

Radio Communications Essentials

Module 5: Mutual Aid Agreements and Common Use
Channels

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Presidential Policy Directive 8: National Preparedness

- **To achieve National Preparedness five Mission Areas have been deemed essential in attaining that goal.**
 - **Prevention**
 - **Protection**
 - **Mitigation**
 - **Response**
 - **Recovery**
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RESPONSE

- **“Responding quickly to save lives, protect property and the environment, and meet basic human needs.”**
 - **Capabilities identified under response include:**
 - **Critical Transportation**
 - **Environmental Response/**
 - **Health and Safety**
 - **Fatality Mngt Services**
 - **Infrastructure Systems**
 - **Mass Search and Rescue**
 - ***Operational Communications***
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Operational Communications

- **“Agencies must be operable, meaning they must have sufficient wireless communications to meet their everyday internal and emergency communications requirements before they place value on being interoperable.”**
 - **You have to have a radio and be part of a system**
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Operational Communications

- **“Communications interoperability is the ability of public safety agencies (police, fire, EMS) and service agencies (public works, transportation, and hospitals etc) to talk within and across agencies and jurisdictions via radio and associated communications systems with one another –**
 - **ON DEMAND, IN REAL TIME, WHEN NEEDED AND WHEN AUTHORIZED**
 - **How and When do we need to be interoperable:**
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REVIEWING AND/OR COMPLETING MUTUAL AID AGREEMENTS

- Mutual aid agreements codify an understanding among two or more entities to provide support in a given context. Parties to agreements can include two, three, or several response agencies, private organizations, hospitals, public utilities, governments, and virtually any type of organization that can bring resources to bear during an emergency. The needs of jurisdictions and organizations will vary greatly; therefore, the set of agreements each concludes will differ as well. But at each tier of mutual aid, jurisdictions should seek out strong, written mutual aid agreements to support response efforts in an emergency
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TYPES OF MUTUAL AID AGREEMENTS

- **Automatic Mutual Aid**
 - **Mutual Aid Agreements**
 - **Regional Mutual Aid**
 - **Statewide Mutual Aid**
 - **Inter-State Mutual Aid**
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Automatic Mutual Aid

- **Quickly bring a small number of resources from neighboring jurisdictions to the incident scene**
 - **Units are automatically dispatched to the scene as part of predetermined signed agreement.**
 - **Must clearly specify what will trigger the automatic response – the type of incident and the type of response required.**
 - **Copy of agreement should be at dispatch because this is the authority needed to automatically request assistance.**
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Mutual Aid Agreements

- **Basic function is to bring additional resources to bear to an emergency when they are needed – based on a “request” at the time of the emergency.**
 - **Address liability and reimbursement matters to avoid conflict and litigation during post response.**
 - Agree upon procedures to be used at time of implementation.
 - Where interoperability really starts to be an issue.
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Regional Mutual Aid Agreements

- **Designed to mobilize a significant amount of resources from several jurisdictions throughout the region during large emergencies.**
 - **Exist between multiple jurisdictions and are often sponsored by a council of government or similar regional body.**
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STATEWIDE MUTUAL AID

- **Agreements that coordinate the mobilization of statewide resources for use in local and state declared disasters.**
 - **Often coordinated by the state emergency management agency designed to incorporate both state assets and local assets in an attempt to increase preparedness statewide.**
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Inter-State Agreements

- Coordinated through the Emergency Management Assistance Compact (EMAC) brings in out-of-state resources to assist when a disaster or incident overtaxes an individual state's capabilities.
 - Normally supports the response effort towards the end of the first day and onward into the recovery phase.
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Mutual Aid Initiation

- Upon conditions specified in automatic aid agreements.
 - Upon request from the on scene incident commander. Dispatch relays the request for mutual aid to the agency requested.
 - Request to the State Emergency Management (EMA) agency who then contacts assisting parties.
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KEY ELEMENTS OF MUTUAL AID AGREEMENTS

- ❖ Purpose and Scope
 - ❖ Definitions
 - ❖ Roles and Responsibilities
 - ❖ Procedures and Protocols
 - ❖ Training and Drills
 - ❖ Reimbursement
 - ❖ Liability or Hold Harmless
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Procedures and Protocols

- ✓ Command - ICS
 - ✓ Communications – Should identify the communications protocols (frequencies, terms, etc) to be used during the mutual aid response.
 - ✓ Threshold – What exactly triggers the deployment of aid. Most often a direct request.
 - ✓ Dispatching - Where are they being dispatched? Incident or staging. Verification of the channel that is being used. Instructions on when to contact IC while enroute.
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Mutual Aid Prohibitive Practice

