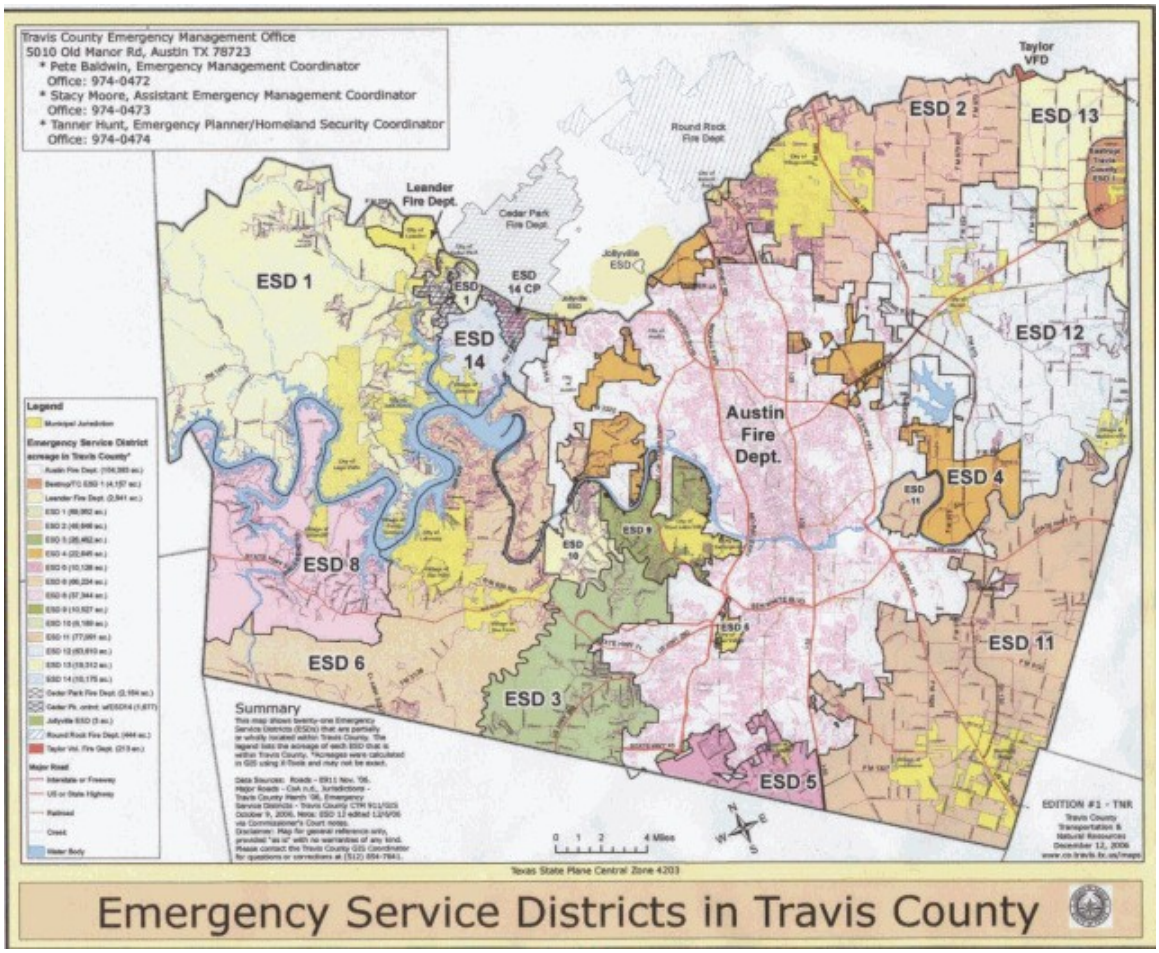
American Radio Relay League, Inc. ®

South Texas Section

Travis County, Texas

Amateur Radio Emergency Service ®

EMERGENCY COMMUNICATIONS PLAN



This document is hereby accepted for implementation and supersedes all previous editions.

Kerby Spruiell, KG5DLD
TCARES Emergency Coordinator
July 3, 2017

American Radio Relay League, Inc. ®
South Texas Section
Travis County, Texas
Amateur Radio Emergency Service ®

TRAVIS COUNTY ARES EMERGENCY COMMUNICATIONS PLAN

Record of Changes

Action	Change Date	Changed By
Updated EC and added Duty Officer definition in Sec. 1	July 12, 2011	W5SMP
ICS 217 added	11 August 2011	W5SMP
Miscellaneous changes per Stuart Rohre	18 September 2011	W5SMP
Tactical Call Sign Use appendix added	1 January 2012	W5SMP
ICS 217 updated	26 January 2012	W5SMP
Updated	3 July 2017	KG5DLD

TRAVIS COUNTY ARES LEADERSHIP AND CONTACTS

South Texas Section Manager: Lee Cooper W5LHC
South Texas Section Emergency Coordinator: Jeff Walter KE5FGA

District 7 Emergency Coordinator: Ken Malgren K7MAL
1501 Deepwood Dr.
Round Rock, TX 78681
Cell: (208) 830-6290
Email: kmalgren@gmail.com

Travis County Emergency Coordinator: Kerby Spruiell KG5DLD
Email: kerbyray@yahoo.com
Cell: (512) 627-2406

Deputy EC: Mark Esslinger W5MAE
(Second in Command)
Cell: (512) 762-7723

AEC for Emergency Operations Center Ed Cox KE3D
AEC for Planning: John Roberts W5RZG
AEC for Database and Website: Michael Butterfield KF5JLK
AEC for Net Operations: Joe Canfield, N5HPC
AEC for Membership & Resources: Joan Cox KD4SRD
AEC for Reports & Statistics: Joe Fisher K5EJL
AEC for Skywarn/ WX Nets: Janet McCracken KR4CKN
AEC for Logistics: Michael Marks KG5RXG
Public Information Officer: Steven Polunsky, W5SMP
Safety Officer: Peter Velasquez KF5MIB

Liaison Officers:
James Robbins N5OUJ, to the HF National Traffic System Nets
Stuart Rohre K5KVH, to the American Red Cross
Roger Wines W5WIA, to the Travis County REACT
Rodney Warner KG5DWX, to MARS
Collin Wright KG5EXR, to Austin Disaster Relief Network

ARRL Headquarters
225 Main Street
Newington CT 06111
Phone: 860-594-0200
Email: hq@arrl.org

