Southwestern REACTer

March 2018

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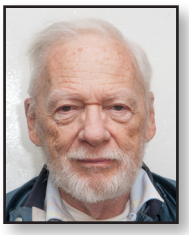
SWR's mission is to prepare for communications during emergencies and disasters. This preparation is accomplished though working community events such as: The Lakeside Western Days, and North Park Toyland parades, the Midnight Madness Bicycle Ride and Fiesta Island Time Trials, the Silver Strand Half-Marathon, the San Diego International Triathlon and the Descanso Endurance Horse Ride

The Southwestern REACT General Meeting is held the third Thursday of the month at 6:30 PM at:
2650 Melbourne Drive, San Diego, CA

Reactive Team Net
The Team net is held on the first and fourth Thursdays of the month at 8:00 PM on the 449.440 Community based Repeater witha negative offset and a PL tone of 107.2 (Mt. Otay)



The Need For ...?

By Roger McCullough, SWR Ø98, President

Feedback, The Amateur Community, & Our Help

Well, here we go into another year and have we have already planned and executed the "Encinitas Half Marathon". But there's more! Perhaps the single most important part of this event, besides the satisfactory results for the organizers, was the non-REACT members that came to help. We reached the local amateur community to draw in 10 operators, 4 of them new hams, to experience the world of radio communications working with and for others; the feedback that occurs as our team members work with others .

To those reading this that have not worked with us on an event, a short briefing might be in order. The word of the event goes out in a Preliminary Briefing with an outline of the event details. Those that choose to work the event notify the Team. Just before the event a Final Briefing goes out and the Event Coordinator makes his assignments. Any operator that has not worked with us before is paired with an experienced operator. No new operator is assigned a location without a partner for support or guidance. After the final briefing at the event, the game is on.

I've spoken before of our support of the "Get OnThe Air" (GOTA) program; to get new or inexperienced hams active and trained in the use of and with their radios. You, as REACT members, have gone the extra mile to demonstrate to our radio community what we can and must do to prepare for using our skills to be able, when necessary, to protect lives and property.

To those of you reading this that are not members (yet?), a key theme of our working events is that events are the training that is otherwise offered in drills or exercises. Events are "real stuff". The working with different event managers with different needs and expectations, keeps alive our Gumby Principle: "Be Flexible". Our help is our offer to any interested ham; the world of "hands-on".

Now, back to feedback. Part of the "fun" at many of our events is the chance to get together and talk about what we just did. We listen to the new people and help fill in any gaps of understanding that might surface. What did we miss? Any new ideas or changes suggested? Our door is open and the welcome mat is out on the path to improvement.

At the present time we have two long distance bike ride requests, the Lakeside Parade, another half marathon, a pending endurance horse ride, and a triathlon. So bring on the events, for the invitations to work with us are in the e-mail.

"Nuf said…" ➢

Let's Git' Er Done!!!

pres@southwesternreact.org

Announcement About Website

Please check out our website WWW.SW-REACT.com. There is listed our schedule of events for 2018. Some have not been approved but you can put them on your schedule so you will know that they are coming up. Planning ahead is a good way to be prepared. You can also find under forms applications for membership, event requests and event briefing forms. You can also see past issues of the REACTer.

Cover Photo: The Yuma County Emergency Mobile Command Center on display at the Yuma Hamfest, February 16, 17, 18, 2018. Photo by Jay Pistiolas, 046

American Red Cross Communication Team Report

By June McCollough, SWR Ø54

The ARCCT meeting was held on Mar. 3, 2018. The ARCCT is adding Disaster Service Teleology to the tool box. Members are encouraged to take the DST classes. There were non-amateur Red Cross members in attendance as DST volunteers. They showed interest in becoming amateur radio operators as another tool in their tool box.

ARCCT has a net every Tuesday night at 2000 hours (8:00 PM) on the Frequency: 147.195; all amateur radio operators are welcome to check-in.

The Regular meetings are held on the first Saturday of the month at 9:00 AM at 3950 Calle Fortunada, San Diego CA 92123. These meetings are open to anyone unless there is discussion of confidential ARC business. ➢

Auxiliary Communications Service

By June McCollough, SWR Ø54

The ACS meeting was held on Mar. 5, 2018. There was discussion on the change of the weekly net to be a roll call net by call sign by North County and South County. The first time it was done was on Feb. 26th. It will be refined as the net continues. Any suggestions or helpful feedback would be appreciated.

ACS has a net every Monday except First Monday or County Holidays at 1930 hours. It starts on frequency 147.195 and then moves to 448.78, 52.600, and 223.800. If you would like to check it out, please feel free to check-in as visitor when requested by net control.