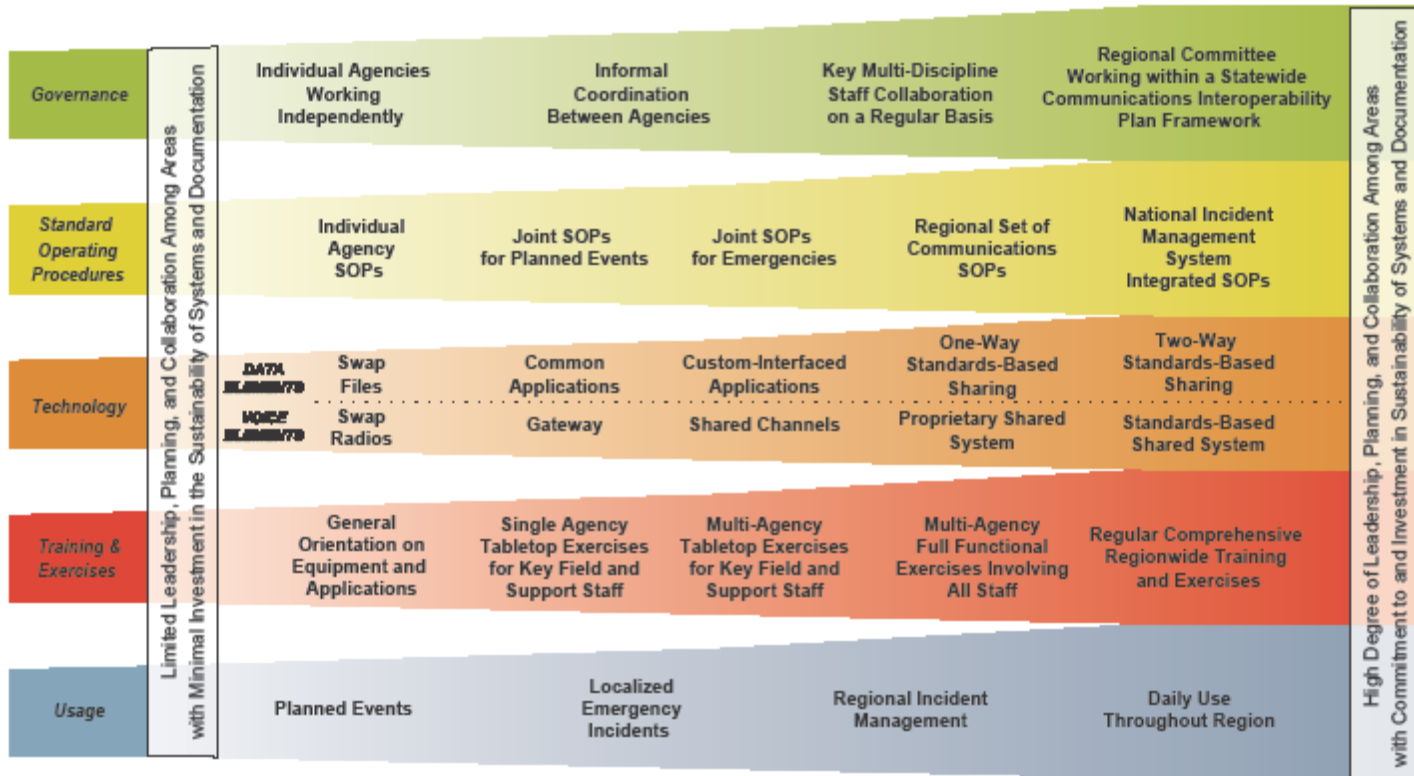
- Self Dispatch – Only units properly responding to a mutual aid request or automatic aid agreement should be allowed to participate. All liability and hold harmless agreements do not apply nor would any reimbursement agreement.
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COMMUNICATIONS CONSIDERATIONS

- Can they talk - interoperate?
 - What channels/frequencies do they have?
 - Can the radio's be programmed on the host channel and is it covered by required license.
 - What other options are available?
 - What will be the role of dispatch?
 - In the end – how they are going to communicate must be identified and spelled out.
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Interoperability Continuum