THE AUSTIN/TRAVIS COUNTY AMATEUR RADIO EMERGENCY SERVICE
EMERGENCY COMMUNICATIONS PLAN

Table of Contents

1 Authority 6
2 Purpose 6
3 Situation & Threats 7
3.1 Situation 7
3.2 Natural Threats 8
3.2.1 Droughts 8
3.2.2 Earthquakes 8
3.2.3 Floods 8
3.2.4 Hurricanes 9
3.2.5 Tornadoes 9
3.2.6 Wildfires 10
3.2.7 Winter Storms 11
3.3 Technological Threats 11
3.3.1 Dam Failures 11
3.3.2 Hazardous Materials (HAZMAT) 12
3.3.3 Nuclear Facility Incidents 12
3.4 Security Threats 13
4 Concept of Operations 13
4.1 Agency Assistance 14
4.2 When TCARES Members Become Aware of a Communications Emergency 14
4.3 Communication Emergencies 15
4.4 Amateur Radio as a Force Multiplier 15
4.5 TCARES Response 15
4.6 TCARES Member Safety 16
5 Organization 17
5.1 Districts 17
5.2 Training 18
5.3 EC Authority 19

5.4 Mutual Aid **20**

5.4.1 Tactical Response Levels **20**

5.4.1.1 Level 1 Response **20**

5.4.1.2 Level 2 Response **20**

5.4.1.3 Level 3 Response **20**

5.4.1.4 Level 4 Response **20**

5.4.2 Mutual Assistance Resources **21**

6 Readiness Conditions **21**

6.1.1 Condition 4 - Normal **21**

6.1.2 Condition 3 – Increased Readiness **21**

6.1.3 Condition 2 – Escalated Readiness **22**

6.1.4 Condition 1 - Emergency **22**

7 County Emergency Frequencies **22**

7.1 Emergency and Tactical Messages **22**

7.1.1 Tactical Messages **22**

7.1.2 Transmitting **23**

8 Section Emergency Frequencies **23**

8.1 Emergency and Tactical Traffic **23**

8.2 Health and Welfare Traffic **23**

8.3 Formal Messages – ARRL Radiograms **23**

8.4 Formal Messages – ICS-213 ..... **24**

8.5 Digital Messages **24**

9 Predefined Staging Areas for Travis County **24**

10 Training (from STX Taskbook) **25**

11 Combined Transportation and Emergency Communications Center (CTECC) **26**

12 ARCHES **27**

13 ICS 213 Form **28**

14 Tactical Call Signs Used During Drills & EMCOMM Operations **31**

15 Appendix **31**

Communication Resource Availability (ICS-217)

1 Authority

The Austin/Travis County Amateur Radio Emergency Service (TCARES) is a field organization of the American Radio Relay League (ARRL) and is composed of Federal Communications Commission-licensed amateur radio operators who are trained emergency communicators, volunteering personal time, skill and equipment to serve in the public interest. TCARES participates in Volunteer Organizations Active in Disasters (VOAD) and is recognized by the Texas Division of Emergency Management, the Capitol Area Council of Governments (CAPCOG), the Travis County Office of Emergency Management, City of Austin Homeland Security and Emergency Management, and other entities within Travis County.

The Austin/Travis County ARES functions in this Emergency Communications Plan under the direction of the ARES Austin/Travis County Emergency Coordinator (EC). The EC is appointed by the South Texas Section Manager of the American Radio Relay League (ARRL) with the support of the local amateur radio clubs.

The EC may appoint a Deputy Emergency Coordinator to serve as second in command, Assistant Emergency Coordinators (AEC's), and ISC Officers as needed. The EC may appoint Duty Officers (DO's), whose primary duty is to activate Austin/Travis County ARES if needed. Unless otherwise indicated, “Duty Officer” means the EC or his or her designee(s).

When activated, the EC or DO performing the activation will become the TCARES Officer-In-Charge (OIC), or will designate an OIC. The OIC will be the final authority within Austin/Travis County ARES for the event or until relieved.

This document is prepared and authorized by a TCARES planning group consisting of the Emergency Coordinator and Assistant Emergency Coordinators. This document includes by reference the Emergency Communications Plan of the South Texas Section ARES and the District 7 STX ARES plan when approved.

2 Purpose

The purpose of this plan is to provide TCARES leaders and members with a written guide containing the minimum information needed to perform public service during an emergency. Each emergency is different and flexibility is necessary to provide an adequate response.

3 Situation and Threats

3.1 Situation

Travis County is exposed to many hazards, all of which have the potential for disrupting the community, causing casualties, and damaging or destroying public or private property. The following table provides an overview of threats as noted in the Travis County Emergency Management Plan, August 2010, Page 19, which along with the more detailed Travis County Hazard Analysis (Hazard Mitigation Plan) is incorporated here by reference. The likelihood of occurrence is divided into four possibilities: unlikely, occasional, likely, or highly likely. Impact is divided into three estimate levels: limited, moderate, and major.

Hazard Type	Likelihood of Occurrence	Estimated Impact on Public Health and Safety	Estimated Impact on Property
NATURAL			
Drought	Occasional	Moderate	Moderate
Earthquake	Unlikely	Moderate	Moderate
Flash Flooding	Highly Likely	Major	Moderate
Flooding, River or Tidal	Occasional	Moderate	Moderate
Hurricane	Unlikely	Limited	Limited
Subsidence	Unlikely	Limited	Limited
Tornado	Occasional	Major	Major
Wildfire	Likely	Major	Major
Winter Storm	Occasional	Moderate	Moderate
TECHNOLOGICAL			
Dam Failure	Occasional	Major	Major
Energy/Fuel Shortage	Occasional	Moderate	Limited
Hazmat/Oil Spill, Fixed Site	Highly Likely	Moderate	Limited
Hazmat/Oil Spill, Transport	Highly Likely	Moderate	Limited
Major Structural Fire	Likely	Moderate	Major
Nuclear Facility Incident	Unlikely	Limited	Limited
Water System Failure	Occasional	Moderate	Limited
SECURITY			
Civil Disorder	Highly Likely	Limited	Moderate
Enemy Military Attack	Unlikely	Major	Major
Terrorism	Likely	Major	Major

3.2 Natural Threats

Statistics are used to determine the frequency of each type of disaster to determine the likelihood of future occurrences.

3.2.1 Drought

There have been 21 droughts since 1950 to average one every three years. Droughts can be a factor to increase wildfire threats.

3.2.2 Earthquakes

Balcones fault runs from Del Rio east to the I-35 corridor and then north to the Dallas area. It has been inactive for 15 million years. There has only been one minor earthquake in Travis County in the last 50 years. On September 3, 2015 at 12:01pm a 2.9 earthquake was reported by the USGS 2.9 miles NNE of Leander. This was only reported by the seismic reporting equipment of USGS and no reports from the public were received. The USGS estimates that there is a 0.18% chance of a major (5.0 or larger) earthquake within 50 miles of Austin in the next 50 years.

