FIRE AND RESCUE DEPARTMENTS OF NORTHERN VIRGINIA

FIREFIGHTING AND EMERGENCY OPERATIONS MANUAL

FIELD COMMUNICATIONS MANUAL

First Edition

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- City of Alexandria
- Arlington County
- City of Fairfax
- Fairfax County
- Fauquier County
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- Fort Myer
- Loudoun County
- City of Manassas
- City of Manassas Park
- Marine Corps Base Quantico
- Metropolitan Washington Airports Authority (MWAA)
- Prince William County
- Stafford County

The *Communication Field Users Guide, First Edition* was issued in May of 2018. In the 2020, the Guide was elevated to a Manual and named changed to the *Field Communications Manual, First Edition.*

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PREFACE

In 1975, the City of Alexandria, Arlington County, and Fairfax County entered into a Mutual Response Agreement to share fire and EMS operational resources regardless of jurisdictional boundary. This is known as the NOVA Agreement and has expanded to include the remaining jurisdictions and authorities within the Northern Virginia Planning District, including military base departments.

Each of the jurisdictions operate an emergency communications function, but it is important to standardize some communications policies and procedures across the region to improve responses between jurisdictional lines.

This manual is designed for use as a resource and reference for all fire department and emergency service communications personnel in Northern Virginia for the purposes of standardizing communications processes across the region.

The objectives of this manual are:

- To provide a basic understanding of the NOVA Land Mobile Radio Systems.
- To provide a basic understanding of how incident scenes are assigned radio channels.
- To review the phonetic alphabet and signals related to common language used by public safety.
- To review emergency radio transmission which include emergency radio traffic, declaring a mayday, and use of the emergency activation (EA) button.
- To review *The 4 Cs Communication Model*.
- To provide uniformed radio reports to be used in the NOVA Region.
- To review the proper procedure of adding onto an incident, the unit officer's role, and announcing arrival order.
- To provide basic concepts relating to the Emergency Communications Center which include unit responses, radio aliases, mutual/automatic aid, and regional response conditions.

DEFINITIONS

360˚ Lap
The 360˚ lap, or building walk around, will allow the officer to view all sides of the building (if possible), and provide information for the officer to further paint a picture of the incident to incoming units. This action will allow the officer the ability to gain information to develop sound strategies and tactics also.

Alarm: The National Fire Protection Association uses several definitions for alarm across its standards, including a) A warning of danger; b) a signal or message from a person or device indicating the existence of an emergency or other situation that requires action by an emergency response agency; c) a piece of equipment that generates a visual or audible signal that is intended to attract attention; d) an audible or visible signal indicating an off-standard or abnormal condition; and e) any notification made to the fire department that a situation exists or may exist that requires a response.[1] The term alarm is also often used to describe a prescribed set of response resources, such as a second alarm or third alarm.

Alternate Channel: Radio channel not normally used for routine radio traffic. Is specifically assigned to an incident for fire-ground and command communications.

Automatic Aid: Two-way assistance by fire departments dispatched automatically under pre-arranged plans or contracts on the basis that each will aid the other; also providing for joint or cooperative response to alarms near municipal boundaries.

Box: A local term that refers to a geographical area assigned to a fire station for protection or response, also known as a fire box. Can also be used to refer to a public or private fire alarm box.

Condition 1: Normal operating status of the dispatch center.

Condition 2: Status used during periods of extended high incident activity or when one or more major events are taking place (i.e., during heavy thunderstorms, one or more multiple alarm fires, or any activity that causes a depletion of resources). While in Condition 2, responses are reduced to promote conservation of units and radio traffic is kept to a minimum.

Condition 3: Status used when greater than 50% of department units are either committed to incidents or out of service. Condition 3 is often associated with multiple working incidents or a major weather event. While in Condition 3, responses are reduced dramatically to conserve resources. In these cases, departments shall request additional resources to be relocated to their jurisdiction and not for each event.

Conventional Channel: A designated non-repeating channel, primarily used for unit-to-unit communications on an incident.

Emergency Communications Center (ECC): A facility from which resources are directly assigned to an incident or planned event and a communications coordination point for the public

[1] Source: NFPA Glossary of Terms, 2013 Edition.

safety resources in an authority having jurisdiction. Also includes the public safety answering point (PSAP) for a jurisdiction.

False Alarm: An unintentional (no fire) activation, malicious or malfunction of an alarm to include sprinkler, extinguishing system, smoke detector, heat detector, alarm system malfunction, or carbon monoxide. These are classified as false alarm or false calls.

Greater Alarm: The dispatching of additional resources to the original alarm location.

Hospital Re-route: Hospital and/or emergency room bed space are full, forcing EMS units to alter their normal transport destination.

Local Alarm: Alarm given only to the single? company nearest to an event not requiring a full box response (i.e., auto fire, dumpster fire).

Med-channel: Radio channel used for communications between EMS units and emergency rooms, for relaying patient information and receiving treatment orders.

Medical Control: Established by a controlling medical facility as the authority that will be responsible for giving controlled drug and treatment orders to EMS units treating and transporting patients.

Mutual Aid: Two-way assistance by fire departments, or two or more communities freely given under pre-arranged plans or contracts on the basis that each will aid the other; also providing for joint or cooperative response to alarms near municipal boundaries.

Officer-in-Charge (OIC): Individual of authority in command of any incident scene or in charge of a specific piece of equipment.

Portable: Refers to a small, handheld portable radio. Often unit designations will be preceded by the word portable, indicating the crew is not at the apparatus, but somewhere on the incident site and mobile.

Public Service: A non-emergency request for fire or EMS services to aid citizens and to remove a potential hazard from exposure to the public.

Relocation: Also known as, fill in or transfer; refers to an order to relocate a company or a specific piece of apparatus to cover an area low in resources.

Size Up: Constant evaluation of an incident that provides information and enables an officer to determine a course of action.

Special Alarm: Request for a special type of apparatus or for a specific amount of apparatus other than the normally given one on a normal dispatch for the type of incident.

Talkgroups: A talkgroup is an assigned group on a trunked radio system. They are commonly referred to as channels. Trunked radio systems can have many more talkgroups than the number of frequencies being used.

Request to transfer Command: The objective of transferring command is to strengthen the management function and provide increased support for operational resources. Refer to the *NOVA Command Officer Operations Manual* for further details.

Trunked Radio System: A radio system operating on a defined number of frequency channels. The control channels coordinate the sharing of talkgroups on the system.

