

**Amateur Radio
Nationwide
Communications
Exercise
May 8, 2021
Scenario and Guidelines**



**American
Red Cross**

Operation “Unify”

ARC EmComm Training Team
ARC-EmComm-Training.org

For Exercise
Use Only

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Purpose

The purpose of the Nationwide Red Cross communications exercise is to demonstrate the ability of Amateur Radio to provide accurate and timely messaging by forms using email over radio (Winlink) to further the mission of the Red Cross. This can involve parts of the Red Cross Disaster Service Technology team and/or Red Cross communication leads, as well as, several of the Red Cross partners including the Amateur Radio Emergency Service (ARES), Radio Amateur Civil Emergency Service, Auxiliary Communications Service, along with many others. As accuracy and reproducible documents are a cornerstone of modern disaster communications, the primary emphasis will be on digital written forms of communications, as opposed to verbal.

Objectives

- Amateur radio stations, in an imaginary disaster scenario where the conventional communications infrastructure is unavailable, will compose and send forms/email using the Winlink email over radio system to Red Cross divisional clearinghouses
- For achieving accuracy and timeliness, digital modes are emphasized
- Engage Red Cross partner organizations in helping to achieve successful communications for the Red Cross mission
- Engage Red Cross officials by allowing them to see and participate in the Winlink messaging process
- Encourage partner organizations to participate in their own operations during the exercise
- Increase Red Cross awareness of the amateur Radio capability to assist in their mission
- Prepare and train amateur radio operators to effectively use the Winlink system
- Determine weaknesses that future training can address

Exercise Scenario

On Sunday May 2nd, An Earth directed solar flare was unleashed by a huge sunspot near the center of the visible disc. This had a classification in the X range with a rating near 22. The initial x ray burst caused HF and low VHF blackouts in communications, especially at the poles. On Monday May 3rd the proton burst arrived triggering a radiation storm that caused severe plate charging on many satellites in Earth orbit. At least several hundred have failed outright, including several broadcast satellites. The loss of these satellites has created chaos in vital communications.

On Tuesday May 4th, the ionized gas clouds arrived triggering a G5 class solar storm. This was the most intense observed in modern history of the electronics age. On Tuesday night the aurora from the Earth's magnetic field was visible all the way into Central America. Power grids in the northern latitudes, throughout the world, began seeing over voltages and current surges as the night went on. Power grids began seeing significant transformer damage in many locations with power outages cascading throughout the US.

On Wednesday May 5th, electrical power grids were mainly offline in much of the US, Europe and Asia. Without communications satellites, it has been difficult to estimate the situations south of the equator, but the situation is likely to be similar. Fortunately, this event was not as intense as the great Carrington Event of 1859. Transformer damage is not as severe as it could have been. Some operators took their systems offline as they realized the danger, sparing what would have been a several years long catastrophe. Grid operators believe that most systems could be back up in 4-6 weeks. This is still a very long time.

The Red Cross, FEMA and state/local emergency management are working to establish shelters for those in need. It is fortunate that this event occurred in May and not in the middle of winter. The ongoing Pandemic has also led to difficulties in sheltering on such a wide geographic area.

Lack of fuel is the most serious situation currently other than the loss of commercial power. Most cell sites have been burning through their generator fuel and will be difficult to resupply as critical hospitals and emergency shelters are being prioritized for fuel delivery. It is likely that most cell service will be disrupted in the next day or so. The internet has fared much better than expected. Critical parts for government use are still functioning, there have been significant impacts on the commercial side due to power losses, but many elements are still operating. The lack of satellites has made sat phones essentially paperweights in this current situation.

The Red Cross is asking amateur radio operators nationwide to assist in providing both local and long-haul communications. There are still enough Winlink sites worldwide and in the US to help with traffic passage. Amateur stations will be passing essential information to their designated clearinghouse site for distribution to the Red Cross.

Exercise Activities and Timeline

The overall timeline of the exercise will be 9am to 4pm local time. The activity timeline of the exercise will be divided into two periods during the day on May 8th. These periods will be 9am-12pm noon for the morning session and 12pm-4pm for the afternoon session.

Morning Activity

This morning activity is for existing Red Cross volunteers to communicate with their regional leadership. Non-Red Cross amateurs should skip to the afternoon activity on page 6.