3.2.3 Floods

There have been 638 floods in Travis County since 1950 or an average of 9.5 per year. Presidential Disaster Declarations have been issued for major Travis County floods in:

- December 20, 1991
- June 21, 1997
- October 17, 1998
- June 29, 2002
- August 29, 2005
- September 20, 2005
- June 16, 2007
- August 17, 2007
- September 7, 2008
- October 30, 2013
- May 4, 2015
- October 22, 2015
- May 22, 2016

3.2.4 Hurricanes

Although hurricanes affect the coastal areas more than Central Texas, Travis County may be included in Presidential Disaster Declarations when refugees from the affected areas are sheltered in Travis County. TCARES assists the Red Cross with communications to shelter and feeding locations.

- Hurricane Katrina August 29, 2005
- Hurricane Rita September 20, 2005
- Hurricane Dean August 17, 2007
- Hurricane Ike September 7, 2008
- Hurricane Harvey August 25, 2017

3.2.5 Tornadoes

Since 1950, there have been 12 confirmed tornadoes in Travis County or approximately one per six years. These are mostly category 2 in magnitude and average being on the ground 4.6 miles and have a width of 222 yards. There have been 2 fatalities and 16 injuries and a total of $22 million dollars in property damages.

Year	Date	Magnitude	Length (miles)	Width (Yards)	Fatalities	Injuries	Property Damage
1954	4/30	3	3.0	880	0	0	$ -
1957	3/31	2	0.5	100	0	0	$ 250,000
1957	3/31	2	0.1	10	0	0	$ 25,000
1959	5/10	3	11.0	667	0	0	$ 250,000
1970	7/4	2	1.5	47	1	4	$ -
1973	1/20	2		40	0	0	$ 25,000
1975	5/7	2			0	0	$ 25,000
1977	4/14	2	21.6	200	0	0	$ 250,000
1980	8/10	2	5.4	150	0	4	$ 250,000,000
1980	4/7	3	5.7	33	0	3	$ 250,000
1997	5/27	2	3.6	100	0	0	$ 50,000
1997	5/24	4	5.6	440	1	5	$ 15,000,000
Total	12	29	55	2667	2	16	$ 266,125,000
Avg.	1 every 6 years		4.6	222			$ 22,177,083

3.2.6 Wildfires

Wildfires are common in Travis County with area fire departments responding to frequent grass fires. Depending on weather conditions and other factors these can become major disasters. Wildfires that became Presidential Disaster Declarations include:

- November 27, 2005
- March 14, 2008
- August 30, 2011

The 2011 Labor Day Fire consisted of six separate fires that burned:

- 7,000 acres and 57 homes in Travis County
- 34,000 acres and 1,700 homes in Bastrop County

This major disaster lead Austin and Travis County to commission a study by Bowman Consulting and Baylor University to develop a Community Wildfire Preparedness Plan. It considered the factors that escalate a common grass fire into a major wildfire:

- Construction materials
- Vegetation types
- Canopy height & density
- Buffer zone size
- Prevailing weather conditions (humidity & wind speed)
- Frequency of burn bans

Based on these factors the study developed risk rankings for various areas within Travis County. This is not an estimate of future likelihood of wildfires, but identification and analysis of where within the county these conditions may lead to wildfires.

Municipality	Probability of Wildfire due to Embers	Probability of Structure Combustion
Austin	17.5%	6.8%
Cedar Park	9.3%	3.3%
Leander	34.0%	13.7%
Jollyville	13.2%	17.4%
Round Rock	2.8%	0.1%
Jonestown/Lago Visa	24.2%	8.8%

3.2.7 Winter Storms

In the last 50 years there have been 16 winter storms or one every four years. There is an average 19 days per year with freezing temperatures. When precipitation accompanies freezing temperatures, ice can result in downed power lines and loss of power.

3.3 Technological Threats

3.3.1 Dam Failures

Travis County experienced a major dam failure in 1900. The dam for Lake Austin was built in 1893 of Granite blocks creating 64,279 acre feet of water. Engineers found that the eastern half of the dam had a poor foundation, but the city took no action. When the dam broke it created a 40 wave that killed 23 and injured 200. There was $1.4 million damage in 1900 dollars.

The Lower Colorado River Authority has six dams on the Colorado River above and in Travis County that are categorized by the US Army Corps of Engineers as Large – High Hazard dams. This is the highest category for dams and means they must safely pass the Maximum Probable Flood (MPF) test for surviving a 500 year flood.

Dam	Lake	Built in	Size in Acre Feet	Generation Capacity
Buchanan	Buchanan	1935	875,588	54.9 Mw
Inks	Inks	1938	13,668	13.8 Mw
Wirtz	LBJ	1951	133,216	60 Mw
Starcke	Marble Falls	1951	7,186	41.4 Mw
Mansfield	Travis	1942	1,139,956	108Mw
Tom Miller	Lady Bird	1940	24,644	17 Mw

In 1989 the US Army Corps of Engineers determined that four of the dams (Buchanan, Inks, Wirtz, and Tom Miller could be unstable in a 500 year flood. Mansfield and Starcke were found to be safe. The LCRA implemented prioritization plan to correct the deficiencies:

- Corrections were completed on the Wirtz dam in 1999
- Corrections were competed on the Buchanan and Inks dams in 2001
- Corrections were completed on the Tom Miller dam in 2004
- In 2008 the restoration project received the West Regional Award of Merit
- In 2011 an eight year project was stated on refurbishing the Mansfield dam 23 gates

3.3.2 Hazardous Materials (HazMat)

Hazardous materials come in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. A hazardous material (HAZMAT) incident involves a substance outside normal safe containment in sufficient concentration to pose a threat to life, property, or the environment. These substances are most often released as a result of transportation accidents or because of chemical accidents in plants.

Specialized equipment is often required to safely handle or dispose of hazardous materials. Hazardous materials incidents vary in their intensity, size, and duration. Most incidents are small in scope and only require a limited response. Occasionally there will be a large incident or one involving a chemical that requires evacuation of the surrounding area.

Since 1993 there have been 220 incidents in the City of Austin. TXDOT reports that 40% of truck traffic through Austin contains hazardous materials, with petroleum and flammable gases the main materials transported. Accidents involving spilled materials take an average of 10 hours to clean up and result in 17,000 hours of total vehicle delays during the incident.