X-Ray: Radio designation used when the request is approved or ordered by the Incident Commander for a company of four or more to split into two teams to work in two distinct or separate areas or functions. The team using the X passport shall use the term X-ray when communicating by radio.

Personal Accountability Reports (P.A.R.): Process for the Incident Commander to determine the safety and welfare of the individuals on the scene or those operating under their command. P.A.R. checks are done starting at the 20-minute timer and every 20-minutes thereafter.

Priority 1: Respond with caution while using all emergency warning devices and headlights.

Priority 2: Respond in a non-emergency mode without warning devices.

Regional Hospital Coordination Center (RHCC): 1-888-987-7422 or designated radio channel. The entity responsible for coordinating the availability of beds in the five hospitals and two trauma centers closest to the incident. The RHCC contact falls under the Transportation Group.

Remote Speaker Mic (RSM): The RSM is an extension of the portable radio that allows the users to communicate remote from the portable radio. The RSM has several buttons that may be programmed for various actions depending on the jurisdiction. Most of the NOVA region will have at a minimum an Emergency Activation Button (EA) and a light assigned to the RSM.

Safety Channel: The 800 MHz radio system that the FRD uses has channels November and Oscar for “talk around” or Safety channels. These channels are not repeated through the radio system and cannot be monitored by DPSC. These channels are used to assist units with communications in areas with unreliable radio system coverage.

RADIO SYSTEM INFORMATION

All Northern Virginia (NOVA) Fire and Rescue Departments use a 700/800 MHz trunking radio system. The frequencies allocated to the regional departments range from 700 Megahertz (MHz) to 870 MHz These frequencies are determined and approved for use by the Federal Communications Commission (FCC) through the local Region 20 Committee.

Each system uses a combination of mobile, portable, and console radios for users to transmit radio messages. Regardless of the type of radio, the basic principles of operation remain the same. Each jurisdiction is allocated a radio zone based on the Council of Governments (COG) assigned numbering system. Not only is this numbering system used for radio zone identification, it is used for radio unit designator identification. The radio zones and numbers are assigned as outlined in Table 1.

Table 1: Jurisdictional numbering.

Number	Jurisdiction
0	Washington, DC
1	Arlington County, VA (including Fort Myer)
2	City of Alexandria, VA
3	Metropolitan Washington Airport Authority
4	Fairfax County, VA (including the City of Fairfax and Fort Belvoir)
5	Prince William County, VA (including City of Manassas and City of Manassas Park)
6	Loudoun County, VA
7	Montgomery County, MD
8	Prince George's County, MD
9	Frederick County, MD
10	Charles County, MD
11	Fauquier County, VA
12	Culpeper County, VA
14	Rappahannock County, VA
15	Stafford County, VA

Each jurisdiction's radio system resources are based on the requirements of that jurisdiction. For example, the number of frequencies and frequency ranges may vary, however, each system has common features that are used.

Radio Basics

Trunked radio systems take advantage of the probability that with any given number of user units, not everyone will need channel access at the same time, therefore fewer discrete radio channels are required. From another perspective, with a given number of radio channels, a much greater number of user groups can be accommodated.

To the user, a trunking radio looks just like an ordinary radio. There is a channel switch for the user to select the channel that they want to use. In reality though, the channel switch is NOT switching frequencies as in a conventional radio, but when changed it refers to an internal software program, which causes a talkgroup affiliation to be transmitted on the control channel. This identifies the specific radio to the system controller as a member of a specific talkgroup, and that radio will then be included in any conversations involving that talkgroup.

This also allows great flexibility in radio usage – the same radio model can be used for many different types of system users (i.e., law enforcement, public works, animal control, etc.) simply by changing the software programming in the radio itself.

Radio Talkgroups

One common feature is the use of a radio zone that uses 16 primary talkgroups. These primary talkgroups or channels consist of dispatch, incident response, and talk-around channels. The agreed upon NOVA channel configuration is as follows:

Channels Alpha and Papa

In each radio zone, channels Alpha and Papa shall be used as the dispatch channel. This policy is in place to promote ease of use and increased safety for the user. Regardless of the zone or channel they are on, a user has the ability to turn the radio channel dial to the end in either direction and speak with a dispatcher. This is especially important when functioning in zero visibility environments.

Incident Channel Assignments

When discussing incident channel assignments, we need to consider the type of incident:

- Single jurisdiction and single agency.
- Single jurisdiction and multi-agency.
- Multi-jurisdiction and single agency.
- Multi-jurisdiction and multi-agency.

Refer to the *NOVA Command Officer Operations Manual* for further details.

Regardless of the scale of the incident, each requires the use of specific channels or groups of channels for communications. These channel assignments shall be consistent throughout the region and utilize the following guidelines.

Channel Bravo

In each radio zone, the primary small-scale incident response channel may be channel Bravo. This channel may be assigned to all incidents not requiring a command officer, additional dispatcher, or other communications resources. This channel may be assigned for use whether the incident is EMS, suppression, or public service related.

Channels Charlie through Mike

In each radio zone, channels Charlie through Mike may be used for any incident requiring its own incident channel, or as designated by the agency. This is commonly seen when a command officer is responding on the incident.

- Incident and tactical command channels will be assigned in accordance with the policies of the authority having jurisdiction (AHJ).
- Examples would be tactical channels and command channels.

Channels November and Oscar

Channel Oscar is the universal safety channel in all primary radio zones. Channel Oscar shall be programmed as a direct, non-repeated channel. Since this is a non-repeated channel, it is not on the trunked system. Therefore, the dispatchers cannot monitor radio traffic or receive an EA.

Although Channel November is used when transmitting routine talk-around traffic, it can be used as a secondary safety channel. Channel November is typically programmed to be similar to channel Oscar, however some jurisdictions have programmed this channel for alternate use.

- Typical range of channels November and Oscar is about a mile of line of sight of other radio users. In-building coverage will vary depending on building construction or radio assisted devices within the structure.
- Talk-around EA activations can be received on the local fire ground only if programmed by the AHJ. The dispatchers will not receive or monitor EA activations on channels November and Oscar.

Role of the Communications Unit

Large-scale incidents are single or multiple complex and resource-intensive incidents that are often the result of a manmade or natural disaster. These incidents include airplane crashes, tornados, freight and passenger train derailments, terrorism attacks, and other similar incidents. These incidents will require numerous channels (usually more than four) and require the development of a communications plan. These incidents may also require multiple dispatchers to monitor several of the various channels.