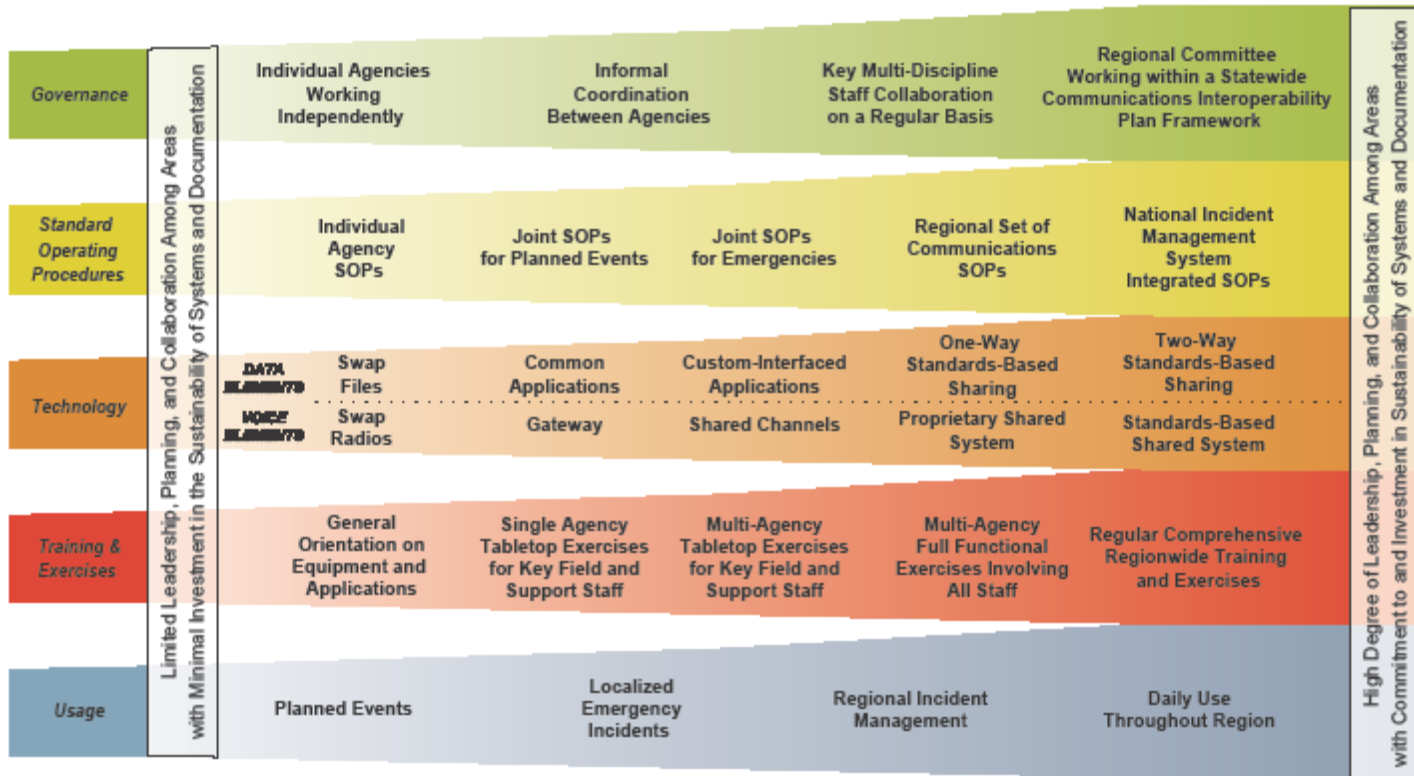


GATEWAYS

- Interconnect systems that allow for voice interoperability between otherwise incompatible radio communications systems.
 - Radio Consoles
 - RAVEN Switch with SRS Talkgroup (Pilot Project)
 - Raven M4x VOIP module (Pilot Project)
 - ACU 1000
 - Paracletes
 - ❖ Note: Use of a gateway is predicated on the requirements specified in the mutual aid agreements.
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Interoperability Continuum



SHARED CHANNELS

- Any designated licensed channel of the requesting jurisdiction.
 - Non Federal National Interoperability Channels
 - VCALL 10 – VTAC 14
 - UCALL 40 – UCALL 43D
 - 8 CALL 90 – 8 TAC94D
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VHF INTEROPERABILITY

Non-Federal VHF National Interoperability Channels

VHF High Band

Description	Channel Name	Mobile Receive Freq.	Mobile Transmit Freq.	CTCSS Tone
Calling	VCALL10	155.7525	155.7525	CSQ / 156.7 (5A) ±
Tactical	VTAC11 *	(Fire Radio to Radio) 151.1375	151.1375	CSQ / 156.7 (5A) ±
Tactical	VTAC12 *	154.4525	154.4525	CSQ / 156.7 (5A) ±
Tactical	VTAC13	158.7375	158.7375	CSQ / 156.7 (5A) ±
Tactical	VTAC14	159.4725	159.4725	CSQ / 156.7 (5A) ±
Simplex	VLAW31	(Law Radio to Radio) 155.4750	155.4750	
Tac Rpt	VTAC33 * °	159.4725	151.1375	CSQ / 136.5 (4Z)
Tac Rpt	VTAC34 * °	158.7375	154.4525	CSQ / 136.5 (4Z)
Tac Rpt	VTAC35 °	159.4725	158.7375	CSQ / 136.5 (4Z)
Tac Rpt	VTAC36 * °	151.1375	159.4725	CSQ / 136.5 (4Z)
Tac Rpt	VTAC37 * °	154.4525	158.7375	CSQ / 136.5 (4Z)
Tac Rpt	VTAC38 °	158.7375	159.4725	CSQ / 136.5 (4Z)

* VTAC11-12, VTAC33-34, and VTAC36-37 may not be used in Puerto Rico or the USVI.