- October 30, 2010 – US183 and MoPac. 9500 gallons of gasoline burned when a tanker rolled off an overpass. The intense heat threatened the structure's stability.
- March 28, 2012 – Toll 130 and Maha Loop. 9500 gallons of gasoline burned when a car slammed into a tanker truck, killing the car's driver.
- September 27, 2012 – I-35 NB at Slaughter Lane. 2900 gallons of a gasoline mix spilled when a tanker rolled into the grassy median.
- April 13, 2016 – Medics responded to an incident in a West Campus apartment. Fire fighters found a warning sign that stated, "Stay Out: Hydrogen Sulfide". There was 1 fatality, six persons taken to Brackenridge Hospital, and five others treated at the scene.

3.3.3 Nuclear Facility Incidents

There are six nuclear facilities in Texas:

- South Texas Nuclear Project – generating plant 170 miles Southeast of Austin, built in 1971
- Comanche Peak Nuclear Power Plant – located 170 miles North of Austin, built in 1974
- University of Texas Testing, Research Isotopes and General Atomics (TRIGA) facility located on the J.J. Pickle Research Campus
- Texas A&M Research Isotopes and General Atomics (TRIGA) facility located at the Texas A&M Engineering Experiment Station, Nuclear Science Center

- Texas A&M AGN-201M Nuclear Reactor Laboratory located at the Texas A&M Engineering Experiment Station, Nuclear Science Center

- PANTEX Plant located 17 miles Northeast of Amarillo (480 miles Northwest of Austin) is the primary nuclear weapons assembly, disassembly, modification and maintenance plant in the United States. Ninety percent of the nation's plutonium is stored at the PANTEX plant. As a major national security site, the plant and its grounds are strictly controlled and off-limits to all civilians, and the airspace above and around the plant is prohibited to civilian air traffic by the FAA as Prohibited Area P-47.

There have been no radioactive leaks from any of the facilities.

3.4 Security Threats (Terrorism, and Civil Disorder)

Austin has experienced significant incidents involving hostile individuals. These include:

- August 1, 1966 – a former marine sharpshooter opened fire from the Observation Deck on the UT Tower killing 15 and wounding 31 others.
- April 26, 2007 - a 27-year-old Austin man placed a bomb containing some 2,000 nails in the parking lot of an abortion clinic. The explosive device also included a propane tank and a rocket like mechanism but was disarmed before it could explode.
- June 8, 2008 - an unknown individual threw a Molotov cocktail onto the Governor's Mansion, causing extensive fire and smoke damage.
- September 28, 2010 - a 19-year old sophomore math major fired four rounds from an automatic weapon near the Littlefield Fountain near 21st Street and Whitis Avenue about 8:15 a.m. He then ran into the Perry-Castaneda Library and up the stairs to the sixth floor, where he committed suicide.
- February 18, 2010 - a man crashed his Piper Cherokee PA-28 into the side of the Echelon Building on Research Boulevard to protest taxes.
- March 15, 2014 – a driver plowed his car into a crowd during SXSW killing two and injuring 22 others.
- November 28, 2014 – A gunman opened fire on the Mexican Consulate, Federal Courthouse and Austin Police Headquarters firing over 100 rounds before being killed by police.

According to the Texas Department of Public Safety, Texas Public Safety Threat Overview (January 2017), "In May 2016 via the messaging app Telegram, the pro-Islamic State hacking group United Cyber Caliphate, posted a list of 1,543 names, personal addresses, and IP addresses belonging to Texas residents described as 'most important crusaders in Texas' who are 'wanted to be killed.' The message encouraged would-be attackers to 'crush the cross' and 'shoot them down.' Later 'kill lists' containing the names of hundreds of Texas residents have been released as well."

4 Concept of Operations

The primary responsibility of the Austin/Travis County Amateur Radio Emergency Service is to furnish emergency communications in the event of a natural or a man-made emergency when regular communications fail, become inadequate or overloaded.

4.1 Agency Assistance

Following is a list of jurisdictions/agencies that will be served, as requested, in an emergency. Other city and/or state agencies will be served as requested by the City of Austin and/or Travis County Office of Emergency Management.

- Incorporated jurisdictions in the greater Austin metropolitan area.
- The unincorporated area under the authority of the Travis
- County Judge and the Austin/Travis County Office of Emergency Management.
- The American Red Cross
- Police, EMS, and Fire Departments
- Hospitals and nursing homes
- The Emergency Coordinator of the South Texas Section of the ARRL when requested by surrounding Districts needing assistance.
- The Emergency Coordinator of District 7 when requested by surrounding counties needing assistance.
- The State of Texas Division of Emergency Management
- The Federal Emergency Management Agency (FEMA)
- The Salvation Army
- The Military Amateur Radio Service (MARS)
- Capital Area Planning Council of Governments (CAPCOG)
- Capital Area Trauma Regional Advisory Council (CATRAC)
- Austin/TCARES may provide volunteer communications support for other public events in non-emergency situations.
- Austin/TCARES runs the SkyWarn Weather Net when weather conditions warrant and reports to the National Weather Service (NWS) via NWSChat which also connects to the area EOCs and local television stations. Activation is based on pre-set criteria established by the NWS.

4.2 When a TCARES Member Becomes Aware of a Communication Emergency

Any member of the Austin/Travis County ARES who becomes aware that a communications emergency exists, should contact the EC, a Duty Officer, or an AEC and monitor the current assigned Resource and Tactical net frequency (147.36 tone 131.8) for instructions.

Operators are forbidden to go to the site of any emergency event unless authorized to do so by the EC or Net Control.

4.3 Communications Emergencies

The TCARES EC, Deputy EC, AEC, or Duty Officer activates a response to a communication emergency, the activation notice will be via the STX paging system (text & email), the ares-tc yahoogroup email, or personal contact. Normally the instructions will be to tune to the 147.36 repeater (tone 131.8) which is the Resource Net.

TCARES is available to respond to communications emergencies affecting our served agencies. The best available communication mode for the incident shall be used, which may or may not include amateur radio.

4.4 Amateur Radio as a Force Multiplier

TCARES is available to assist served agencies with additional manpower when its communications capabilities can be of benefit. For example, TCARES personnel may provide status updates at various points like water stops for walks/runs/bicycle events.

4.5 TCARES Response

In keeping with ICS protocol, Net Control will only authorize operators to go to the site of an emergency incident, if the appropriate served agency requests TCARES help at that site. The request, requester name, title, served agency, and time should be documented in the net log.

The EC, Designated Duty Officer, or Assistant EC shall be notified by telephone or text message. Other methods including amateur radio or courier may be used if needed.

In any emergency in which amateur radio is requested to serve, amateur radio operators may be alerted by any Emergency Management Coordinator, Red Cross, or state official notifying the EC or designated Duty Officer. If the EC and Duty Officer are unavailable, notify an AEC. The AEC will periodically attempt to contact the EC and Duty Officer. The EC or designated Duty Officer who activates TCARES will become the TCARES Officer in Charge (OIC).