Large-scale incidents or incidents involving various agencies are very complex when discussing radio channel assignments. Although the event may start on one channel, certain incident scenarios will require the use of many channels. When the incident goes beyond the scope of this

manual then the Tactical Interoperable Communications Plan (TICP) or an Incident Action Plan (IAP) should be used in guiding communications. A Communications Unit Leader (COML) should be assigned and tasked with the development of a communications plan.

The communications unit is under the direction of the COML. It is responsible for all aspects of developing and implementing the Incident Communications Plan. These responsibilities include meeting the operational and logistical needs of the incident. The communications unit can be staffed with multiple communications support and technical specialist positions.

When filled, the COML becomes the coordination point of all channel assignments for the incident. All requests for communications channels and/or communications equipment is directed to the unit. During a major incident, the COML may place communications officers with many of the Section Chiefs or Branch Directors in order to assist them with communications planning to provide a direct contact for communications resource requests.

Major Incident Communications Plan

A Major Incident Communications Plan (MICP) is a plan that distributes radio channels to the various sections, branches, divisions, and groups of the Incident Command System (ICS). During a large-scale incident, it is expected that numerous ICS functions will be instituted.

Regardless of the creation of various Sections, Branches, and other ICS components, the IC should identify one channel that can be used by the Section Chiefs to directly speak with the IC. Typically, this channel would be the channel assigned as the initial command channel and continued to be identified as such.

Figure 1 shows an example of a major incident communications plan with the colors representing the separate radio talkgroups, also known as radio channels.

Alternative Communications Devices

During the implementation of the MICP, the COML will identify positions and organizational elements that can use alternative communications devices/methods. This will reserve the primary radio channels for use by tactical positions. Satellite telephone, land-line, mobile telephones, teleconference systems, UHF and VHF communication networks, and radio cache can be used for alternate command and logistics communications. Additional talkgroups from surrounding jurisdictions may be requested to augment the communications needs and/or relieve congestion of the primary system.

Local radio resources available:

- Radio cache.
- Communication support units.
- Mobile command posts.
- Incident Commanders Radio Interface (ICRI).

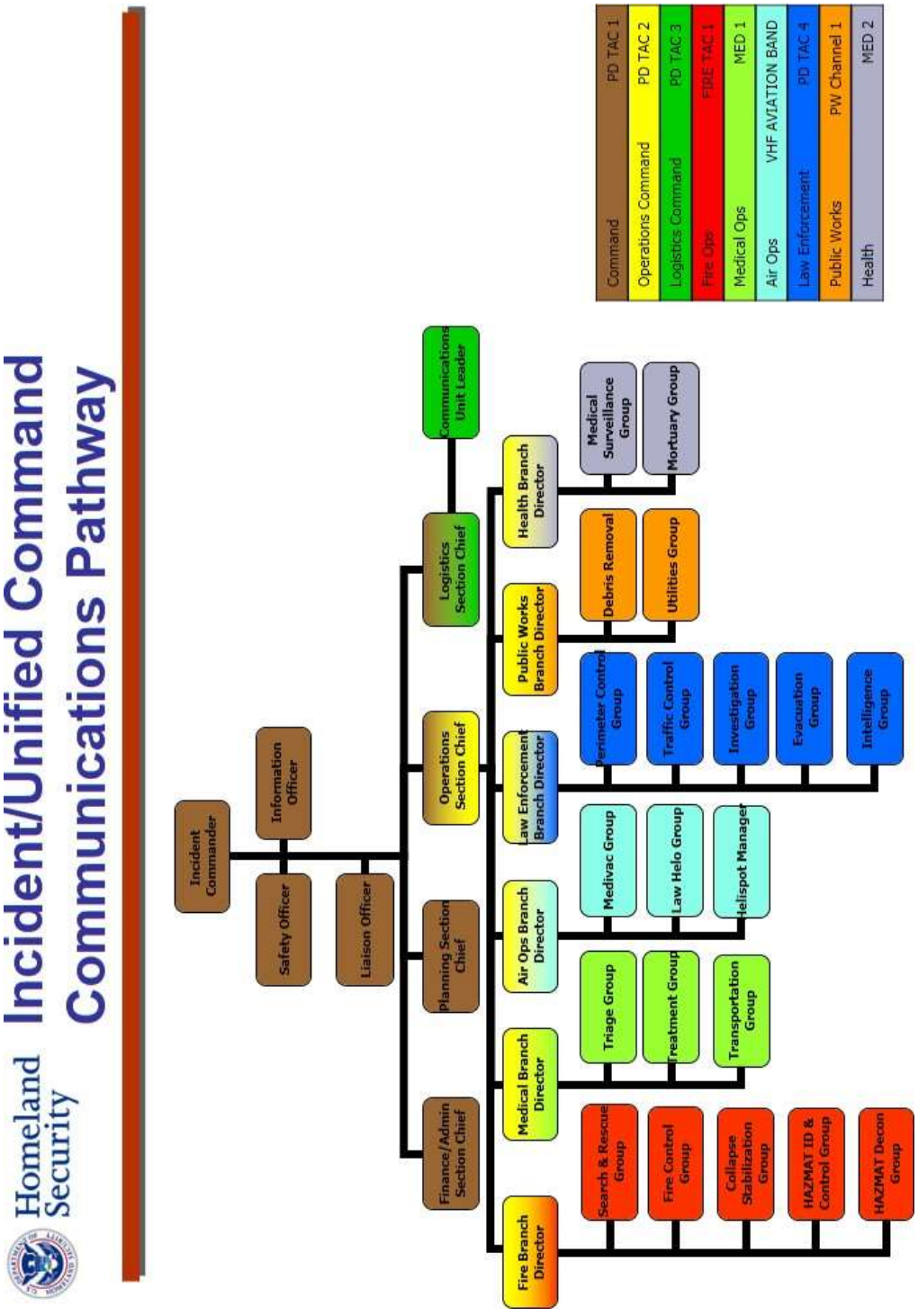

Figure 1: Sample MICP.

COMMUNICATING OVER THE RADIO

Radio communications in the fire and emergency services are not as simple as pushing a button on the radio and saying what you want to say. Each radio transmission should be carefully thought out. The transmission should be necessary and relevant to the mission. This section will discuss the specifics of radio communication for NOVA fire and rescue personnel.

Personnel shall minimize radio transmissions to necessary information only. Excessive use of the radio for non-essential transmissions, that have no operational impact, increase the likelihood that a critical message may not be transmitted or heard by its intended recipient.

This document is intended to give radio users guidance on best practices for radio communications and provide examples of common terms and phrases, radio reports, and unnecessary radio traffic.

