

Radio Relay International
Emergency Communications Exercise
April 15 to May 15, 2022



I Purpose:

The Radio Relay International Second Quarter, 2022 Exercise is designed to test interoperability between U.S. Army MARS, Region 2 and the RRI/NTS Infrastructure. Incorporated within the exercise is a test of connectivity, a test of last-mile transfer and delivery processes, and a training component. Goals include:

1. Test message transfer from DoD MARS Region 2 to the Radio Relay International Digital Traffic Network.
2. Test message transfer from RRI DTS gateways to state(section) and local traffic networks.
3. Train volunteer radio operators to effectively relay, route, and deliver radiogram-ICS213 messages at all levels of the traffic system with emphasis on the Digital Traffic Network, the RRI-Winlink interface and the state/local manual-mode net interface (radiotelephone, radiotelegraph, manual mode digital).
4. Ensure that operators providing the last-mile delivery function utilize the correct message forms.
5. Ensure that operators providing the last-mile function can properly process, format and route reply messages tendered for origination by target emergency services agencies.
6. Measure accuracy of network relay functions through an analytical comparison of messages delivered to those originated.

II Network Exercise Topology:

DoD MARS Region 2 operators will originate messages addressed to target emergency services agencies in several states via the MARS system. These encrypted messages will be decrypted and transferred to the RRI Digital Traffic Network (DTN) via an RRI DTN gateway located in Army MARS Region 2. Target states may include, but are not necessarily limited to:

- Maine
- Massachusetts
- Connecticut
- Florida
- Michigan
- Ohio
- North Texas

III Exercise Metrics:

The Second Quarter Exercise will not be timed. However, all messages delivered will be compared against the original DoD messages tendered for origination. This cross-comparison will be used to provide a numerical

analysis of overall accuracy through the last-mile of the traffic system based on a statistically significant sample of data points.

IV Message Types:

Message complexity will increase throughout a series of forthcoming exercises. For this Second Quarter EmComm Exercise, most traffic will consist of a brief request for information (RI) addressed to a target agency or agency official. Examples for illustration purposes include the following. However, the requests for information are determined by DoD MARS Region 2 and may vary considerably:

- Current altimeter setting and time of observation for a nearby airport identified by METAR code.
- Geodetic coordinates of a nearby hospital in decimal degrees.
- Maximum runway length at an airport nearest the agency facility.
- Telephone number of message router position at the Emergency Operations Center.
- Frequency for ATC at the nearest regional or international airport.

V Exercise Phase One, April 15 to April 30:

Phase one consists of both an infrastructure test and a training component.

Infrastructure-level test:

All messages originated during both phases will originate on the DoD MARS Region 2 network. They will then be transferred to DTN for automatic routing via the RRI high frequency hybrid mesh network to the appropriate Digital Traffic Station (DTS). The DTS will then be responsible for replying to the message via the DTN. The target station for all replies during phase one will be:

Steve Hansen (KB1TCE)
PO Box 456
Owls Head, ME 04854
207 594 4597

Route: ALL Reply Messages via DTN to: NTS:04854@NTSME

Copies of message traffic originated or received during phase one need not be sent to the RRI Emergency Management Director for analysis.

Training Phase:

Two training sessions covering the structure of the RRI Radiogram-ICS213 message format, and its origination, relay, and delivery requirements, along with an exercise overview will be conducted on the following dates:

April 7 @ 8-PM EDT (080001Z)

April 13 @ 9-PM EDT (140100Z)

Those planning to attend either of the training sessions should RSVP in advance by sending an email to the RRI Director of Emergency Management at: James.wades@radio-relay.org Please indicate which session you plan to attend.

Documentation is also available on-line for independent review at: www.radio-relay.org/publications In particular, the participant is directed to the following document and video:

Instructions for Radiogram-ICS213 Relay and Delivery: <http://radio-relay.org/wp-content/uploads/2020/09/Instructions-for-Radiogram-ICS213-Relay-and-Delivery-2020-9-5.pdf>

RRI-NTS Radiogram-ICS213 <https://www.youtube.com/watch?v=wzmYc2i4YTQ>

VI Exercise Phase Two, May 1 to May 15:

Advance Preparation:

During phase one, participating Digital Traffic Stations should contact, either directly or indirectly, five to seven emergency services organizations in their state(section) or area of responsibility to request their participation in this exercise as a target agency. One should stress that the number of messages each agency will receive will consist of no more than a few brief inquiries, and the information requested will be relatively simple to provide.

The DTS may want to coordinate or delegate this process to his local ARRL Emergency Coordinator or Section Emergency Coordinator, MARS Operations Officer, or a similar EmComm organization official to identify and contact local emergency services agencies to request participation as an addressee. In many cases, this latter process will be preferable.