The TCARES OIC will document the name, title, and served agency of the requester. The TCARES OIC will be in charge of all TCARES operations during any emergency activation. He/she will be the top Austin/Travis County ARES authority for the event. All TCARES participants will take direction from him/her. The OIC may change during the event at the discretion of the OIC or EC.

The OIC or designee will notify TCARES members by using the STX paging system (text & email), the ares-tc@yahoogroups email, or phone contact.

The dedicated repeater for TCARES is located in West Austin near the TV towers. It is the 147.36 repeater and has a 131.8 tone required for access (positive offset). Weekly nets are held on this machine and in an activation it is used as the Resource Net (for

check-ins and instructions). The 146.94 (tone 107.2) is the primary back-up repeater and used as the Tactical Net (for Incident Operations). TCARES is also authorized to use other repeaters owned by the Austin Amateur Radio Club when needed:

- 146.88 (tone 107.2)
- 224.80 (tone 110.9)
- 444.10 (tone 103.5)
- 444.20 (tone 107.2)

A simplex tone of 146.58 will be used when needed.

The Yahoo mail group for TCARES is ares-tc@yahoogroups.com. You may subscribe to this group by sending a mail to traviscountyares-subscribe@yahoogroups.com This e-mail address is being protected from spambots. You need JavaScript enabled to view it This mail must be sent from the account you will use on the group. You may subscribe additional addresses by repeating the process. This would allow you to post from a different account if needed. Group members are protected from spam since only a group member may post a message. Applications must be approved by a moderator to join but you may post mail at any time once you are a member. All TCARES members are strongly encouraged to be a member of this group so we can reach you with info about activities and get input from TCARES members.

Upon notification that a communications emergency exists, members of the Austin/Travis County Amateur Radio Emergency Service will listen to the frequency and will only check in if they have urgent information or when the Net Control Station (NCS) asks for check-ins on the Austin/Travis County Emergency Net. Stations will maintain radio silence, unless they have business with the net.

4.6 TCARES Member Safety

Any time a TCARES member deploys, he or she assumes certain risks, as a normal day provides hazards from weather, traffic, or actions of others through neglect or intention. Disaster responders generally may be faced with a crime scene, potential radiation or hazardous materials, live downed electric wires, broken gas lines, injured individuals, or hostile actors.

The Centers for Disease Control and Prevention list thirteen possible hazards in disasters:

- Unstable work surfaces
- Excessive noise
- Breathing dust (asbestos)
- Heat Stress,
- Confined spaces
- Potential chemical exposures
- Traumatic stress
- Electrical
- Carbon Monoxide
- Eye injuries
- Flying debris; particles
- Heavy equipment use
- Rescuing victims (http://www.cdc.gov/niosh/topics/emres/emhaz.html).

TCARES member safety is paramount and should not be compromised. The TCARES Safety Officer has received specialized training and is responsible to identify and avoid or mitigate unnecessary risks. TCARES members should assess any scene before entering, and approach any situation in a manner designed to reduce risk of harm to anyone while maximizing the safety of anyone in the area.

If a member on assignment determines that a requested action would result in harm to people or equipment, the member should not implement that action but rather withdraw and immediately notify the TCARES Safety Officer, the EC, or Net Control. A TCARES member has the right to refuse an assignment or task if their safety is at risk.

5 Organization

5.1 Districts

The county level is the smallest level of organization within TCARES. Travis County is in District 7 of the South Texas Section of the West Gulf Division (Bastrop, Blanco, Caldwell, Fayette, Hays, Lee, Travis, and Williamson)

5.2 Training

Drills, training and instruction shall be carried out to ensure readiness to respond quickly in providing effective amateur emergency communications.

TCARES is committed to maintaining a high current level of training and readiness for its members. To meet this goal, multiple training programs exist. The Taskbook for all South Texas ARES members is located on the STX Depot website (www.arrlstx.org) under Courses & Training. FEMA requires that all deployed personnel to complete the following online courses (www.training.fema.gov/is/crslist.aspx):

- IS-100 Introduction to Incident Command System
- IS-200 Single Incidents and Initial Actions
- IS-700 Introduction to National Incident Management System
- IS-800 National Response Framework, An Introduction

Go to the STX website and enter each item when complete. Then send an email to the TCARES EC to validate your tasks. All members should take appropriate action to complete the items required for the next certification level.

Monthly meetings along with weekly Voice and Packet nets contain training segments or training schedule reminders. TCARES as an organization adheres to the National Incident Management System. The reason for this is Homeland Security and other Federal and State agencies have adopted NIMS as an event management plan. TCARES members will be expected to understand and operate under NIMS during activations. Without this training, you may not gain access to emergency sites during activations.

Winlink is very important to our ARCHES hospital communications program. Detailed guides for installing and using Winlink Express (formerly RMS Express) are on the tcares.org website.

TCARES holds two training nets each Sunday evening. The first net is a voice net and here we practice proper radio techniques and share important information on upcoming events. The net is held at 1900 hours, every Sunday night, on the 147.36 Repeater (131.8 Tone). Backup repeaters include 146.88, 146.94, and 444.20 all with a 107.2 tone, and 444.1 with 103.5 tone, and if necessary go to simplex 146.58 simplex (no tone) to continue the net. This weekly test will be preceded by a notice on the ARES-STX Pager Alerting System and ARES-TC yahoogroup emails.

The second scheduled net is a packet net and is used to test our skills and equipment using 1200 baud Packet to support Winlink operations. Sunday Night Packet Training Net is at 2000 hours, on 145.73, simplex, using the unconnected mode. Set up your TNC to change the value of unproto as follows: Use first name via x,y where [ausrly1 n5hpc-5 w5tq-4] are the real digipeaters instead of x and y. For example, my name is Bill and I can digipeat through n5hpc-5 easily. Use this argument to set your unproto: unproto Bill via n5hpc-5,ausrly-1,w5tq-4. ausrly-1 is at 3M on 2222, n5hpc-5 is at 41st and Guadalupe and w5tq-4 is at CTECC. Be sure to include all 3 digipeaters in your unproto line.

An annual test will be conducted during the fall of each year in conjunction with the nationwide Simulated Emergency Test (SET) sponsored by ARRL. Periodic exercises will be conducted in cooperation with the various Austin/Travis County Emergency Management Coordinators. At the discretion of the EC, TCARES will sponsor an unannounced activation at least once a year.

