



**REACT Participation in Radio Relay International Quarter 1 2018 Exercise  
21 April 2018  
Summary Report**

**Objectives:** The REACT Traffic System participated in Radio Relay International's First Quarter 2018 Exercise ALERTEX 2018-A to:

- (1) test the capability of the REACT Traffic System to use its Zello channel from deployed locations.
- (2) test the capability of REACT Traffic System stations to generate formal written radiogram messages.
- (3) test our capability to generate messages to meet the specific information requirements of another organization.
- (4) develop operator familiarity with the use of latitude and longitude reporting of station locations.

**History:** This is the first time REACT International has participated in an exercise conducted by Radio Relay International.

**Scenario:** The scenario required Radio Relay International operators to deploy stations to the field and to operate without generator power. Individual stations were tasked to send standard messages including the station location in latitude and longitude with minutes and seconds in decimals, the maximum power of the station, the number of persons at the location, and the organization represented.

Participation by REACT was limited to REACT Traffic System stations to ensure that operators would be familiar with the radiogram message format. Three of six active traffic stations participated in the exercise, with one excused for work. The REACT Traffic System net on the REACT/Traffic System channel on Zello was to be activated at 1600Z to collect and pass messages to a Radio Relay International liaison station.

**Outcomes:** The REACT Traffic System Net activated at 1600Z and received three Test Priority messages from Traffic 241, 241, and 921 by 1611Z. Station locations were:

- Traffic 241 - deployed to Hanover County, Virginia, simulating a deployment at some distance and in another jurisdiction from the home station
- Traffic 242 – deployed in Glen Allen, Virginia, simulating a deployment in the home station community.
- Traffic 921 – deployed in Point Fortin, Trinidad, simulating an international deployment.

Radio Relay International Amateur Radio station W6RRI joined the net at 1622Z, and all three messages were successfully passed to that station by 1637Z.

**Analysis:**

(1) Test the capability of the REACT Traffic System to use its Zello channel from deployed locations:

(1.a.) Traffic 241 operated using battery power, power cables fitted with Anderson Power Poles, an Inrico TM-7 Network Radio configured with the Zello application, and a 3.5 db gain antenna. The TM-7 requires some getting used to, as transmission is not immediate after the microphone switch is depressed. The TM-7 also requires getting used to very small menus and a very small print keypad. A soft tip stylus greatly improves the accuracy of text entry. However, signal quality and volume was excellent, much better than a desktop computer, and the push to talk interface with the microphone is significantly easier to use than some of the other options.

(1.b.) Traffic 242 and 921 operated with fully charged smart cellphones configured with the Zello application.

(1.c.) Sustained deployed operations using Zello requires access to cellular networks, and an expanded capability to sustain operations, either through significant investment in batteries or renewable emergency sources or both.

(2) Test the capability of REACT Traffic System stations to generate formal written radiogram messages: We are now in the phase of training where a substantial portion of REACT's membership has had routine exposure to the radiogram format message in exercises and by routine administrative messages. However, even for Traffic System stations there are limited chances for REACT communicators to practice originating and transmitting messages. Both Michele Snyder and Angela Henry-Small did good work.

(3) Test our capability to generate messages to meet the specific information requirements of another organization: Radio Relay International had clearly defined the needed information and the format in which it should be reported.

(4) Develop operator familiarity with the use of latitude and longitude reporting of station locations: This was the first exercise in which we reported specific, detailed station locations. For this exercise we developed those locations as part of deployment planning, and identified their coordinates using Google Earth.

**Comment:** This exercise presages what may be emerging future national level requirements for volunteer emergency communications organizations to do ground truth reporting upchannel. With a network of Teams REACT is in an ideal position to do this. However, it will require a major effort to improve our Teams' reporting capabilities and reliability, and is a significant leadership challenge for all levels of REACT.

**Recommendations:**

(1) We should continue to seek opportunities to work with Radio Relay International. They are taking us seriously to the point of working to coordinate their exercises with our ALERTEX series.

(2) REACT International headquarters, Regional Directors, Councils, and Teams should make every effort to use the REACT Traffic System at least once a month for routine short messages and reports, starting with contact with their regional Traffic Stations. Sending messages through our system is not as fast as e-mail, but it trains our operators, and maintains the system's capabilities.

(3) Selected reliable members with a high level of operating proficiency and a willingness to train should be encouraged to become Traffic Stations. Our 2018 goal is 2 stations in each region; our long term goal is 2 stations in every state or province where REACT has teams.

(4) Development of emergency power solutions for sustained operations by our communications stations should be encouraged.

(5) Our members should be trained to determine and report their locations using the most common variants of latitude and longitude, Universal Transverse Mercator, National Search and Rescue Grid, Maidenhead, and/or other grid systems, in use in Amateur and disaster communications.