Red Cross Internal Messaging Activity Overview

The primary goal of the morning session will be for internal Red Cross message handling. The intention is to help Red Cross non-hams understand the ability of amateur radio to pass messages between Red Cross officials and units during their disaster relief operations. This morning session is our attempt to bring the non-ham Red Cross organization into our exercises and increase its awareness of our capabilities.

This process will start with Red Cross volunteer communications leads and/or Disaster Services Technology people. They will coordinate the internal RC messaging and may use in house Red Cross amateur operators if available or otherwise use the services of our Partners like ARES/RACES/Auxcomm.

Internal Red Cross Officials and Unit Communications

Two options for demonstrating Internal Messaging have been envisioned. Regions can try a single option or both, depending on available personnel and interest. If you are not a Red Cross volunteer, the job titles and acronyms may not be clear to you. For clarification, a PDF of Red Cross acronyms has been posted [here](#).

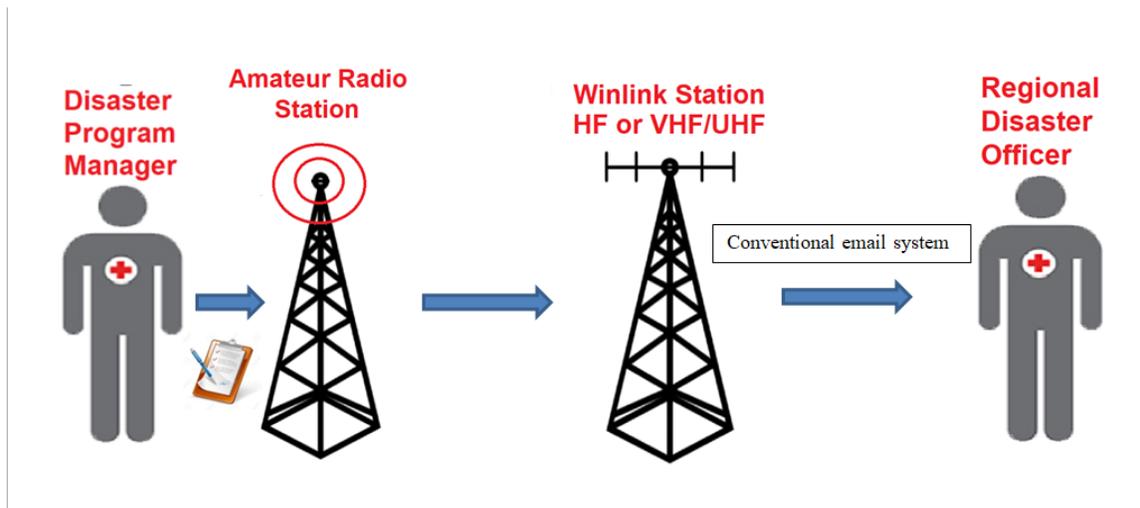
Disaster Program Manager to Regional Disaster Officer Option #1

In option #1, we will send a Winlink email (not forms, just a plain Winlink message) from participating Disaster Program Managers (DPMs) to the Regional Disaster Officer (RDO) in each region. The regional DST and/or volunteer communications leads will attempt to line up local Disaster Program Managers within their region to compose an email to their Regional Disaster Officers by Winlink. This can be done in person (preferably) or by conventional email to the DST/comms lead if the DPM is unavailable to participate. The DST and/or comms lead will determine if in house amateurs can be used for this activity or possibly recruit one of our partner amateur organizations to facilitate this. This will be a single email with the following text:

TO: Regional Disaster Officer

Amateur radio is conducting a nationwide drill to demonstrate the ability to email without internet, over radio. You are receiving this email as a test of this system today. Winlink is an amateur radio digital system that can provide email access locally, nationally, and globally over the radio, in times where the conventional communications infrastructure is inoperative. Over a thousand amateur radio volunteers nationwide will be participating today in parts of this exercise. The American Red Cross EmComm Training Team thanks you for being a part of this exercise.