Prior to making a radio transmission, fire and emergency service personnel should consider the following:

1. What message do you want to convey?
2. Is the message necessary?
3. Keep it brief.
4. When you key the microphone (often abbreviated to mic), be prepared to speak.

Once you are ready to transmit your radio message:

1. Key the mic, hesitate, and convey message; when complete, stop, hesitate, and release the mic.
2. Speak in a normal conversational tone.
3. Hold the radio or mic one to two inches from your mouth and speak clearly and directly into the mic.
4. Engage in active listening.

When making a radio transmission DO NOT:

1. Transmit personal or non-business messages.
2. Transmit while standing too close to another radio.
3. Use profanity, exchange pleasantries, or offer personal greetings.
4. Use names on the radio (except in a MAYDAY situation or if missing a member during a PAR check).
5. Use inappropriate numbering for unit (E10). Rather, use COG jurisdictional unit numbering (E410).

Clear and effective communications need to minimize or avoid noise. Noise during the communications process is grouped into four categories:

- **Physical or external:** High heat, sounds of work (chainsaw, axes, sledgehammer, drills, porta power, sounds of running apparatus, etc.), radio feedback from a crewmember

standing too close while you are transmitting, PASS alarm that activates or the pinging sound the Self-Contained Breathing Apparatus makes when the battery is low, crowd noise, car horns, traffic, airport, or trains.

- **Semantic:** Confusing word choices.
- **Psychological:** Preconception bias and assumptions that we all make regarding one another.
- **Physiological:** Biological influences such as sweaty palms, pounding heart, anxiety, exhaustion, out of breath, feeling or being sick, hunger.

Common Language

The Commonwealth of Virginia's Office of Interoperability has realized a need for a Common Language Protocol. This need has become a statewide effort to create interoperability throughout all jurisdictions of the Commonwealth. This protocol applies to all persons who use a public safety, public service, or other radio system. It allows the use of signals to rapidly identify the needs of the user or responder. This common language protocol addresses two primary communications areas: the phonetic alphabet and signals.

Phonetic Alphabet

The following is the Commonwealth of Virginia's Phonetic Alphabet. This alphabet shall be used when communicating information (i.e., channel assignments, building sides, pole numbers, etc.) over the radio:

A – Alpha	H – Hotel	O – Oscar	V - Victor
B – Bravo	I – India	P – Papa	W - Whiskey
C – Charlie	J – Juliet	Q – Quebec	X – X-ray
D – Delta	K – Kilo	R – Romeo	Y - Yankee
E – Echo	L – Lima	S – Sierra	Z - Zulu
F – Foxtrot	M – Mike	T - Tango	
G – Golf	N – November	U – Uniform	

Signals

The Commonwealth of Virginia's Common Language protocol eliminated the use of 10 codes and other radio codes that was not related to plain language. It is recognized that first responders are sometimes in a position where using plain language places the responder at risk. Signal codes were created for use whenever a responder believes that they are at risk if their voice is overheard while transmitting. The Signal 1 code is relevant to fire and rescue personnel.

Signal 1: Responder in Immediate Danger

A Signal 1 is declared when a responder believes that physical threats could cause the injury or death. Examples include: a citizen threatening a firefighter with a weapon, a combative patient, an emotionally disturbed person, etc.

Declaring a Signal 1 is different from declaring a Mayday. Personnel are typically not in an IDLH environment but are in a dangerous or hostile situation and in need of an immediate law enforcement presence. Personnel need to keep their safety in mind when declaring a Signal 1. In some situations, personnel may only be able to activate the EA button. In others, they may be able to activate the EA and key the microphone.

Personnel declaring a Signal 1, who are able to talk on the radio, should make every attempt to activate their EA button and then identify their unit designator, announcing the Signal 1. They should provide any information they can about the situation. Example:

> "Engine 106, Signal 1, we are at 106 South Eighth Street, subject with a knife."

If unable to talk on the radio due to a direct threat or fear that speaking will make your location known to the threat, key the mic and keep it open so that the ECC can possibly hear the interaction occurring. If there is concern that radio chatter will give up your location to the threat, ensure the volume is turned down once you have activated the EA.

The ECC will acknowledge receipt of the Signal 1.

Upon confirmation of a Signal 1 the ECC will dispatch the additional resources according to the Signal 1 response guidelines.

Any time a Signal 1 is declared or suspected; the following minimum FD resources, aside from law enforcement, shall be dispatched:

Fire and EMS:

- The closest suppression piece.
- EMS transport unit.
- Battalion Chief.
- Safety Officer, if available.

Fire and EMS units shall stage at a safe location until scene security is confirmed by law enforcement officers. This location shall be remote, in order to promote personnel safety. So as not to interfere with law enforcement response, but close enough to provide rapid deployment of resources to the scene. It is recommended that fire and rescue apparatus stage at a location that is not in direct line of sight with the actual incident location until further direction is received from law enforcement. Responding units should also be mindful of their direction of travel if directed to a predetermined staging location to keep from inadvertently passing through the incident scene.

PORTABLE RADIO PERSONEL PROTECTIVE EQUIPMENT PLACEMENT

The portable radio is a critical tool for firefighters and EMS providers on a daily basis and it must be properly placed in order to reduce the possibility of radio ejection from the user, to minimize radio frequency (RF) loss, to protect the remote speaker mic (RSM) cord from high thermal temperatures, and provide the user the ability to make critical radio transmissions under stressful situations.

The portable radio must be immediately available for each member in the IDLH ready for use, easily accessible and working correctly when the user makes or receives a critical transmission. Donning the portable radio requires repeated training to increase the chance of a successful transmission. It is recommended that the keypad always remains locked other than when actively changing zones.

The optimal placement with structural firefighting gear:

- Placement under the coat in a radio strap and case that is properly fitted to each user.
- Proper personal protective equipment (PPE) is donned with the portable radio in the leather case protruding below the coat line and canted away from the body. This position provides the least amount of RF loss. This will be done in accordance with individual department policy as a best practice.
- The RSM cord and leather strap should be concealed under the coat.
- The RSM should exit in the space between the top flap of the PPE coat and below the neck strap with minimal RSM cord exposure.
- The RSM is recommended to be secured with an optional cord retractor which is easily accessible.

The primary purpose of this position is to provide a level of thermal protection to the RSM cord, while reducing the possibility of radio ejection. Wearing the portable radio in the same manner on all calls for service increases muscle memory and repeated repetition increases the chance of a successful radio transmission in a stressful situation.

Correct

Incorrect

Correct

Incorrect

EMERGENCY RADIO TRANSMISSIONS

The following terminology is used to indicate the need for immediate radio communications.