The RRI emergency management director and DoD MARS Region 2 will provide additional direct guidance and advice to DTS operators and/or section officials as necessary.

A list of served agencies agreeing to accept incoming messages and tender replies must be sent to the RRI Affiliated Programs Coordinator, Steve Hansen (KB1TCE) by no later than April 15. The data for each agency on the list should include:

- Full name and title of agency point-of-contact.
- Agency name and address
- Telephone number of agency official
- E-mail of agency official or his designee

The email address for Steve Hansen is: steve.hansen@radio-relay.org

Added Last-Mile Function:

During phase two of the exercise, the DTS will route the message to an appropriate state(section) or local network for routing to an appropriate outlet. The DTS and net manager should exercise discretion in this routing process to ensure that the delivering operator has the requisite skills and temperament to interact with served agencies. The DTS should only effect direct message delivery if no outlet is available. Remember! This is NOT a timed exercise, so some delay is permissible when listing traffic for delivery. However, promptness is encouraged and excessive delay beyond 48 hours should be avoided.

Message Delivery REQUIREMENTS:

All messages delivered to served agencies SHALL be delivered on RRI Form 1703 available at:

<http://radio-relay.org/wp-content/uploads/2017/05/RRI-Form-1703-ICS-2017-5-1.pdf>

Guidelines for message formatting for delivery and presentation are as follows:

1. Messages MUST be formatted in all-capitals. No exceptions are permitted here.
2. Messages with group-counts exceeding 25 words should be typed ten words to a line, with an additional space between the first and second five group segment on each line.
3. Short messages of less than 25 words may be typed five words to a line.
4. Messages should be transmitted via email to the served agency official as a PDF file. The plain-text component in the body of the email should contain the following text:

Subject: Radiogram-ICS213 Message

Text: "Attached you will find a radiogram-ICS213 message addressed to your agency.

Originator: (name, title, and agency of individual in "FROM" (signature) line of radiogram-ICS213

Precedence: (typically "Routine" for this exercise)

A blank message form is provided for the drafting of your reply. Please complete the "TO," "FROM" and "MESSAGE TEXT" sections of the form and return it. The radio operator will fill in the remaining data. Please contact me with any questions: (insert name and telephone number here)."

5. Messages may also be hand-delivered to the agency official if previously authorized. If hand-delivering a message, business casual attire and a professional demeanor is necessary.
6. **Along with the message delivery, a blank form 1703 shall be provided to the agency for the drafting of their reply.**

Agency Reply REQUIREMENTS:

Agency replies will require the radio operator point-of-contact to add the necessary service information (network management data) to the radiogram-ICS213 preamble. Some steps to keep in mind include:

1. Ensure the place of origin is the location of the agency official whose name and title appear in the "from" section of the message (signature). It is NOT the location of the originating radio operator.
2. Care should be exercised when converting local agency time to UTC (Zulu). Ensure the translation is correct and remember that the new radio-day starts at 0001Z.
3. Care must also be exercised when transmitting the message via radiotelephone to ensure abbreviations and any nomenclature are transmitted clearly.
4. All reply messages will likely be addressed to the MARS point-of-contact associated with the original radiogram-ICS213 message. The radio operator should add an op-note stating: "ROUTE VIA DTN TO **KB1TCE OWLS HEAD ME 04854**"
5. All last-mile RRI/NTS networks, such as state or local nets, should endeavor to route the traffic to a DTS. In the absence of a DTS, manual mode circuits may be utilized.
6. The DTN routing for reply messages is: **NTS:04854@NTSME**

VII Sample Message Formats:

Inquiry;

12 R HXC KE2UK 32 N BELLMORE NY VIA MARS 1232Z MAR 22
 WARD CARPENTER N1CUI KNOX COUNTY ARES/RACES
 59 ISLAND AVENUE
 SPRUCE HEAD ME 04859
 NO PHONE
 MARS RRI DASH NTS INTEROP 202203221232Z
 BT
 PLEASE PROVIDE THE NAME OF
 THE CLOSEST SHELTER AND GIVE
 THE MILITARY GRID SQUARE TO
 1 METER X ALSO PROVIDE
 THE DISTANCE AND BEARING IN
 DEGREES FROM YOUR LOCATION TO
 THE SHELTER
 BT
 RON TOMO KE2UK REGION TWO AMARS OPS OFFICER
 KE2UK VIA RRI RADIOGRAM ICS DASH 213
 KE2UK 202203221232Z
 KE2UK DASH 11 202203221242Z
 AR