Signature of DPM:



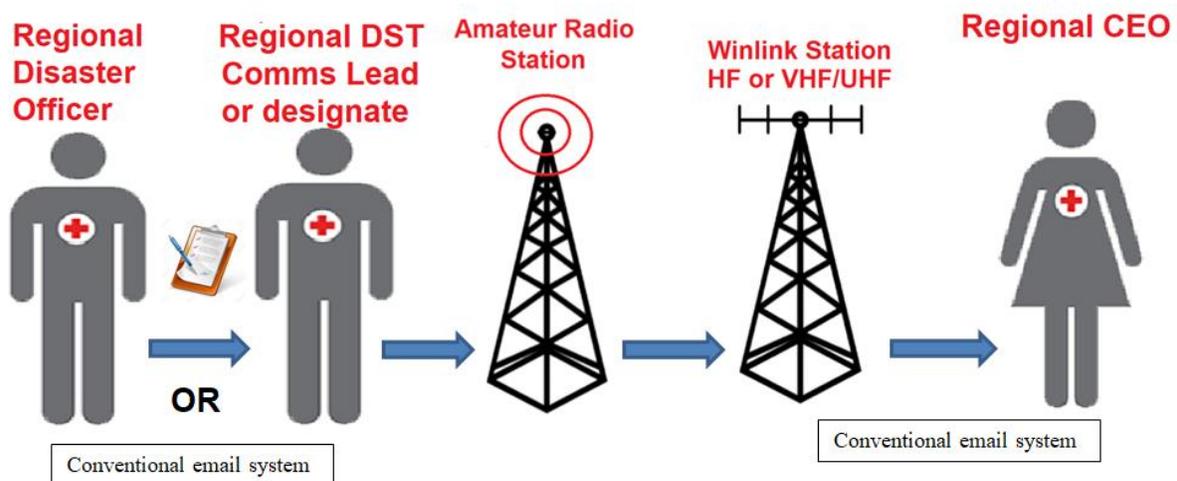
Regional Disaster Officer to Regional CEO Option #2

In option #2, we will send a Winlink email (again, no forms) from participating Regional Disaster Officers (RDOs) to the Regional CEO in each region. The regional DST and/or volunteer communications leads will attempt to line up the RDO within their region to compose an email to their Regional CEO by Winlink. This can be done by conventional email to the DST and/or volunteer comms lead if the RDO is unavailable to participate. The DST and/or comms lead will determine if in-house amateurs can be used for this activity or possibly recruit one of our partner amateur organizations to facilitate this. This will be a single email with the following text:

TO: Regional Chief Executive Officer

Amateur radio is conducting a nationwide drill to demonstrate the ability to email without internet, over radio. You are receiving this email as a test of this system today. Winlink is an amateur radio digital system that can provide email access locally, nationally, and globally over the radio, in times where the conventional communications infrastructure is inoperative. Over a thousand amateur radio volunteers nationwide will be participating today in parts of this exercise. The American Red Cross EmComm Training Team thanks you for being a part of this exercise.

Signature of RDO:



Afternoon Activity

All amateur operators are encouraged to participate in the afternoon activities. Please send traffic to your clearinghouse between Noon and 4 p.m. local time.

Overview

As in previous exercises, the primary objective is to show amateur radio capability in sending accurate and timely messages/forms between Red Cross units. This will continue to involve divisional clearinghouse stations that act as primary collection points within their respective divisions. Amateur stations will send a Winlink (email over radio) message to their assigned divisional clearinghouse.

We will continue to emphasize the use of forms within the Winlink system for passing of important information. This will be a continuing attempt to familiarize amateur operators with sending Red Cross forms. Some forms you may not be asked to send very often, but it is important for operators to know how to send them. This exercise builds upon the progression of the Winlink Thursday sessions. For those who are just beginning or who have not signed up, please subscribe at ARC-EmComm-Training.org for more information on training and participation including some of our [proficiency goals](#) as we move further out in time with the training process.

Exercise Details for Amateur Participation in the Afternoon Session

We will begin by having stations create and send **two separate messages** to your divisional clearinghouse station by HF or by VHF/UHF Winlink. You are free to use any mode of your choice for this message including Packet, VARA, Pactor, etc. This can be sent from a fixed location such as your home or by using a portable or mobile station that will be described a bit later under options. A map of the Red Cross divisions and list of clearinghouse stations is shown in Appendix 1 of this document.

The first Winlink message will be the Winlink check-in form containing your digital GPS coordinates along with the location you are operating from and a description of your Winlink station in the COMMENTS box. This form is sent to your divisional clearinghouse and CC'd to ARC.Emcomm.Map@gmail.com

The second Winlink message is sent only to your divisional clearinghouse. The ARC 6409 Requisition Form below is hand-written, similar to one you might be asked to forward by a feeding supervisor. Providing a hand-written form for you to copy is intended to simulate what you could encounter in real operations. Exercise participants will transcribe the information from the hand-written form onto a 6409 template form, found in Winlink under ARC Forms, for attachment to your message sent to your divisional clearinghouse only.