Emergency Radio Traffic

When a person declares they have emergency traffic, it gives that person priority to the radio channel over all other radio traffic. The dispatcher shall instruct the person to go ahead with their traffic. An example of this would be when a unit officer needs to relay critical event related information, when a unit is in trouble (and does not meet a signal 1 or Mayday requirement), etc.

Emergency traffic could be used in the following situations:

1. Unit requires immediate assistance.
2. A change from interior to exterior attack strategy.
3. Fire is spreading to an exposure or may rapidly extend in the near future.
4. There is a loss of water supply or pump pressure.
5. A civilian is located requiring rescue.
6. Requesting or announcing an emergency evacuation of personnel.

Declaring a Mayday

A Mayday is declared when a firefighter is at risk or exposed to a potential imminent life threat in an IDLH atmosphere. Refer to the *NOVA Rapid Intervention Team (RIT) Command and Operational Procedures* manual for Mayday declarations and procedures.

Emergency Activation (EA)

A common feature on all NOVA mobile and portable radios is the EA button. This button is typically a red or orange button located near the channel and/or zone selector knobs or buttons and may be found on top of the remote speaker mic. The basic use of this button is to alert the dispatcher to a situation in which operational/field personnel feel they are in a life-threatening situation. These situations include but are not limited to: any time bodily harm is expected, civilian with a weapon that is acting in a threatening manner, and other similar situations. Although not encouraged for routine use, this button can be activated in cases of a Mayday when command does not acknowledge the Mayday in accordance with the *NOVA RIT Command and Operational Procedures Manual*.

Based on the fact that an EA signifies a critical or hostile situation in which the imminent safety of a person or team is threatened and immediate assistance is needed, all EAs will be treated seriously and should not be used unless personnel are in immediate danger.

It is important for field personnel to understand that the EA will transmit the emergency signal to the talk group currently assigned to the radio on which the EA button was pressed. For example, Engine 105 is on the scene of a working structure fire in Alexandria's first due area and their radio assignment is 2 Bravo. The interior firefighting team comprised of Engine 105's members becomes trapped in the structure in a high heat situation. When Engine 105's EA is activated the

emergency signal will transmit to Alexandria's Emergency Communications Center (ECC), not Arlington's ECC because the EA was transmitted from the radio assigned to 2 Bravo.

An exception to the above situation can occur when a user changes talk groups during an EA transmission. The emergency signal will continue on the original channel on which it was active, and it will move to the newly-selected talk group, without the need for the user to depress the EA button again. To reiterate through the use the example above, if Engine 105 transmits the EA over 2 Bravo originally, then changes the radio to 1 Alpha, the EA will transmit on both 2 Bravo and 1 Alpha.

It is essential every user maintain familiarity with the location and operation of the EA button on every radio they use.

Accidental Activation of the EA Button

If a unit accidentally activates the EA button, the unit shall deny the Signal 1 acknowledgement by the dispatcher. The unit should then push and hold the EA button until the EA signal clears. This ordinarily requires one to three seconds of depressing the EA button.

> *Example: A crew member on Engine 101 accidentally hits the EA button during their response to a call.*
>
> *Dispatch: "Engine 101 from Arlington, confirm or deny Signal 1."*
>
> *Engine 101: "Arlington from Engine 101, deny."*
>
> *Engine 101's crew member then depresses the EA button that was activated for one to three seconds to clear the EA.*

Three attempts shall be made to contact a unit once an EA has occurred. If the unit fails to respond and is dispatched on a single unit call, the ECC dispatcher will immediately dispatch additional resources per the Signal 1 response guidelines established.

Managing an EA

Once an EA is received by the ECC, the transmission will fall into one of three categories:

1. EA on an incident without command established.
2. EA on an incident with command established.
3. EA not directly related to an incident.

EAs on Incidents without Command Established

When a unit is on an incident without command established and an EA is received by the ECC, the ECC dispatcher shall make two attempts to contact the unit. The following is an example of the transmission that would take place:

A crew member on Engine 618 hits the EA button while on the scene of an incident where command is not established.

Dispatch: "Engine 618 from Loudoun, confirm or deny Signal 1."

An attempt shall be made to contact a unit once an EA has occurred. If the unit fails to respond and is dispatched on a single unit call, the ECC will immediately dispatch additional resources per the Signal 1 response guidelines established in this policy.

If the unit fails to respond and there are additional fire/EMS units on scene, the ECC will attempt to contact those units to identify a reason for the EA. If there is no response from any of the on scene units, or a reason for the EA cannot be determined, additional resources shall be dispatched per the Signal 1 response guidelines.

If the EA is accidental, the unit will respond with the following:

Engine 618: "Loudoun from Engine 618, deny."

Engine 618's crew member then depresses the EA button that was activated for one to three seconds to clear the EA.

EAs on Incidents with Command Established

If any unit activates an EA and is involved in an incident with command established, the IC will be immediately notified of the alias of the unit or numerical radio identifier broadcasting the signal in order to take the appropriate actions. The ECC will provide the information to the IC over the Command Channel (or Tactical Channel when a Command Channel has not been established). For example:

A large number of units are operating on a building fire in Fairfax County and Gallows Road Command has been established to manage the incident. Engine 413 activates an EA while operating on the interior of the structure.

Dispatch: "Gallows Road Command from Fairfax, we are receiving an EA signal from Engine 413 on channel 4 Delta"

The IC will then determine the nature of the situation and request the appropriate resources, as needed.

EAs not Directly Related to Incidents

At times, personnel may find themselves in situations that become hostile while not assigned to an incident. Typically, units will be on their home radio zones during these times. EA activation should be sent on a monitored channel, such as the Alpha or Bravo channel, however, it is important to recognize that personnel monitor various radio zones and that they may have an EA on a radio zone other than their home zone.

When a location of the unit making the EA cannot be determined, the EA shall be considered a Signal 1 until contact is made with that unit. Resources shall be dispatched to the unit's last known location in accordance with jurisdictional policies. In addition, a lookout shall be issued to all local fire, EMS, and law enforcement units, and notifications to senior leadership. Additional contacts shall be made in accordance with jurisdictional policies.

EA Use in Other Jurisdictions

In some jurisdictions when an EA occurs and the radio is not in its home zone, the radio alias may not appear on the radio console at the ECC. The dispatcher may only receive a numerical identifier. In these instances, the controlling dispatcher shall make every attempt possible to identify the alias for the radio from which the EA was broadcast. This can be done by radio contact or by contacting the radio's home jurisdiction. Radio systems personnel and managers currently share aliases across jurisdictions. This provides additional information for tracking units.