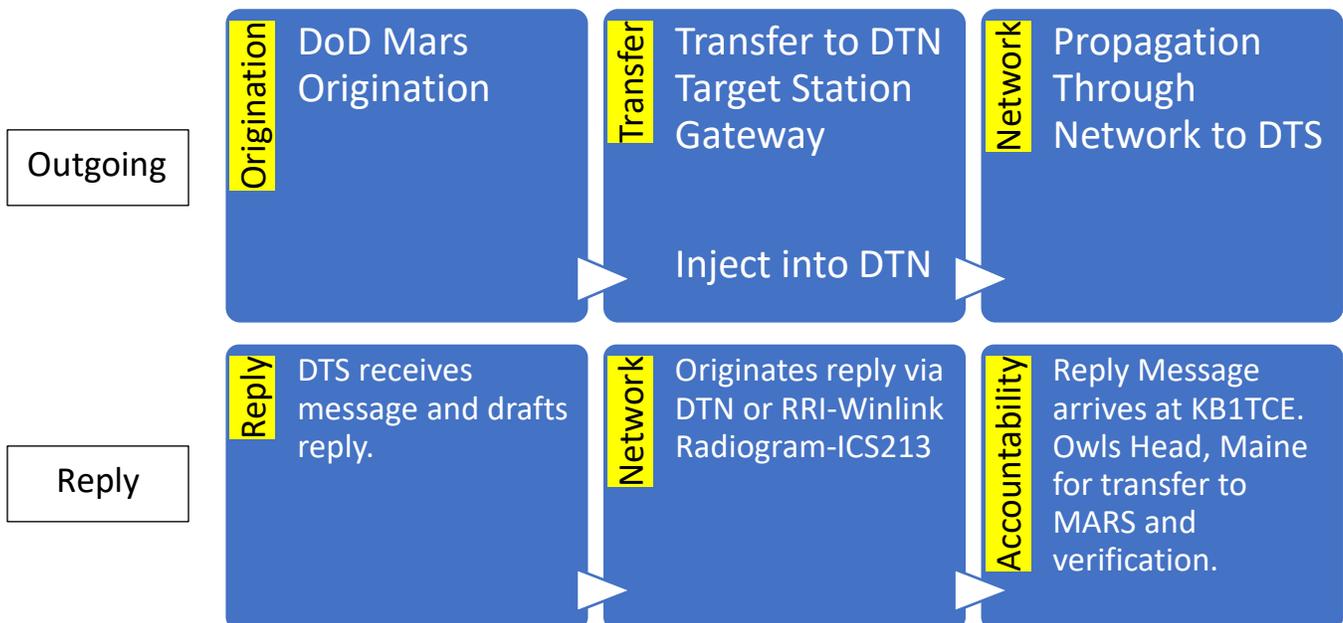
Reply:

3 R N1CUI 16 SPRUCE HEAD ME 0000Z MAR 25
 RON TOMO KE2UK REGION TWO AMARS OPS OFFICER
 NORTH BELLMORE NY
 MARS RRI DASH NTS INTEROP
 OP NOTE ROUTE TO KB1TCE OWLSHEAD ME 04854
 BT
 CLOSEST SHELTER IS SPRUCE HEAD
 COMMUNITY CHURCH GRID SQUARE 19TDJ889407307
 DISTANCE 1 MILE BEARING 043
 DEGREES
 BT
 WARD CARPENTER N1CUI