Exercise Message Requirements

This exercise calls for operators to create and send two messages using Winlink template forms as directed.

Message # 1: Winlink Check-In Form

Send to Division Clearinghouse &
CC: arc.emcomm.map@gmail.com

Include your GPS coordinates and a
description of your station

Message # 2: Form 6409 Requisition

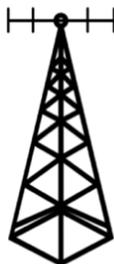
Send to Division Clearinghouse
ONLY

Transcribe all of the fields from the
hand-written 6409 below to a Winlink
template form

Amateur Radio
Station



Winlink Station
HF or VHF/UHF





ARC Disaster Requisition - FORM 6409

DR# (if applicable): **Exercise 204**
DR Name: **Interoperability Exercise**
Date: **5/8/2021**
Requisition #: **1**

Requestor Name: **Clarissa Harlowe Barton**

Title: **Mass Care Lead**

Signature: *Clarissa Harlowe Barton*

Phone: **555-888-0000**

Delivery Information

Site POC Name: **John J. Elwell**

Address: **437 1/2 Seventh St. NW, Washington**

City: **District of Columbia**

Phone: **333-123-8910**

State: **Wash. DC**

Email: **officeofmissingSoldiers@dc.gov**

Zip: **20001**

Description of product(s) and/or service(s)

Stock No.	Quantity	Unit of measure (EA/PK/CS/BX)	Total QTY (each)	Description	Date needed
D68	120	CS/250	3400	Banquet Packs	5/9/21
D41	50	1/ea	50	Beverage Container, Gal.	5/9/21
D43	150	1/ea	150	Food Carrier, 24 Quart	5/9/21
D43L	40	1000 / pkg	40,000	Liner, Food Carrier, 24 Qt	5/9/21
D308	100	1/ea	100	Ice Chest Plastic Heavy	5/9/21
D45	10	1000 / pkg	10,000	Cups, Hot 6 oz	5/9/21
D196	120	200 / CS	24,000	Clam Shells	5/9/21
D112	2	1/ea	2	Steps	5/9/21

Special Instructions: **Preconfigured kitchen support trailer. Load items on to one trailer.**
Driven to call site Point of Contact before delivery.

The following information must be filled in by the APPROVER ONLY:

Approval includes verification of need; need consistent with Service Delivery Plan and budget.

Approver Name: **Daniel Ruckel**

Title: **Los Angeles Region RC Logistics**

Signature: *Dan Ruckel*

Phone: **310-888-2323**

Procurement Method (This section is optional):

Account string to charge: **ARC - 0508 - 21 - RC - DRILL - 2021 -**

Procurement tool to use: Donation ReQuest Concur Invoice P-card Transfer Loan

Other: (Explain):

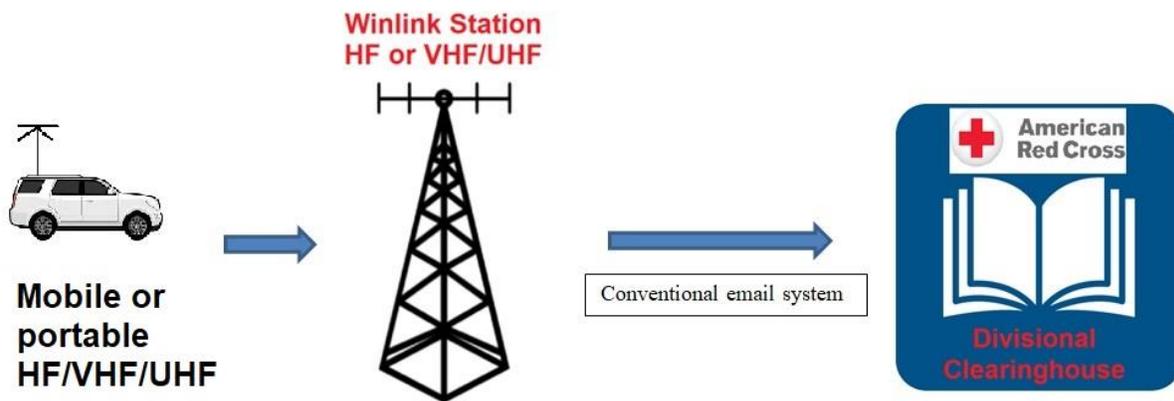
Exercise Activity Option #1:

As an alternative to fixed operation such as a home station, you may elect to operate in a safe portable or mobile location as an option. This means you could drive to a location and operate inside or outside of your vehicle. If operating outside of your vehicle, you will need an expedient antenna/mount system and a source of power.