Depending on the setup chosen for each jurisdiction, the radio has the capability of notifying predetermined radio users (Battalion Chiefs, Command Staff) of an EA activation. Once the Push To Talk button is depressed all radios may receive the notification.

Radio Issue or Failure on the Fireground

If a user has a problem while operating in the IDLH environment, this needs to be communicated to the IC. A radio user may have an issue with a remote speaker mic (RSM) or the main radio. If it can be determined in a safe manner that the RSM is the problem, it can be removed reverting the radio transmissions back to the main radio. If this is not the case or the main radio does not work as well, notify a crew member of the problem and have them transmit the radio traffic and whether exiting the structure is necessary.

Once outside of the IDLH, the radio user shall determine whether a spare radio is needed or whether it was operator error. Spare radios and the procedure for replacement is per the authority having jurisdiction.

OPERATIONAL COMMUNICATIONS PROCEDURES

Communication is a critical issue in the fire and rescue service. We rely on our personnel to provide information that not only sets the stage for the incident, but also will impact the strategies and tactics employed. Improper communications complicate incident operations and can result in danger to the crews involved.

Two keys to effective communications are:

- Clear and concise communications are essential to the mission. When making radio transmissions, firefighters should use plain language without using slang or jargon. This will help ensure all personnel understand what is being said.

- Training is not just for keeping current on fire and EMS skills and knowledge; it is important for communications as well. All personnel shall train often on radio usage and radio technology/functionality. As with any skill, radio usage is a skill in which personnel must remain proficient. If personnel do not practice emergency and routine radio transmissions regularly, or understand how radio equipment works, skills will weaken. This decreases the chance of effectively calling for help.

An important fundamental concept in communications is the *4 Cs Communications Model*, shown in Table 2. Note: there are different versions of the 4 Cs Model; the 3-step model incorporates *Connect* and *Convey* into the same initial statement and the 5-step model breaks the *Connect* step into *Connect to the Receiver* and *Connect to the Sender*.

Table 2: The 4 Cs Communication Model.

4 Cs	What?	Example
Connect	Before you can send information over the radio you must ensure that you are talking to the intended receiver. As the sender you must connect with the receiver.	Use the "Hey you, it's me" model (e.g., Tower 619: "Battalion 504 from Tower 619" or "Command, E102."
Convey	Having "Connected" with the intended receiver you can now "Convey" the message.	Engine 602: "Battalion 602 from Engine 602." Battalion 602: "Battalion 602" Engine 602: "Need additional crew to assist with search on the second floor."
Clarify	Repeat the directive. It not only confirms the message was received but also that it was understood.	ECC: "Medic 613 from Loudoun." Medic 613: "Medic 613" ECC: "Leesburg Police needs you to stage until they advise." Medic 613: "Medic 613 copy. Stage until Leesburg Police advises."
Confirm	The confirmation from ECC of the read back from Medic 613 is the "period" that ends the conversation.	ECC: "Affirmative Medic 613."

Radio Reports

Radio reports are means for fire and rescue personnel to speak directly to each other and/or the communications center. Communication should focus on critical information based on the event. Proper radio reports assist in the development of sound strategies and tactics and the development of an incident action plan to mitigate the incident.

Table 3 shows correct examples of radio reports.

Table 3: Sample radio reports showing unit-to-unit communication.

Report	Description and Examples
Water Supply Report	Direct from Attack Engine to Supply Engine. *"Engine 431 from Engine 425. I'm dropping my line at the corner of Spring Street and Van Buren Street."* *"Engine 431 copy: We'll pick up the line at Spring Street and Van Buren Street."*
On-scene Report	Go direct to first-due Command level Officer. • Unit identification and side of structure apparatus is positioned. • Building height (Number of stories above ground). • Occupancy type. • Detailed report of conditions evident (To include side of the structure conditions are evident, quadrant located, and description of conditions). *"Battalion 401 from Engine 425. Engine 425, on the scene side Alpha of a two-story, single-family dwelling, fire showing from one window, floor number one, quadrant Delta, side Delta. Engine 425 will be conducting a lap."*

Report	Description and Examples
Situation Report & Command Statement (After completing lap)	Go direct to first-due Command officer. Complete a 360 lap of the structure and advise: • Number of floors above grade in front. • Number of floors above grade in rear. • Specific location of fire, if visible. • Presence of basement, conditions present (if any), and location of access to the basement. • Label the floors. • Any hazards observed. • Presence of exposures, if any. • Occupant status, if able to obtain. • Request additional resources, as needed. Communicate your tactical plan and location of entry. Provide tasks to other on scene units or tasks you need completed by the next arriving units. Provide a clear and concise Command Statement based upon your decided tactical actions. *"Battalion 401 from Engine 425. Lap completed; two in the front, three to the rear. The fire is located on floor number one, quadrants Charlie and Delta. Basement is clear of smoke and fire; access is on side Charlie to the basement. The structure will be labelled basement, first floor, and second floor. Unable to confirm occupant status. Engine 425 is stretching a 1 ¾" line through the front door with a crew of three. Truck 425 is conducting a primary search on floor two with a crew of two, two remaining outside to throw ground ladders. Requesting to transfer Command."* Command officer will acknowledge: *"Battalion 401, copy your report E425 of fire on floor number one in quadrants Charlie and Delta and advancing a hoseline to the first floor. T425 will be conducting a primary search on the second floor. E431 assume Command until my arrival in 2 minutes. Fairfax, start a second alarm and stage at Spring Street."*

Report	Description and Examples
C.A.N. Reports (ongoing situation report)	To assist command with gathering information for the incident. A C.A.N. report is a quick means of asking for a situation report. **C.A.N. report:** C – Conditions A – Actions N – Needs *"Battalion 401 from Engine 425. (**Conditions)** On the first floor we have considerable heat & smoke conditions with a fire in the kitchen area. (**Actions**) Engine 425 has a line on the fire. (**Needs**) requesting horizontal ventilation on the first floor and check for extension on the second floor."*
Progress Report	The initial progress report should be given at approximately 10 minutes: • Confirm the address or location of the incident • Define commitment of resources • Define the hazard • Define the building or involved area • Define strategic mode • Status of search • Define extent of involvement or hazard • Describe the level of containment of the fire or hazard • Describe the fireground layout or operational area • Estimate time prediction for holding units All progress reports will be given on the command channel once that channel has been established "*Fairfax from Spring Street Command. At 1203 Spring St., all units are engaged from the first alarm for a fire on the first floor. Building is a 3-story single family dwelling, 75' x 75', wood-frame construction. We are operating in an offensive mode. Primary search is negative on the fire floor and still underway on the floor above. Fire is on one floor with 25% involvement. We have three lines deployed and two in operation. Horizontal ventilation is underway. The fire has been contained, but not yet under control. Exposure Alpha is the street, Bravo is a similar building, Charlie a yard and Delta a similar building. We will be holding all units in excess of an hour."*