5.3 EC Authority

The EC has the authority to appoint Assistant ECs and other appointees as necessary. Travis County ARES Officers and Contacts are:

- (EC) Emergency Coordinator - The Emergency Coordinator for Travis County ARES, along with his/her AEC's are responsible for activating the unit when needed, organizing and training hams, and coordinating with District 7 and the South Texas Section leadership.
- (DEC) Deputy Emergency Coordinator – Is the second in command and serves as acting EC when required.
- (AEC) for Emergency Operations Center – Is responsible for maintenance and operations of the Radio Room at the Austin/Travis County EOC in the Combined Transportation and Emergency Communications Center (CTECC) at 5010 Old Manor Road, Austin and back-up sites. He is also responsible for maintaining working relationships with the Austin and Travis County Offices of Emergency Management
- (AEC) for Planning – Is responsible for preparation for events and incidents including resources, collects and evaluates information, prepares Incident Action Plans & After Action Reports, and coordinates with operation activities.
- (AEC) for Database and Website Coordinator. Responsible online tools and reporting systems and for functionality of the website.
- (AEC) for NET Operations Coordinator is responsible for Net Operations, Scheduling Net control operators, scripts, procedures and other items related to our Net Control programs.
- (AEC) for Membership and Resources – Is responsible for maintaining a listing of TCARES members, their contact information, and badge status.
- (AEC) for Reports and Statistics – Is responsible for maintaining documentation of all net, event, and incident check-ins and preparing monthly reports.
- (AEC) for SkyWarn – Is responsible for monitoring severe weather warnings for Travis County, activating WX Nets, maintaining contact with the NWS and preparing weather related After Action Reports
- (AEC) for Logistics – is responsible for providing support for operational objectives, including station set-up and take-down.
- (PIO) Public Information Officer - Is tasked with briefing media, promoting the visibility of TCARES and its activities and fielding questions from the media and public when TCARES is activated.
- (SO) Safety Officer – Is responsible for identifying and monitoring risks and developing measures to ensure the safety of TCARES members when activated

- (LO) Liaison Officers – They are the primary contact between TCARTES and each supported agency. TCARES maintains an ongoing relationship with the following agencies and appoints a Liaison Officer to each:
    - National Traffic System Nets
    - American Red Cross
    - Radio Emergency Associated Communications Team (REACT)
    - Military Amateur Radio System (MARS)
    - Austin Disaster Relief Network (ADRN)

5.4 Mutual Aid

TCARES is available to assist other ARES counties when their needs exceed their organizational resources thru Mutual Aid Agreements.

5.4.1 TCARES Response Levels

5.4.1.1 Level 1 Response

The primary responding ARES group has sufficient resources to meet the identified communications needs, using registered ARES or spontaneous volunteers.

5.4.1.2 Level 2 Response

The resources of the primary ARES group are insufficient, and additional resources are needed from the ARES groups in adjacent counties, or from within the ARES district. As soon as this need is reasonably anticipated, the EC should contact the District EC or the ECs of adjacent counties and identify the needs.

5.4.1.3 Level 3 Response

The resources of the primary ARES group, adjacent counties and the ARES district are insufficient, and additional resources are needed. As soon as this need is reasonably anticipated, the District 7 EC should contact the DECs of adjacent districts, identify the needs, and then inform the South Texas Section EC and section Manager

5.4.1.4 Level 4 Response

The resources of the primary ARES group, adjacent counties, surrounding ARES districts are insufficient, and additional resources are needed from outside the South Texas section. As soon as this need is reasonably anticipated, the DEC should contact the South Texas EC and Section Manager. The SEC and SM will normally coordinate resources from outside the section.

5.4.2 Mutual Assistance Resources

TCARES and the Austin Amateur Radio Club have equipment and trained members available for mutual assistance missions. TCARES participates with the Texas Rapid Response Task Forces and other entities in combined efforts with other agencies to provide emergency communications.

6 Readiness Conditions

Standard operating procedure for all conditions is below:

OPEN NETS: The Austin/Travis County Emergency Net will be activated by the Net Control Station. Based upon the facts, stations will be fully advised as to the nature of the emergency. Net Control will establish backup frequencies and a backup NCS station. As appropriate, Net Control will periodically announce that a net is in progress, give brief summaries, and remind users of backup frequencies and backup net control, etc.

CHECK IN STATIONS: Stations will be checked in from their home stations, mobiles, and portable stations. All stations shall stand by for further instructions. An inventory list will be made of operators and equipment for possible assignment as relief operators.

DISPATCH: Mobile and portable stations will be dispatched as needed either to a "Staging" location or directly to the incident site as determined by the OIC. OIC must notify NCS which Agency Official, by name and title, requested our deployment should our deployed units encounter a restricted access condition or other challenges. The location of each will be noted at all times by the NCS.

SITE SUPERVISION: Each site will have a designated Communications Supervisor (CS) who will coordinate amateur communication at their specific deployment site.

6.1 Condition 4 – Normal

Denotes that normal and routine conditions are present. TCARES members should improve their knowledge and skills through training such as taking suggested FEMA courses, participating in public service events, meetings, and TCARES training nets; program radios with TCARES frequencies; and verify the readiness of their equipment on a monthly basis.

6.2 Condition 3 – Increased Readiness

Condition 3 refers to a situation which presents an increased potential threat, but poses no immediate threat to life or property. This condition includes situations which could become hazardous. This includes severe weather such as hurricane

watch, severe weather watch, tornado watch, flash flood watch, or winter storm watch.

TCARES members should review their family emergency plan; refresh food, water and clothes in go-kits; check or charge HT and storage batteries weekly; carry HT at all times; keep their vehicle fuel tank more than half full.

6.3 Condition 2 – Escalated Response Condition

Condition 2 is triggered by severe weather warnings issued by the NWS, such as inland hurricanes, severe weather warnings, or winter storm warnings. The WX net will routinely be activated when the NWS issues a warning for Travis County. Activation notices will be issued through the STX paging system (email & Text) and the ARES-TC yahoogroup email.

TCARES members should monitor their ARES repeaters and sign-in when requested; secure their home, family and emergency supplies; top off their vehicle fuel tank; place go-kits and batteries in car.

6.4 Condition 1 - Emergency

Emergency Condition 1 could be triggered by severe weather actual conditions that pose a danger to life and property. In the event of a tornado within Travis County, a second WX net will be activated so that tornado reports are immediately available and reported via NWSChat to the NWS, area EOCs, and local TV stations. The first WX net will continue to take reports of hail, high wind, and flooding and report via NWSChat.

7 County Emergency Frequencies

For voice communications, a TCARES member will typically check in on a Resource Net on 147.36 MHz (131.8 tone, positive offset). The Resource Net Control will acknowledge the check-in, take necessary information including location and station type, and refer the member to a Tactical net on 146.94 MHz (107.2 tone, negative offset).

Weather nets will typically be called on 146.94 MHz (107.2 tone, negative offset).