ACS upcoming event(s) and training:

- April 21, 2018 Saturday, Training- TBD.
- May 5, 2018 Saturday, Communications Exercise
- May 12, 2018 Saturday, Poway Emergency Fair

The Regular meetings are held on the first Monday of the month at 1830 hours (6:30 PM) at the Office of Emergency Services. ➢

Amateur Radio Emergency Service (ARES)

By John Wright, SWR Ø42

The monthly ARES meeting was held Saturday, February 10, 2018 at Scripps Memorial Hospital, La Jolla.

The discussions centered around the upcoming hospital drill (April 20, 2018) and the increased tasking with the addition of clinics and other non-hospital facilities being added to the list of served agencies.

Because of the added locations, operators are requested to "bring a volunteer to the drill." This would be someone not necessarily a current member of ARES, but expressing an interest. We need to be recruiting actively.

Another new tasking now involves net control operators being on WebEOC to enter their operations during the drill.

Also discussed was a new report by the NBC program "Left Field" about amateur radio operations in Hawaii and how it might relate to an emergency situation.

There will be a General Class licensing class conducted on Saturday, April 28 in the Kearney Mesa area with the examination administered immediately at the end of the class. Anyone interested should go to http://jsg.org/sandiegohamclasses/San_Diego_Amateur_Radio_Classes/Scheduled_Classes.html for more information and enrollment.

The next ARES meeting will be March 10, 2018 at Scripps Memorial Hospital, La Jolla at 0800 hours and will include HIPAA training. ➢

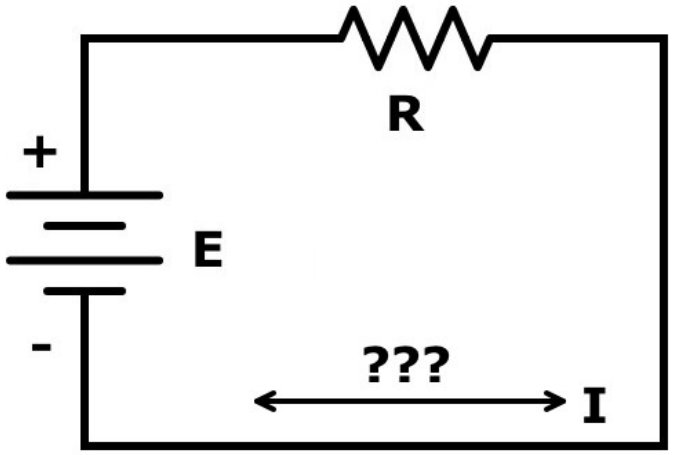
Important Information: The California Hands Free law has been further amended by Assembly Bill 1222. Here is the latest statement from the California Highway Patrol: *"AB 1222 clarifies that specialized mobile radio devices (citizen band radio, amateur radio) and two-way messaging devices (walkie talkies) are not EWCDS that are prohibited from use while driving."* While this means it is permissible to use your radio in a vehicle, always exercise due caution and put the radio up if the conditions warrant it.

Which way does current really flow?

By Dan Romanchik, KB6NU

I was recently taken to task by one of my blog readers regarding my description of current flow in my No Nonsense Technician Class License Study Guide. He wrote:

"You casually say that current flows from Positive to Negative (with cool accompanying directional arrows), without any accompanying qualifying statement. Over the years I have looked at ALL the views on the subject. Positive to Negative is NOT what I was taught 48 years ago, and I have never seen a good reason to change my view."



In a subsequent email, he pointed me to a Nuts 'n Volts article, "Which Way Does Current Really Flow?" and asked my opinion. In the article, the author, who is a ham by the way, does a good job of explaining the various types of current flow.

I agree that in electronic circuits electrons flow from negative to positive, but it really doesn't matter. I agree with one of the article's commenters who says,

"This is a silly argument. It's like comparing apples and oranges and challenging people to take sides.

Electron flow is not current flow. Electron flow is easy to understand, an actual physical property, and a real help in understanding vacuum tube operation. But it falls apart when one needs to understand complex electronic systems.

[Conventional] current flow is a mathematical abstraction. It is defined as a net flow of positive charge, irrespective of the polarity of the physical charge carriers — whether electrons, holes, positive or negative ions, or whatever.

When looking at any circuit containing a resistance with a voltage across it, conventional current through that resistor says that the voltage drop occurs as the current through it meets resistance. On the other hand, in negative (electron) flow, a voltage INCREASE will correspond to the 'current' flow through it, clearly violating physical laws. Conventional current flow is consistent with the laws of physics and those of other engineering disciplines.