Report	Description and Examples
Subsequent Progress Reports	Subsequent progress reports should be given after each PAR check and can be much shorter and to the point *"Fairfax from Spring Street Command. At 1203 Spring St., units are currently in an offensive strategy. Primary and secondary searches are negative in the structure. Fire was contained to one floor. Exposures are clear. We will be holding all units in excess of an hour."*
Safety Message	• Type of safety issue. • Location of safety issue. • Request tones to be sounded. *"All units from Command – Safety Message."* *"Power line down at the corner of Side-Alpha and Delta; the line is hot."* *(REPEAT)* Based on the severity, the IC may request to have the dispatcher sound one alert tone and parrot the safety message.

Below are common phrases/words used within the Northern Virginia Region and their definitions. Units should refrain from adding unnecessary adjectives and be clear and concise.

Table 4: Common phrases/words.

Phrase/Word	Definition
Location-based Terminology	
Dispatch(ed)	Unit dispatched to an event.
Enroute/Responding	Unit acknowledges dispatch and is enroute to event.
On-Scene	Unit is at the scene.
Divert	Used when unit changes response to another event.
Ready	Unit is available to respond to events.
In Quarters	Unit is available in Quarters.
Out-of-service	Unit is Out-of-Service, mechanical etc.
Enroute to Hospital	Unit is transporting patient to a hospital or support unit enroute to hospital to collect personnel.
At Hospital	Arrived at destination hospital.
Fire Scene Terminology	
Search Findings	

Phrase/Word	Definition
Search is negative	Primary or secondary search completed with no victims found.
Fire Conditions	
Fire Showing	Fire is visible upon arrival.
Fully Involved	100% fire involvement indicating a defensive attack/no entry to IDLH.
Extending	Fire spreading to another occupancy, floor, portion of the building, etc.
No Extension	Used to describe no interior and exterior fire transmission to another area or object.
Fire is knocked down (knock on the fire)	Notification that majority of fire conditions have been extinguished and fire is contained.
Smoke Conditions	
Smoke Showing	Smoke is visible upon arrival.
Haze in the building	Light volume of smoke visible in the structure.
Zero Visibility	Interior condition indicating smoke to the floor.
Operational Modes	
Investigative	Process where initial units are determining the scope of the incident and what tactical actions will need to occur.
Offensive	Indicates direct attack on fire, whether starting from the interior or exterior.
Defensive	Exterior attack – exposure protection with no interior attack.
Under Control	Used to describe status of the event – fire may not be out completely.
Withdrawal	Coordinated relocation of units and their equipment, operating from an area deemed untenable, to a specific area deemed safe to continue operations.
Evacuate	Units without a hoseline will immediately remove themselves from the structure. The engine company should maintain a hoseline in place to protect the evacuation of those personnel.
Communications Transmissions	
Direct	Unit heard and understood traffic that was not directed at them.
Ok, copy, acknowledge	Unit heard and understood traffic directed at them.
Disregard	Never mind.
Affirmative	Yes.
Negative	No.
Repeat	Repeat traffic.
Stand-By	Unit needs time to formulate a response to a question or is currently involved in a task.
P.A.R.	Response to P.A.R., all personnel are accounted for properly.
Emergency Radio Operations	
MAYDAY	Firefighter lost, trapped, or missing.
Emergency Traffic	Request for clear airtime to transmit emergency condition.
Signal-1	Imminent danger due to a life-threatening situation other than mayday

Incident Response

Regardless of which jurisdiction the unit is responding, incident personnel shall operate on the host jurisdiction's radio system. The host jurisdiction will remain in control of the event and be responsible for notifying the assisting jurisdiction's dispatch center of pertinent information. The radio channel will be identified during the dispatch of units in both the host and assisting jurisdictions.

Adding to Incidents

Based on regional dispatch criteria, a procedure has been developed to standardize the process of adding to an incident.

In situations where a unit becomes available in the vicinity of a dispatched call where multiple units are responding; typically box alarms, and the unit officer in charge (OIC) believes they are in a position to respond to arrive on the scene **significantly** before the dispatched unit(s), the procedures listed below shall be followed:

- When adding to a multi-unit response with a chief officer, the OIC will contact the dispatched Command officer via the assigned response channel and announce their intent to respond, current location, and expected arrival order.

    - Example demonstrating preferred language, Engine 106 requesting to add onto a house fire on 1 Delta.

        "Battalion 111 from Engine 101 – we are requesting permission to respond to the Leesburg Pike house fire from Arlington Boulevard and Patrick Henry Drive. We will take the third due assignment

- The chief officer will acknowledge the transmission and advise other responding units of the assignment changes if the command officer finds the addition of the responding unit will have a positive impact on the event. The command officer may elect to advise the unit adding to the call to remain in service. Additionally, the responding command officer may place the extra unit in service that results from the added resource appropriately adding to the call, thereby keeping the assignment to the normal complement.

    Battalion 111 would state,

    "Copy, Engine 106 you may respond to the house fire"

- The responding command officer shall confirm the changed run assignment with the appropriate communication center dispatcher who, in turn, will ensure the run assignment is updated in the computer-aided dispatch system.

- It is important to remember that key radio communication (water supply, on-scene, and situation reports) must take a priority, and could be hindered by additional units adding on to incidents when units are arriving on scene. All unit officers shall maintain radio discipline to prevent this from occurring.

For other types of incidents, typically local alarms (alarm given only to the company nearest to an event not requiring a full response), where a unit becomes available in the vicinity of a dispatched call, the unit OIC may respond if they believe they will arrive on the scene significantly before the dispatched unit(s).The procedures listed below shall be followed:

- The OIC of the unit adding to the call will advise the responding unit over the incident channel of his or her intentions, determine the location of the responding unit, and place the responding unit in service if the unit adding is the closer unit. The OIC of the unit adding will confirm the changed run assignment with the appropriate communication center dispatcher who, in turn, will ensure the run assignment is updated in the computer-aided dispatch system.

- This procedure applies for all tactical units including engines, trucks, rescues, and EMS units.