Remember that this location and its coordinates will be different than your home and will need to represent your actual operating location. You can find those coordinates by several means as has been discussed on prior Winlink Thursday exercises.

Exercise Activity Option #2:

As a second option, exercise participants may wish to take a picture of your mobile or portable station and send it via traditional internet email to photos@ARC-EmComm-Training.groups.io to be added to our public ARC-EmComm-Training photo gallery. Photos may be shared with others for training or other non-commercial purposes.



ARC Exercise Mapping

Our team has created a real-time map of the stations that participate in our exercises. We request that all stations please CC your Winlink Check-In Form only to ARC.Emcomm.Map@gmail.com in addition to sending to your clearinghouse station. This will automatically add you to the map. The link to view the map can be found here [ARC exercise check-in map](#).

Additional Mapping Info

If participating stations do not want their station location displayed on the map, they may add the words **NO MAPPING *on a separate line*** in the Winlink check-in form COMMENTS box.

If you are checking in multiple times using different bands, modes or locations, send each Check-in form in a separate email. Do not send multiple Check-in forms in a single email.

International Amateur Participation

In honor of World Red Cross and Red Crescent Day, May 8, 2021, we invite international amateur radio operators to participate in this exercise. International stations may participate by sending a simple email greeting over Winlink to our new international clearinghouse tactical address, **ARCDX**. A simple message acknowledging World Red Cross and Red Crescent Day will be acknowledged by our clearinghouse.

Red Cross Partner Organizations Local Exercises

Many times, local partner organizations such as ARES, RACES, and AUXCOM like to conduct local exercises in conjunction with larger ongoing exercises. Local groups should feel free to conduct their localized exercises as they wish. Feel free to use our scenario if desired. Localized exercises will not be connected to our nationwide operation, but we encourage all organizations to take as many training opportunities as possible.

Frequently Asked Questions (FAQ)

- 1. Should non-Red Cross amateur radio operators reach out to Red Cross about participating in the morning session involving internal Red Cross messaging?**

A: No. Red Cross volunteer leads and/or DST will reach out to you if they need additional assistance. This part of the exercise will not involve amateur operator participation as a whole.

- 2. Will most of the amateur operators participate in the afternoon session?**

A: Yes. All amateur radio operators are invited to participate in the afternoon session in sending Winlink messages to your divisional clearinghouse. This reinforces skills learned from the Winlink Thursday exercises.

- 3. Do I need to do all options in the afternoon session?**

A: No. You can do any or all of them. Only the Winlink check-in form and 6409 form are required. We do encourage all participants to sharpen their skills by trying as many options as they feel comfortable doing. If you cannot do them all, that is perfectly fine. This is a learning process.

- 4. Do I need to include my digital GPS coordinates in the Winlink check-in form?**

A: Yes. It is important for us to know where stations were located when they sent their messages. This is both for inclusion in our online map of station and for analysis on how well we are doing in parts of the county. If GPS coordinates are not provided or are invalid in the Winlink Check-In form, the participant's FCC address of record will be used in plotting the participant's location. Supplying GPS coordinates in the template is always preferred.