You are correct that engineers, professors and scientists use conventional current flow. That is not because they are too obtuse to understand electron flow; I assure you they fully understand it. It is because in their world they have to solve more general problems involving complex math and science, and, again, conventional current flow is consistent with physical laws.

It is unfortunate that electron flow and current flow are so often confused. They both have their place."

After reading that article, I thought I'd see what the ARRL Handbook has to say about current. In the 1963 edition, they don't mention electron flow at all. They have one diagram showing the direction of current flow in both series and parallel circuits, but the voltage source has no polarity. It's simply labelled "Source of E.M.F." Diagrams giving practical examples of series and parallel circuits do include a battery, and if the reader were to mash up the two diagrams, they would conclude that current flows from the positive terminal to the negative terminal.

The most recent edition of the Handbook that I have is the 2005 edition (it might be time to get another copy!). It says,

"Electrons move from the negative to the positive side of the voltage, or , source. Conventional current has the opposite direction, from positive to negative. This comes from an arbitrary decision made by Benjamin Franklin in the 18th century. The conventional current direction is important in establishing the proper polarity sign for many electronics calculations. Conventional current is used in much of the technical literature. The arrows in schematic symbols point in the direction of conventional current, for example."

Having said all that, I really don't see that there's much of a controversy here. I did learn to think of current as conventional current in college, although it was mentioned that electrons actually flow in the opposite direction. Using the concept of conventional current has never seemed to hold me back. I've been able to design circuits and repair electronic equipment thinking that

current flows from positive to negative.

Although it's a departure from my "no nonsense" style, I am thinking of including a sidebar, similar to the paragraph above from the 2005 Handbook explaining the two ways of looking at current flow. What do you think?

When he's not trying to figure out which way current flows, Dan blogs about amateur radio at KB6NU.Com, teaches ham radio classes, and operates CW on the HF bands. Look for him on 30m, 40m, and 80m. You can email him at cwgeek@kb6nu.com. ➢

At the Yuma Hamfest in February, team member George DeLaBarre, SWR Ø76 was the winner of a nice Elecraft KX2 portable HF transceiver. Congratulations, George!
Photo By Roger McCollough, SWR Ø98

Exercise ALERTEX 2018-A
22-24 February 2018
Summary Report as of 2018-02-27-16:00 EST

Objectives: Exercise ALERTEX 2018-A was conducted to:

(1) provide training in receiving emergency alerting and warning messages and making situation and availability reports using a preformatted ICS Form 213 Message,

(2) test the capability of the REACT Warning Team to generate a daily situation report on ongoing operations and mission taskings based on simulated requests to REACT International.

(3) test our capability to interface with Radio Relay International on the REACT/Traffic System net channel on Zello, transfer messages to Amateur Radio for delivery to REACT teams, and have those messages delivered in a timely manner.

(4) identify shortfalls in response capability.

History: This is the second organization-wide exercise of any type attempted by REACT International with an intent to engage all possible teams in the organization's history.

Scenario: The scenario provided a nationwide tornado outbreak. Tornado touchdowns occurred in 31 states in which there are REACT Teams, plus in Ontario, Canada, and in Trinidad and Tobago. Tornado touchdown locations, tracks, and intensities were based on historical tornado events 2012-2016. Three messages preceded the outbreak simulating the start of tornado season, a 3 day tornado forecast, and a 1 day forecast, followed by detailed information on tornado touchdowns in each region. Teams were asked to submit a situation report on Friday evening to early Saturday morning. An overall REACT situation report was provided to REACT senior leadership late Friday evening, followed by a request for a capability report on Saturday morning.

Outcomes: The attached Summaries are a detailed examination of the messages sent, number opened by which Teams, number of click throughs to report forms on REACT Warning Team 6247's website (http://reactwarning.org), and the number of reports submitted.