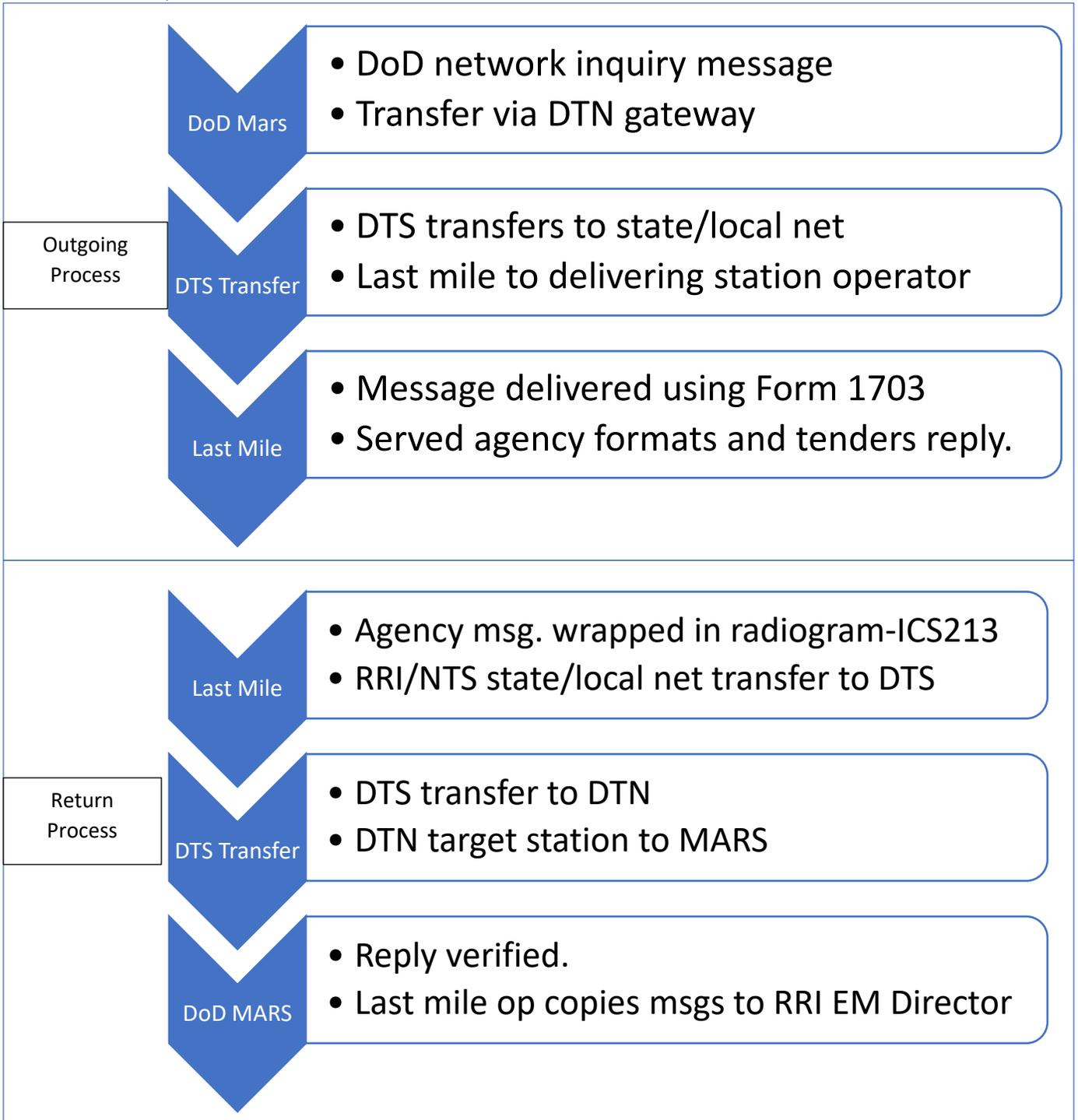
AR

VIII Network Topology Overview:

Phase One Infrastructure Test:



Phase Two – Last Mile Test:



IX Message Copies Required:

All messages delivered to served agencies, or reply messages originated on behalf of served agencies, should be copied and sent to the RRI Director of Emergency Management at the address below (See Part X). Please mail all copies by no later than May 30.

X RSVP Required:

Digital Traffic Stations will be contacted directly to confirm status as state/local net target.

State or local nets willing to perform last-mile relay and delivery process should send an RSVP to:

james.wades@radio-relay.org

Questions or Inquiries may be directed to the above e-mail or via telephone to:

James Wades
Director of Emergency Management,
Radio Relay International
C/O Emergency Preparedness Services, LLC
PO Box 43
Niles, MI. 49120
(833) 377-0722 x 700

XI Training Class Schedule and Links:

April 7 @ 8:00 PM EDT Training Session:

Join Zoom Meeting

<https://us02web.zoom.us/j/83717769104?pwd=QUFCZTlwZ01INHJoLy83QytTRzgzZz09>

Meeting ID: 837 1776 9104

Passcode: 731199

One tap mobile

+13462487799,,83717769104#,,,,*731199# US (Houston)

+12532158782,,83717769104#,,,,*731199# US (Tacoma)

Dial by your location

+1 346 248 7799 US (Houston)

+1 253 215 8782 US (Tacoma)

+1 669 900 9128 US (San Jose)

+1 312 626 6799 US (Chicago)

+1 646 558 8656 US (New York)

+1 301 715 8592 US (Washington DC)

Meeting ID: 837 1776 9104

Passcode: 731199

April 13 @ 9:00 PM EDT Training Session:

Join Zoom Meeting

<https://us02web.zoom.us/j/83179585692?pwd=ajFPNkxmUTF0eFhsN1QxT0k5cFNWZz09>

Meeting ID: 831 7958 5692

Passcode: 498094

One tap mobile

+13462487799,,83179585692#,,,,*498094# US (Houston)

+12532158782,,83179585692#,,,,*498094# US (Tacoma)

Dial by your location

+1 346 248 7799 US (Houston)

+1 253 215 8782 US (Tacoma)

+1 669 900 9128 US (San Jose)

+1 301 715 8592 US (Washington DC)

+1 312 626 6799 US (Chicago)

+1 646 558 8656 US (New York)

Meeting ID: 831 7958 5692

Passcode: 498094