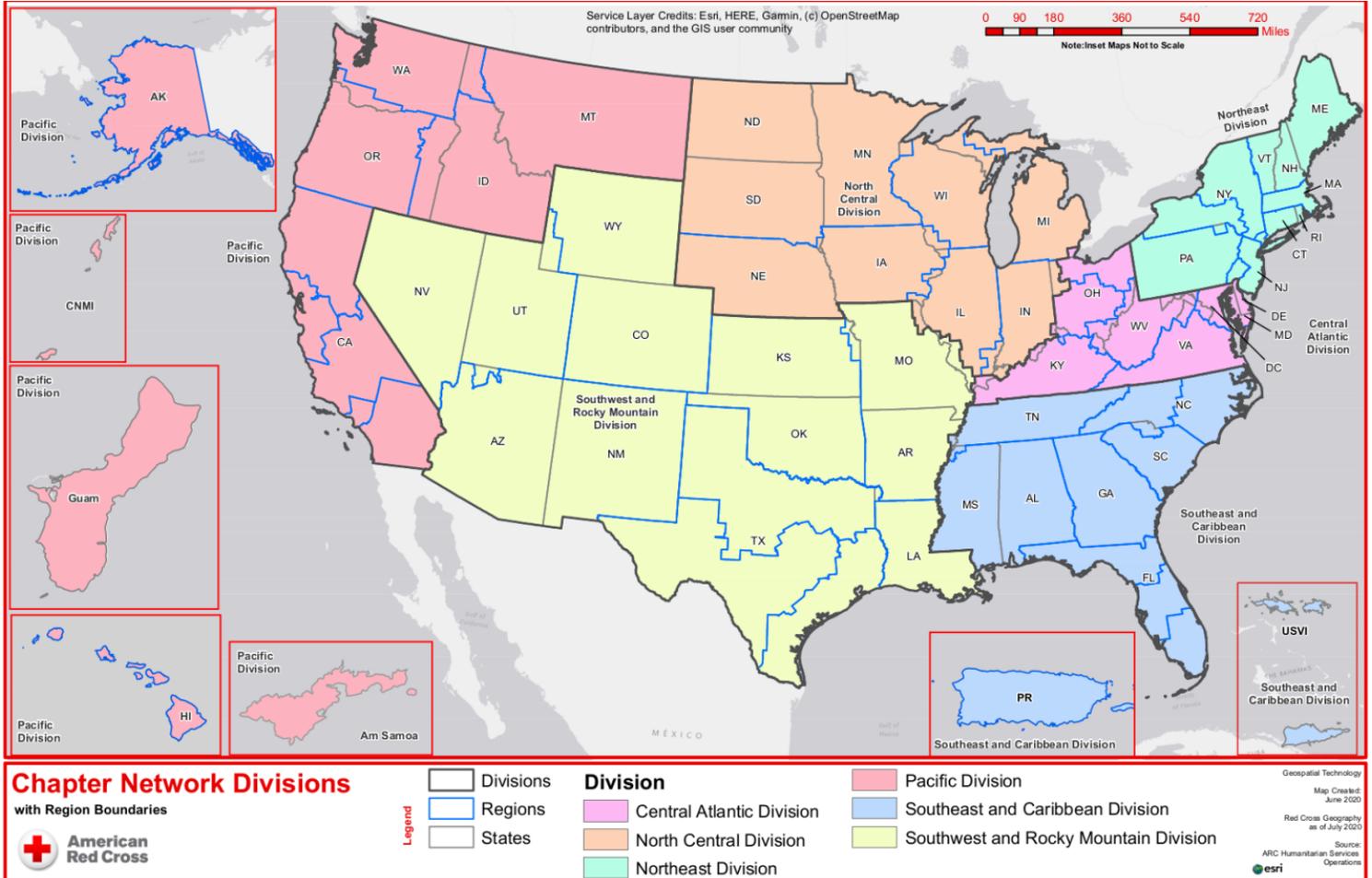
- 5. Do I need to CC my message to ARC.Emcomm.Map@gmail.com when I send my Winlink message?**

A: Yes. We ask that you CC only your Winlink Check-In form to the address above so that the digital coordinates in your check-in form can be used to plot your station (fixed, portable or mobile) on the map. If you prefer not to be shown on the map, remember to add NO MAPPING in the comments section of your check-in form. You will send the Form 6409 only to your division's clearinghouse.

- 6. Can I send my picture in reduced format with my Winlink message?**

A: For this exercise, you will not attach the image to your Winlink message. With the expected number of messages being passed in this exercise, images would greatly diminish the performance of the Winlink system. To send a picture of your station, please send it only via traditional email to photos@ARC-EmComm-Training@groups.io to be added to our gallery.