Unit Officer's Role

While responding to incidents, units shall communicate directly to one another, and shall not routinely go through the dispatcher. This communication method includes any transmission that does not require action by the dispatcher. Examples include, but are not limited to, layout reports, on-scene reports, directions to a responding unit, or placing a unit in service. Should the unit being contacted not respond to the unit making the transmission, the dispatcher shall then be incorporated into the process.

Announcing Arrival Order

It is expected that units dispatched to an event will assume assignments based upon dispatch order as dictated by NOVA Regional Policy or Operational Manuals. All units on the initial dispatched full alarm assignment shall announce they are onscene and announce their unit assignment.

EMERGENCY COMMUNICATIONS CENTER

The ECC serves as a vital link between call intake and unit response. Serving as a primary resource in the quality assurance of event types, selection of appropriate resources, announcement of event information, and fulfilling unit requests.

Radio Alias and Identifier

Each radio, whether portable or mobile, will be identified using a radio alias and identifier. These identifiers shall be in accordance with the current COG Communications Committee recommendations and guidelines. The radio alias will either signify a specific unit or riding position, or in the case of mutual aid jurisdiction, may only display the home jurisdiction's alias.

While the radio is in its home radio zone, the assigned radio alias will display on the controlling dispatcher's console.

Mobile radio aliases for each unit will be the same as the unit's or person's CAD designation, when possible.

Example: Ambulance 504 will have a mobile radio alias of A504.

Training 501 will have a mobile radio alias of TR501.

Portable radio aliases will be the unit's or person's CAD designation followed by an indication of the portable riding position.

Example: Engine 507 will have portable radio aliases:

E507 Mobile	
E507-O	Officer
E507-D	Driver
E507-R	Bucket behind officer
E507-L	Bucket behind driver
E507-R2	Second Bucket behind officer
E507-L2	Second Bucket behind driver

Ambulance 506 will have portable radio aliases:

A506 Mobile	
A506-O	Officer
A506-D	Driver
A506-P3	Attendant
A506-P4	Attendant

Note: In voice communications, the riding position will be spoken: Officer, Driver, Bucket, Tiller.

In cases where the riding position is not pertinent, the portable radio alias will contain the suffix P to indicate a portable.

Example: Administration 501 will have a portable radio alias of AD501-P.

Use of X-ray Crews

Command must be notified and approve the request when a company splits into two teams to work in two distinctly separate areas in an IDLH. Refer to the Command Officers Operations, Fourth edition for further information on X-Ray Crews.

REGIONAL RESPONSE CONDITIONS

Regional Response Conditions (RRC) are an important aspect of all dispatch centers. These conditions allow departments to communicate resource status in a simple manner. This section discusses the various conditions, outlines the criteria for changing conditions, and states the procedure for regional notification.

Routine Response Conditions (RRC)

There are three RRCs used by the NOVA Departments. These are Condition 1, 2, and 3. The following section describes each of these conditions.

Condition 1

Normal operations are considered Condition 1. During Condition 1, mutual and automatic aid is honored, calls are processed as normal, and responses are not adjusted or reduced.

Condition 2

Condition 2 is used during periods of extended high incident activity or when one or more major events are taking place. Typically, a department may go to Condition 2 during heavy thunderstorms, one or more multiple alarm fires, or any activity that causes a depletion of resources. Based on this information, a department may go to Condition 2 during any day or night in which the call volume is unusually high.

Condition 3

Condition 3 is used when greater than 50% of department units are either committed to incidents or out of service. Typically, Condition 3 is associated with multiple working incidents or a major weather event. While in Condition 3, responses will be reduced dramatically to conserve resources.

APPENDIX A – NOVA COMMUNICATIONS CENTERS

Jurisdiction	Phone Number
Alexandria Fire Department (VA)	(703) 838-4660
Arlington County Fire Department (VA)	(703) 558-2222
District of Columbia Fire EMS Department	(202) 673-2117
Fairfax County Fire & Rescue Department (VA) – UFO **Fairfax County Fire & Rescue Department (VA) – Non-Emergency**	(703) 877-3824 (703) 691-2131
Fauquier County Department of Fire Rescue & Emergency Services (VA)	(540) 347-1313
Loudoun County Fire & Rescue (VA)	(703) 777-0637 (703) 777-2222
Metropolitan Washington Airports Authority Fire Department	(703) 417-2100 (703) 417-2425
Montgomery County Fire & Rescue Services Department (MD)	(240) 683-6520
Prince George's County Fire Department (MD)	(301) 499-8400
Prince William County Department of Fire & Rescue (VA) – UFRO **Prince William County Department of Fire & Rescue (VA) – Non-Emergency**	(703) 792-6813 (703) 792-6500
Stafford County Fire & Rescue Department (VA) - ECC **Stafford County Fire & Rescue Department (VA) – ECC Supervisor**	(540) 658-4440 (540) 658-5758

APPENDIX B – REFERENCES

- National Framework Response Manual, January 2008, Department of Homeland Security http://www.fema.gov/NRF
- A Fire Service Guide to Interoperable Communications, International Association of Fire Chiefs, 2005 http://www.iafc.org
- Statewide Mutual Aid Operations Manual, September 2006, Virginia Department of Emergency Management
- METRO Rail Transit-Fire/Rescue Emergency Procedures Policy Agreement, Washington Metropolitan Area Transit Authority and Metropolitan Washington Council of Governments, July 2008
- Command Officer Operations, Fourth Edition, May 2020

APPENDIX C – FAILSOFT

Failsoft is a level of redundancy when the radio system can no longer perform trunking operations. The system reverts to a fixed-channel conventional radio system based on the number of actual frequencies that the system has available. It is important to note that during Failsoft there are significant changes to normal operations:

- System capacity and capability reduced. For example, channels Alpha and Bravo are combined into one channel and all of the first incident talkgroup channels (Charlie, Delta, Echo, and Foxtrot) become one channel. You will be sharing a channel with others.
- Home radio coverage and signal strength (in-building) is not affected in this mode.
- It is important that your radio remain on the correct incident talkgroup in Failsoft. Should the controller become available, your radio will return to the proper talkgroup.
- Encryption will not work.
- Channel November and Oscar (conventional channels) are not impacted by Failsoft.
- ***EAs will not function in Failsoft in the Emergency Communications Center (ECC) or via individual portable radio for trunked radios talkgroups. EAs will need to be managed at the lowest levels (such as by the Incident Commander or a single resource). If activated in the jurisdiction, EAs can be activated on conventional talkaround channels such as 4O.***