(6) Attention should be paid to small details of communications procedures. For example, the first message sent had a check discrepancy between the Traffic Station (REACT) and the Liaison Station (RRI). Our procedure to transmit decimal latitude and longitude is to treat the decimal point (transmitted as ROMEO and written as R) as a separate word, making latitude or longitude three distinct words for the check count. Their procedure was to handle it as one word.

**Schedule:** The next exercise involving REACT/RRI coordination is ALERTEX 2018-B 23-26 May.

Walter G. Green III  
Chair, Training Committee  
REACT International

Attachments: Message Texts  
Net Control Station Log

**REACT Message Texts**  
**Radio Relay International Quarter 1 2018 Exercise**

108 / TP / NOWGG / 16 / Glen Allen Virginia / 1600Z / April 21 / RRI NECC Marion Illinois 62959 / LOCATION 37 R 702778 77 R 464722 MAXIMUM POWER 300 MILLIWATTS 1 PARTICIPANT REACT TRAFFIC SYSTEM / Walter Green

1 / TP / Traffic 242 / 16 / Glen Allen Virginia / 1605Z / April 21 / RRI NECC Marion Illinois 62959 / LOCATION 37 R 690848 77 R 604519 MAXIMUM POWER 300 MILLIWATTS 1 PARTICIPANT REACT TRAFFIC SYSTEM / Michele Snyder

004 / TP / Traffic 921 / 16 / Point Fortin Trinidad / 1609Z / April 21 / RRI NECC Marion Illinois 62959 / LOCATION 10 R 176801 61 R 682601 MAXIMUM POWER 300 MILLIWATTS 1 PARTICIPANT REACT TRAFFIC SYSTEM / Angela Small



# REACT NET LOG

Date: 21 April 2018		Event: Radio Relay International Q1 Exercise		Page: 1
Service/Frequency/Channel: Zello – REACT/Traffic System		Net Control: Traffic 241		Back-Up Net Control: Not assigned
Net: REACT Traffic Net		Liaison: W6RRI to Radio Relay International		Bulletin Station: Not assigned

EPWRI is precedence: Emergency, Priority, Welfare, Routine, Informal – check when passed

Time:	Event:	EPWRI	To:	Pass:
1500Z	Opened station	n/a	n/a	n/a
1505Z	Verified Echo test	n/a	n/a	n/a
1506Z	Closed station	n/a	n/a	n/a
1522Z	Opened station – troubleshooting Internet connect – problem corrected	n/a	n/a	n/a
1544Z	Standby REACT Traffic Net for RRI Q1 Exercise – check in Traffic 241	1TP #108	RRI NECC Marion IL	XX
1558Z	Check in early – Traffic 242	1 TP #1	RRI NECC Marion IL	XX
1600Z	STARTEX RRI Q1 Exercise – net opened station roll call – check in Traffic 921	1TP #004	RRI NECC Marion IL	XX
1602Z	Traffic 242 Message 1 to RRI NECC passed for forwarding	n/a	Traffic 241	XX
1607Z	Traffic 242 permission to close station	n/a	n/a	n/a
1608Z	Traffic 921 Message 004 to RRI NECC passed for forwarding	n/a	Traffic 241	XX
1611Z	Traffic 921 permission to close station	n/a	n/a	n/a
1625Z	W6RRI check-in	n/a	n/a	n/a
1626Z	Traffic 241 Message 108, Traffic 242 Message 1 passed	n/a	W6RRI	n/a



# REACT NET ROSTER

Date: 21 April 2018	Event: Radio Relay International Q1 Exercise	Page: 2
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Service/Frequency/Channel: Zello – REACT/Traffic System	Net: REACT Traffic Net	Time: 1600Z (1200EDT)
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Check early for before start, on time for at start, late for after start to at end of schedule time.

Call Sign	Early	On Time	Late	EWPRI	Name:	Location:
Traffic 111					Keith McDonald	Massachusetts
Traffic 241	XX				Walter Green	Virginia
Traffic 242	XX				Michele Snyder	Virginia
Traffic 321					Stan Latta	North Carolina
Traffic 821					John Capodanno	California
Traffic 822					Rusty Hemenway	California
Traffic 921		XX			Angela Joyce Henry-Small	Trinidad
N6RRI		XX			RRI Liaison Station	

Prefill call sign/unit number, name, and location data for the standard net membership. Can use to record traffic on check in. Use form with Net Log to record check-ins; file with the net log.



# REACT NET LOG

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EPWRI is precedence: Emergency, Priority, Welfare, Routine, Informal – check when passed

Time:	Event:	EPWRI	To:	Pass:
1629Z	Traffic 921 re-check in to net – requests to pass Message 004	n/a	n/a	n/a
1630Z	Traffic 921 Message 004 passed	n/a	W6RRI	XX
1635Z	Net closed	n/a	n/a	n/a
1637Z	Closed station	n/a	n/a	n/a
1640Z	Redeployment to home station	n/a	n/a	n/a