Other Austin Amateur Radio Club repeaters are authorized for use when needed:

- 146.88 (tone 107.2)
- 224.800 (tone110.9)
- 444.1 (tone 103.5)
- 444.2 (tone 107.2)

7.1 Emergency and Tactical Traffic

7.1.1 Tactical Messages

Tactical Emergency messages, such as FIRE, POLICE or Life-or-Death situations do NOT require NUMBERS. These are first priority messages and we use "Break, Break!"

to get attention of the NCS, between transmissions. When accepting such messages for transmission, require only the following information:

- To (Example: Austin Fire Department)
- What (Example: Pumper truck needed ASAP)
- Why (Example: Structure fire)
- Where (Example: Travis High School)
- Who (Lt. Scott Gibson, Austin Fire Department)

7.1.2 Transmitting

Keep transmissions short and to the point. All stations, including net control, should leave frequent gaps in their transmissions for emergency traffic. (Long enough for someone to recognize the gap and call "BREAK BREAK.") Stations must not transmit unless invited to do so by the Net Control (NCS).

8 Section Emergency Frequencies

8.1 Emergency and Tactical Traffic

Day: 7285 kHz LSB Night: 3873 kHz LSB

8.2 Health and Welfare Traffic

Day: 7290 kHz LSB Night: 3935 kHz LSB

8.3 Formal Messages – ARRL Radiogram

Formal messages are those which are written in a standard format. All messages which request material or services which may require payment or replacement must be formal messages.

Message Forms: All formal messages must be written in standard ARRL format unless otherwise directed by the served agency.

It is strongly encouraged to restrict messages to 25 words or less, particularly if the message will be relayed multiple times or sent out of the area. Messages over 25 words are much less likely to reach their destination quickly. Operators receiving messages from officials should encourage the officials to produce messages in 25 words or less to ensure prompt and reliable delivery.

The served agency representative can create his/her printed message on the Message Forms provided by the radio operator for that purpose.

Message Precedence: The operator must assign the message an ARRL PRECEDENCE, defined on ARRL CD Form 3. This PRECEDENCE will be used on all messages.

Any operator receiving messages should check the precedence of messages received for EMERGENCY precedence messages. Anyone giving messages to an operator should check the messages and inform the operator if any of the messages are of EMERGENCY precedence. The person passing the messages should be sure the receiving operator acknowledges this precedence.

Requester name: All FORMAL MESSAGES require the PRINTED NAME, TITLE, SERVED AGENCY and SITE of the requester.

All requests to dispatch operators to a location require PRINTED NAME, TITLE, SERVED AGENCY and SITE of the requester. These requests should be written down in the net log.

Save Messages: All operators must save a copy of all formal messages.

8.4 Formal Messages – ICS 213

Operators should use the most efficient method available to transmit their message. If available and appropriate, use the telephone, fax, cell phone, internet, packet, foot, automobile, etc. The more traffic passed off the air, the more available ham radio is for traffic to/from locations without alternate means of communications.

TCARES operators will comply with the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA) and State of Texas legal requirements. The HIPAA Privacy Rule affords patients and individuals the right to access, amend, and safeguard the privacy and confidentiality of their personal, protected health information (PHI). PHI is defined as any identifiable health, medical or demographic information that describes the individual's personal identity. This includes but is NOT limited to name, address, phone number, e-mail, photographs, charts, tests, records etc. This information will not be transmitted by voice communication. In all written communication, please print legibly.

8.5 Digital Messaging

TCARES uses a variety of digital messaging methods and packages, including APRS, packet messaging, HSMM, D-STAR, and others. Digital messaging is very important for disaster communications. In its various forms it provides a HIPAA compliant method for transmitting patient data, a way to transmit pictures from a remote site, a way to provide Internet service over airwaves, and a way to transmit documents including signed documents that are currently required by NIMS protocols. TCARES members are encouraged to learn and become proficient in digital modes.

9 Pre-defined Staging Areas for Travis County

Mobile units may stage in the parking lots of pre-defined staging areas which are:

- HEB Grocery Stores
- Wal-Mart Stores
- Austin Parks and Recreation Department Community Recreation Centers

10 Training (from STX Taskbook)

Basic

- Join TCARES
- Obtain an FCC Amateur Radio License

Intermediate

- IS-100 Introduction to the Incident Command System
- IS-200 Single Incidents and Initial Actions
- IS-700 Introduction to the National Incident Management System (NIMS)
- SkyWarn Basic Training on Weather Monitoring (biannual)
- Participate in a directed net (at least quarterly)
- Participate in a Simulated Emergency Test (SET)
- Write and send an ICS-213 message
- Assemble a 24-hour Go-Kit
- Obtain a Taskbook
- Program frequency and offset into a radio
- Program a tone into a HT
- Set up cross-band repeater on a mobile radio

Advanced

- IS-800 Introduction to the National Response Plan
- IS-802 Emergency Support Functions – Communications
- ARRL EC-001 Introduction to Emergency Communications
- SkyWarn Advanced Training – Weather Monitoring
- Serve as Net Control
- Participate in a Public Service event
- Present a training session
- Participate in PIO activities (Course PR-101 counts)
- Build a simple dipole antenna
- Build a powerpole adapter cable
- Operate a VHF WinLink station in peer-to-peer mode
- Demonstrate proficiency in using ICS forms
- Hold a General Class license or higher

Away-Team

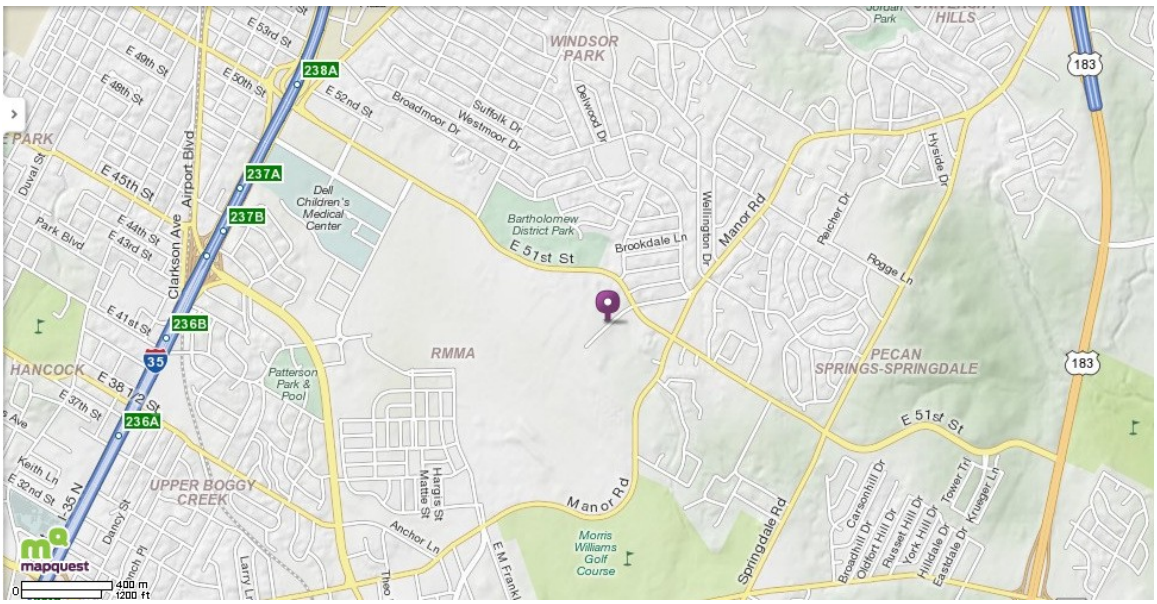
- Hold a Leadership position in a group
- Assemble a 72/120 hour Go-Kit
- Demonstrate the ability to set up a Type 1 Away Team Go-Kit complete with VHF packet to HF Pactor linked system
- Operate a HF WinLink station