- Total number of messages sent 634
- Number of messages to teams that were opened 174
- Percentage of messages sent that were opened 27%

- Number of click throughs to an ICS 213 General Message report form 24
- Total messages opened resulting in an ICS 213 General Message form report 16
- Percentage of click throughs that resulted in a report 67%

Participation by Teams messaged in each Region were

Region	No. of Teams	Teams making 1 or more reports	Percent making reports	Percent opening 4 or more messages
1	12	4	33%	50%
2	11	3	22%	22%
3	17	0	0%	11%
4	10	0	0%	7%
5	12	0	0%	8%
6	3	1	33%	33%
7	12	2	16%	16%
8	9	2	22%	11%
9 Canada	2	0	0%	100%
9 Trinidad and Tobago	9	1	11%	22%

Teams were asked to report the level of their proximity to damage from tornadic activity, based on the reports provided on where tornado touchdowns were located, using a scale of BLACK – Team itself suffered damage, injury, or deaths; RED – damage in your city, town, village, county; ORANGE – damage in neighboring city or county; YELLOW – damage reported in their state; GREEN – no impact

Based on the scenario every team should have reported their proximity as at least YELLOW. The reports submitted by the 8 teams on their initial situation reports were as follows:

Region and State	Team	Tornado Touchdown	Reported Proximity	Actual Proximity
1 – MA	Southeastern Massachusetts REACT	Woonsocket RI Attleboro MA	ORANGE	ORANGE
1 – RI	Northern Rhode Island REACT	Woonsocket RI	RED	RED
2 – KY	Louisville METRO REACT	Shepherdsville KY	ORANGE	ORANGE
2 – MD	Prince George's County REACT	Upper Marlboro MD	RED	RED
6 – ID	Magic Valley REACT	Declo ID	GREEN	YELLOW
7 – OK	University of Oklahoma REACT	Moore	RED	RED
8 – CA	Southwestern REACT of San Diego	Rancho San Diego CA	GREEN	ORANGE
9 – TTO	Trinidad and Tobago REACT	Port of Spain, Trinidad	RED	RED

At the start of the scenario the REACT Warning Team suggested that all teams go to Activation Level 2 – LIMITED ACTIVATION with Type IV Base Stations Teams monitoring, deployable Communications Teams ready for deployment, and the REACT Traffic System Net providing 18 hour coverage each day. Levels of activation reported in initial situation reports were:

Region and State	Team	Reported Proximity	Activation Level
1 – MA	Southeastern Massachusetts REACT	ORANGE	Level 2 – Limited Activation
1 – RI	Northern Rhode Island REACT	RED	Level 3 – Readiness
2 – KY	Louisville METRO REACT	ORANGE	Level 1 – Full Activation
2 – MD	Prince George's County REACT	RED	Level 2 – Limited Activation
2 – VA	REACT Warning Team	ORANGE	Level 2 – Limited Activation
6 – ID	Magic Valley REACT	GREEN	Level 4 - Standby
7 – OK	University of Oklahoma REACT	RED	Level 2 – Limited Activation
8 – CA	Southwestern REACT of San Diego	GREEN	Level 3 - Readiness
9 – TTO	Trinidad and Tobago REACT	RED	Level 2 – Limited Activation

Teams reported in their Friday situation reports whether activated in place (with members operating from a team facility or their home stations) or deployed, whether in the local area or deployed more than 25 miles from their home location. These reports did not always align with the activation level the Team had reported – Teams that deploy should report as Activation Level 1 – Full Activation, those activated in place as Activation Level 2 – Limited Activation. A variety of radio services were reported in use, and in some cases it was difficult to identify which service was in simulated use.

Team	Available Members	Activated in Place	Deployed	Radio Services
Southeastern Massachusetts REACT	3	Yes	Yes	Amateur, GMRS
Northern Rhode Island REACT	30		Yes	GMRS
Louisville METRO REACT	3			Amateur various
Prince George's County REACT	2	Yes		GMRS
REACT Warning Team	2	Internet		Zello Net
University of Oklahoma REACT	7		Yes	GMRS
Magic Valley REACT	3	No	No	Amateur VHF
Southwestern REACT of San Diego	7	Yes	Yes	Amateur VHF UHF
Trinidad and Tobago REACT	15	Yes	Yes	Amateur VHF

For the first time we generated an overall REACT situation report that summarized the status of Teams on Friday, the proximity of the Teams to significant disaster impacts, their current operational activity, and the radio services in use. Data was also collected and reported on the number of volunteer hours worked by REACT members, a total of 193.1 hours, with values from 1 hour to 80 hours being reported. Unfortunately, the data suggests that in some cases Teams

reported simulated data based on what they expected to do in the scenario, rather than the actual amount of time worked on the exercise.