± Default operation should be carrier squelch receive, CTCSS transmit. If the user can enable/disable without reprogramming the radio, the indicated CTCSS tone also could be programmed for receive, and the user instructed how and when to enable/disable.

° VTAC33-38 recommended for deployable tactical repeater use only (FCC Station Class FB2T).

° VTAC36-38 are preferred; VTAC33-35 should be used only when necessary due to interference.

—° Only narrowband emissions are authorized.

UHF INTEROPERABILITY

Non-Federal UHF National Interoperability Repeater Channels			
Description	Channel Name	Mobile RX (MHz)	Mobile TX (MHz)
Calling	UCALL40	453.2125	458.2125
Calling	UCALL40D	453.2125	453.2125
Tactical	UTAC41	453.4625	458.4625
Tactical	UTAC41D (Fire Radio to Radio)	453.4625	453.4625
Tactical	UTAC42	453.7125	458.7125
Tactical	UTAC42D (Law Radio to Radio)	453.7125	453.7125
Tactical	UTAC43	453.8625	458.8625
Tactical	UTAC43D	453.8625	453.8625

Default operation should be carrier squelch receive, CTCSS 156.7(5A) transmit. If the user can enable/disable CTCSS without reprogramming the radio, the indicated CTCSS tone also could be programmed for receive, and the user instructed how and when to enable/disable.

^o Only narrowband emissions are authorized.

800 MHz INTEROPERABILITY

Non-Federal 800 MHz National Interoperability Repeater Channels			
Description	Channel Name	Mobile RX (MHz)*	Mobile TX (MHz)*
Calling	8CALL90	851.0125 (866.0125)	806.0125 (821.0125)
Calling - Direct	8CALL90D	851.0125 (866.0125)	851.0125 (866.0125)
Tactical	8TAC91	851.5125 (866.5125)	806.5125 (821.5125)
Tactical - Direct	8TAC91D	851.5125 (866.5125) (State Fire R to R)	851.5125 (866.5125)
Tactical	8TAC92	852.0125 (867.0125)	807.0125 (822.0125)
Tactical - Direct	8TAC92D	852.0125 (867.0125) (State Law R to R)	852.0125 (867.0125)
Tactical	8TAC93	852.5125 (867.5125)	807.5125 (822.5125)
Tactical - Direct	8TAC93D	852.5125 (867.5125)	852.5125 (867.5125)
Tactical	8TAC94	853.0125 (868.0125)	808.0125 (823.0125)
Tactical - Direct	8TAC94D	853.0125 (868.0125)	853.0125 (868.0125)

Default operation should be carrier squelch receive, CTCSS 156.7(5A) transmit. If the user can enable/disable CTCSS without reprogramming the radio, the indicated CTCSS tone could also be programmed for receive, and the user instructed how and when to enable/disable.

*The frequency in parenthesis, which is 15 MHz higher, is the frequency used before rebanding - channel names were ICALL, ITAC1 - ITAC4. Wideband FM 20K0F3E before and after rebanding.

USING SHARED CHANNELS

- Have compatible radio equipment.
 - Have permission from licensee
 - Program radios
 - Ensure coverage
 - Operate within terms of Mutual Aid Agreement
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FCC Licensing Requirements

- May operate on frequencies authorized to another licensee when that licensee designates you as a unit of their system.
 - May operate on Non-Federal Interoperability Channels without a license if you are a “Public Safety” licensee.
 - When necessary for the IMMEDIATE protection of life or property directly related to an emergency at hand.
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FCC Licensing Requirements

- *6.1 Meter Rule:*
 - If any antenna to a control station exceeds 6.1 meters the control station must be license as a fixed mobile on the license of the system owner.
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CONCLUSION

- *Mutual Aid agreements are:*
 - ❑ *The cornerstone of Response.*
 - ❑ *The Benchmark for operable as well as interoperable operations.*
 - ❑ *The basis for all emergency dispatch operations*
 - ❑ *The foundation for local and regional communication systems, gateway operations and for FCC licensing requirements.*
 - ❑ *Identification of Local Government liability issues and well as the roadmap for disaster reimbursement*
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QUESTIONS?