Appendix 1 Map of Red Cross Divisions



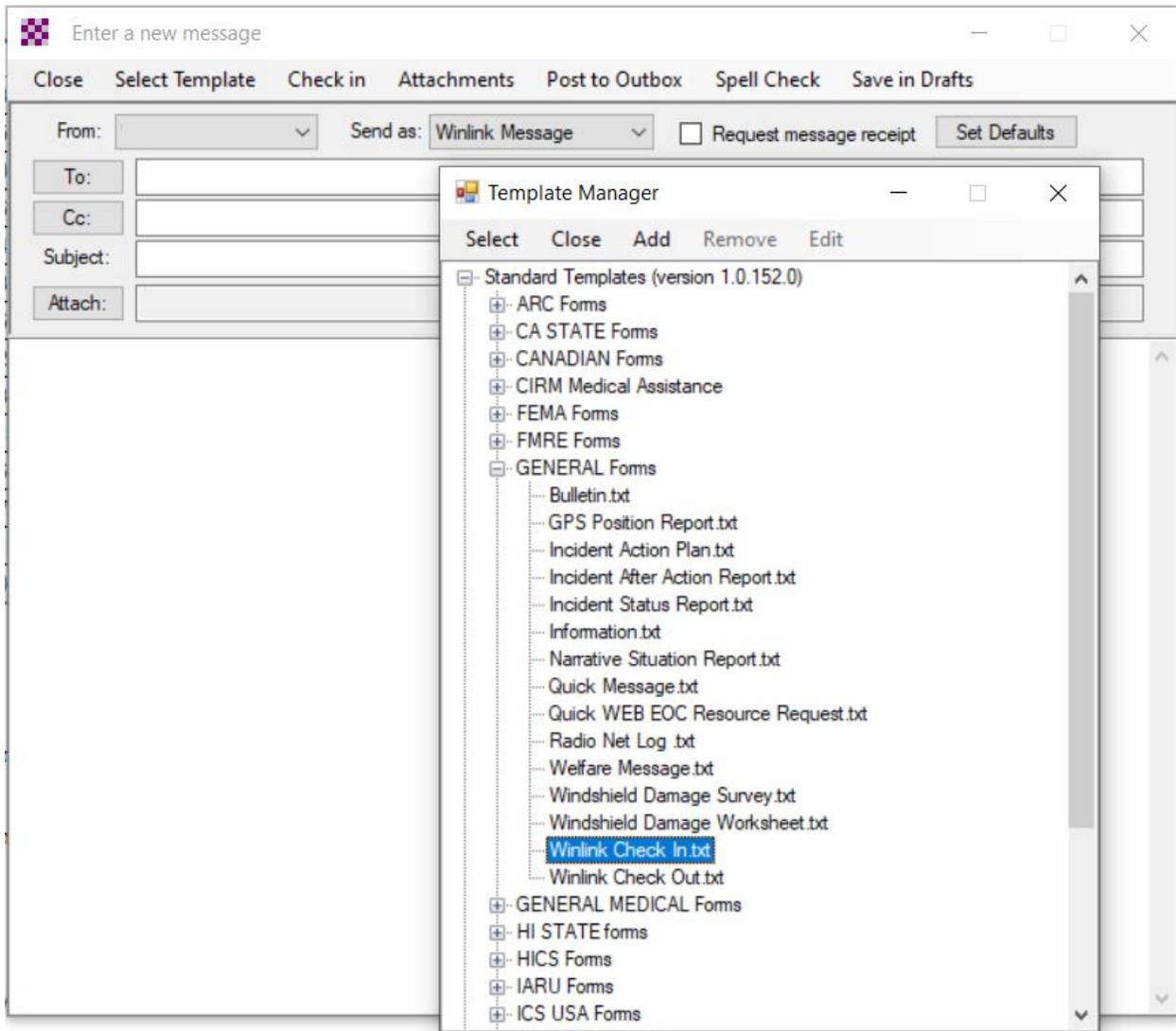
For the Divisional Clearinghouse addresses use ONLY the following Tactical Addresses:

Division	Tactical Address
Northeast	ARCNORTHEAST
Central Atlantic	ARCATLANTIC
Southeast & Caribbean	ARCSOUTHEAST
North Central	ARCCENTRAL
Southwest & Rocky Mountains	ARCSOUTHWEST
Pacific	ARCPACIFIC
Hawaii & Pacific Island Territories	ARCHI
International Stations	ARCDX

Note: These are Winlink tactical addresses and you should not use @winlink.org after the tactical address.

Appendix 2 Form Template Locations

Winlink Check-In Form



Red Cross 6409 Requisition Form