Team resources available for response were reported on Saturday as follows (note that some Teams reported the initial situation report on Friday, others the availability report on Saturday, and some both:

Region and State	Team	Total Available Personnel	Type IV Teams able to deploy within 25 miles	Type IV Teams able to deploy beyond 25 miles
1 – NY	Nassau County REACT	5	1	0
1 - PA	York County REACT	3	1	0
1 – RI	Northern Rhode Island REACT	10	1	0
2 – KY	Louisville METRO REACT	3	1	0
2 - MD	Prince George's County REACT	2	1	1
2 – VA	REACT Warning Team	2	Message Team	0
7 – TX	San Angelo REACT	22	0	0
8 – CA	Los Angeles County REACT	2	1	1
9 – TTO	Trinidad and Tobago REACT	15	4	4

On Saturday, we conducted a scheduled test of our interface with Radio Relay International. A Radio Relay International operator joined the REACT/Traffic System net conducted on a Zello channel, picked up a book of 4 messages for addressees in Glendale, California; Dallas, Texas; Louisville, Kentucky; and Brockton, Massachusetts. Delivery confirmation messages and replies were received back through the Zello net in 1 hour – this time period was longer than the actual time required due to the scheduling of RRI's net. The messages were listed at 1136 EST, with the RRI net coming up at 1200 EST, and all replies had been copied by 1244 EST. This is the first time REACT has worked with a national level amateur radio traffic net in a national level exercise.

Based on scenario conditions, REACT initiated two mission requests to teams simulating a request for assistance routed through the organization's headquarters. The preformatted ICS 213D mission request message appears to serve as a reasonably comprehensive dispatch order, although more testing is needed.

Analysis:

(1) Alerting, warning, situation, and availability reporting:

(1.a.) Three months advance notice of the exercise was provided to all teams in the Training for the Future column in our e-magazine, *The REACTer*. A pre-event training packet was sent to all Teams for which we have working e-mail addresses two months prior to the exercise. Detailed

exercise instructions were provided to each team 2 weeks prior to startex. This layered approach may account for the increase in participation.

(1.b.) It is difficult to understand why 17 Teams opened 4 or all 5 messages sent but did not respond to the requests for a situation report or their availability, or why 8 teams clicked through to the appropriate form but did not submit a report. Both forms emphasize check and radio buttons and can be completed in 2 minutes or less.

(1.c.) Future exercise instructions need to emphasize what parts of the reports should be completed with actual data and what parts with scenario data. It also appears from responses on the forms that some Teams are having some difficulty in understanding what the report forms are asking for.

(2) REACT situation reporting and mission requests: These two processes need additional development and more use to be effective in an actual event. Generating both the overall situation report and mission tasking is complicated and prolonged by limitations in the website software. Fixes appear to be possible, and are a priority for website development.

(3) Test capability to interface with Radio Relay International. The Zello net interface worked well, and provided the opportunity for REACT members to hear a considerable amount (by our standards) of formal voice message traffic, including the use of book messages. Messages passed to Radio Relay International were delivered to REACT addressees by their traffic system with replies back to the net in approximately 40 minutes.

(4) Shortfalls in response capability:

(4.a.) The continued lack of participation in Regions 4 and 5 is troubling, especially in a scenario that historically has resulted in significant tornado impacts in those regions. Although participation in this exercise represented a significant increase from ALERTEX 2017 in a more complex scenario, 13 participating teams out of 97 for which the warning team has operating e-mails represents an ability to generate resources for actual disaster response in only 13.4% of our teams (not including the 13 additional Teams for which no working e-mail is available).

(4.b.) There is a clear need for the development of an Incident Command Team to manage the various functions of operating a net, alerting and warning, receiving and collating reports into a common operating picture, tracking resources, and matching mission task requests with available deployable resources. In a larger event the workload would be beyond the capabilities of a single net control station.

Recommendations:

(1) The current program of materials distributed pre-exercise should be continued. In addition, the REACT Training Committee should develop specific short courses that can be used for 15-20 minute just in time training on the preformatted ICS 213 reports.

(2) The Training Committee should develop training materials that Teams can use to increase proficiency in response as a Team to major events, including deployment of Typed resources to support other REACT Teams in disaster impact areas.

(3) REACT should continue to develop a relationship with Radio Relay International (RRI), including participation in exercises together on a regular basis and RRI liaison with our traffic net.

(4.a.) We strongly encourage the development of messaging to our member teams that no team can adequately support its community alone in a major disaster and that, in major events, REACT as a whole has to be prepared to act as a Team to alert and mobilize resources to meet emergency communications needs. Participation in exercises is an absolutely critical part of that process.

(4.b.) REACT Warning Team 6247 should be formally tasked by the Board to perform the alerting and warning function for REACT International and to develop an Incident Command Team able to coordinate alerting and warning, availability and resource tracking, reporting, and matching requests for assistance with available resources.

Walter G. Green III
Chair, Training Committee
REACT International

More From The Yuma Hamfest

Photos By Jay Pistiolas, SWR Ø46