11 Combined Transportation, Emergency & Communications Center (CTECC)

-- Office --
Combined Transportation, Emergency & Communications Center (CTECC)
5010 Old Manor Road, Suite 330, Austin, TX 78723

-- Mailing Address --
City of Austin, HSEM, P.O. Box 1088, Austin, TX 78767-1088

Phone (512) 974-0450
Fax (512) 974-0499



12 ARCHES

NOVEM ER 2010 DRILL HOSPITAL CALL SIGNS

Non-Hospital Stations

CTECC, Drill Winlink Address: w5tq-1@Qwinlink.org

RMOC (if activated), Drill Winlink Address: w5oem-1@winlink.org

Llano County

Llano Memorial Hospital, Drill Winlink Address: k5hla-7@ewinlink.org

Travis County Hospitals

Austin Surgical Hospital, Drill Winlink Address: ke5twr-5@winlink.org

Seton Medical Center, West 38th St., Drill Winlink Address: w5oem-15@winlink.org

St. David's Medical Center, Drill Winlink Address: w5oem-8@winlink.org

St. David's North Austin Medical Center, Drill Winlink Address: w5oem-9@winlink.org

St. David's South Austin Medical Center, Drill Winlink Address: w5oem-12@winlink.org

Williamson Co. Hospitals

Cedar Park Medical Center, Drill Winlink Address: w2mn-1@winlink.org

S & W University Medical Center, Drill Winlink Address: na5bd-2@winlink.org

St. David's Medical Center, Georgetown, Drill Winlink Address: kd4hnx-1@winlink.org

St. David's Medical Center, Round Rock, Drill Winlink Address: kd4hnx-4@winlink.org

S & W Taylor Hospital, Drill Winlink Address: n5exy-2@Qwinlink.org

13 ICS 213 Form

MESSAGE>

TO:	POSITION:
FROM:	POSITION:
SUBJECT:	

TEXT:				
SIGNATURE:			POSITION:	
RECVD BY:	RECVD TIME:	Z	RECVD DATE:	

REPLY>

TEXT:				
SIGNATURE:			POSITION:	
RECVD BY:	RECVD TIME:	Z	RECVD DATE	

OP NOTES:

The ICS 213-AR is a general use message form for use by Amateur Radio Emergency Communicators.

The ICS 213-AR has two parts:

Part 1 is the original message
Part 2 is the reply

Complete the parts as follows.

PART 1 - MESSAGE

TO: The person to whom the message is intended. POSITIONS: Rank, ICS Title, Organization

FROM: The sender originating the message. POSITION: Rank, ICS title, Organization

SUBJECT: A short description of why the message is being sent

TEXT: Message goes here. The "TEXT" section contains forty (40) spaces for words. Messages containing more than forty words may need editing by the sender. Longer messages may be continued on the reverse.

SIGNATURE: Signature of the sender. An actual signature may be required by some recipients. Message requiring actual signatures may have to be sent as images.

POSITION: Same as above.

RECVD BY: Initials of the communications operator.
RECVD TIME: Zulu time received
RECEIVED DATE: Zulu date received

PART 2 – REPLY

ALL AS ABOVE.

OP NOTES: The Communications Operator should record any pertinent information needed to complete the message communication here.

The operator may see a multipart version of the ICS 213. Retain extra copies.

14 Tactical Call Sign Use During Drills and EMCOMM Operations

Travis County ARES will use tactical call signs to reduce confusion and enhance the efficiency and efficacy of all drills and operations. Tactical callsigns may be assigned by the Net Control Station (NCS), a Team Leader, and CTECC or, in some instances, self-assigned. Deployed "GO" teams and "Field Op" teams will use tactical call signs as follows:

Fixed Stations will use tactical call signs that designate LOCATION and FUNCTION. Examples:
"North Staging" "MANOR CP" "SOUTH LAMAR OPS" "FIRE STATION 1101"

Mobile stations use call signs that designate FUNCTION and a UNIQUE NUMERIC DESIGNATOR. Examples: *"FIRST AID 1" "TRANSPORT 6" "AMBULANCE 903"*

NET CONTROL will use the tactical callsign *"NET"*
CTECC will use the tactical callsign *"CTECC"*
Red Cross Headquarters will use the tactical callsign *"RED CROSS"*

Stations not assigned to a location or operation will use the last two characters of their FCC assigned callsign as their tactical callsign. ICAO phonetic will be used if radio conditions are poor or the letters/numerals alone are likely to be misunderstood.

Examples: K5FX will use *"FX"* or *"FOXTROT XRAY"*
KE5DTP will use "TP" or *"TANGO PAPA"*
K5TOC will use *"OC"* or *"OSCAR CHARLIE"*
NG5V will use *"5V"* or *"FIVE VICTOR"*

To comply with the FCC identification rules, append your full FCC call sign to the end of your last transmission (or every ten minutes for longer exchanges) the other station(s) should do the same. To contact another station always state the called station first, followed by the proword "this is", then your station name.

"NORTH STAGING, this is OPS ONE"
"LAMAR COMMAND, this is FIRST AID TWO"

Responding to a call: The correct response is to identify with YOUR tactical call sign, followed by the proword "go": *Team 2, go" "Brush 21, go"*

To end a contact, use the proword "OUT" and your FCC assigned callsign:
"SAR Base out, K5XXX" "Fair Oaks Command OUT, W5ZZZ"

15 Appendix

Communication Resources Availability (ICS-217)
(Attached)