Boston INTEROP Channel

Supersedes:
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Introduction
The primary Public Safety agencies within the City of Boston recognize the need for interagency communication, interoperability, and cooperation. Boston Police, Fire, and Emergency Medical Services (EMS) have well-established interoperability capability and mutual aid agreements in place. While these plans and agreements extend beyond jurisdictions, they often tend to remain intra-discipline. In other words, police have established a network to talk with other police agencies, fire with their fire counterparts, and EMS with other EMS agencies. The events of September 11, 2001 have highlighted the need for agencies to work together to establish communication interoperability and mutual aid plans not only across traditional jurisdictional boundaries, but across disciplines as well.

In order to address this concern, the City of Boston's Public Safety agencies, (Boston Police, Boston Fire, and Boston Emergency Medical Service), as well as the City's Public Service agencies (Mayor's Office, Boston Emergency Management Agency (BEMA), City Hall) have worked cooperatively to develop a solution called the Boston Interoperability Initiative (BOSTON INTEROP). The BOSTON INTEROP establishes dedicated radio channels with procedures, which will be accessible on communication equipment used by key Public Service officials, Public Safety officials and Public/Private Service executives deemed necessary by the Incident Commander.

Purpose
The principle objective of BOSTON INTEROP is to provide key decision makers from various agencies a real-time means of direct voice communication. Not only will this enhance the efficiency of a multi-agency response, it will save lives by quickly disseminating critical information to participating first responder agencies at the scene of a significant incident anywhere in the City.
The purpose of this SOP is to delineate the authority, roles, and procedures for the City agency supervisory personnel to use the BOSTON INTEROP channel. These personnel are outlined in Figure 1. This SOP also recognizes a number of interoperable communications alternatives to BOSTON INTEROP which allow the City of Boston's Public Safety and Public Service personnel to communicate during critical incidents.
Scope
The scope of this SOP includes the City of Boston's Public Safety agencies, including Boston Police, Boston Fire, and Boston Emergency Medical Services as well as the City's Public Service agencies including the Mayor's Office, BEMA, and City Hall. These agencies have worked cooperatively to develop the BOSTON INTEROP channel and standard operating procedures, which will be used at the agency command level during critical incidents or at the discretion of the Mayor. In the future, other agencies may

enter into a Memorandum of Understanding (MOU) with the City of Boston for the use of BOSTON INTEROP and will agree to operate according to the procedures outlined in this document.

Communications Structure
Figure 1
This structure demonstrates the various levels of command within each agency and the reporting relationship of all Boston personnel issued radios with the capability to access BOSTON INTEROP. It is expected that the most frequent use of BOSTON INTEROP will be by the lowest level of personnel on this diagram. There is a complete list of personnel with INTEROP capabilities listed in Appendix 1.
The horizontal arrows represent bi-directional, cross-jurisdictional communications.
*B*oston_INTEROP_Figure_1

Figure 2
The structure below shows the current communication capabilities between Boston Public Services, the Boston Police Department, Boston Emergency Medical Services, and the Boston Fire Department.
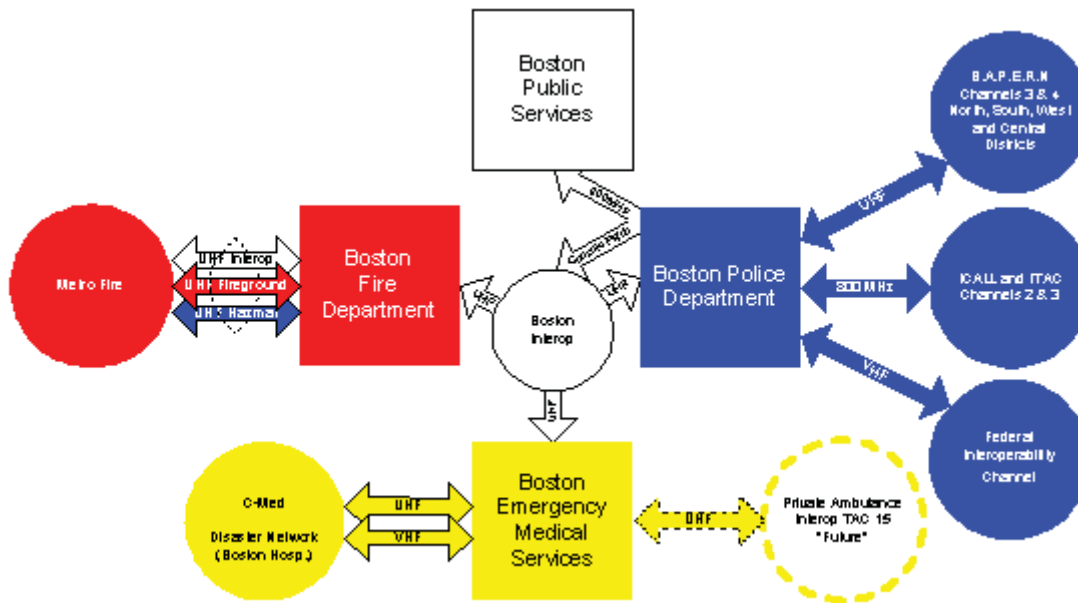
Channel Patching and Monitoring

Patching of INTEROP
The BOSTON INTEROP channel consists of a dedicated UHF radio channel patched to an 800 MHz INTEROP talk group. This patched network permits users operating on either frequency band to communicate directly with other BOSTON INTEROP users. This continuous patch alleviates the need to set up a patch during an actual incident. Should the UHF/800 patch need to be separated, Boston INTEROP would still serve as a valuable interoperability resource. While UHF users would lose the ability to

communicate directly with users on the 800 frequency, users may still be able to communicate with other users operating within their own frequency.

BOSTON INTEROP Channel Monitoring

The BOSTON INTEROP channel will be monitored by all agencies' dispatch/radio communication centers. Once BOSTON INTEROP is activated, all dispatch/radio communications centers shall be required to monitor the BOSTON INTEROP channel on a priority basis until the channel use is discontinued.

<u>Activation, Transfer, and Discontinuation</u>

Rules of Use

Plain Language

Plain language is to be used when communicating on BOSTON INTEROP. When necessary, the phonetic alphabet may be used to communicate over BOSTON INTEROP. See Appendix 2 for an example of the military phonetic alphabet.

Incident Command System

Each agency will use the Incident Command System (ICS) as an operational guide at incidents where the BOSTON INTEROP channel is activated.

Emergency Information Transmission

Once BOSTON INTEROP is activated, information that poses an imminent danger condition should be communicated between dispatch/radio communications centers (i.e. Boston Police Dispatch Center, Fire Alarm and/or Boston EMS). The receiving dispatch/radio communications center is required to acknowledge receipt of the emergency information. Additionally, each agency is responsible for disseminating this information to its respective personnel.

In the case of an imminent danger condition where BOSTON INTEROP is not activated, agencies operating at the scene shall be notified of the situation as quickly as possible. Some options for this notification are the use of the computer aided dispatch (CAD) center, telephone, or ring down.

<u>Operation Procedure and Guidelines for Limited and Full Activation</u>

Limited Activation

Limited activation is appropriate when an incident can be resolved by the resources of the Public Safety or Public Service agencies. During these incidents, Public Safety or Public Service agencies can use BOSTON INTEROP.

Full Activation

Full activation is appropriate when an incident requires the activation of the Boston Emergency Operations Center (BEOC) as ordered by the Mayor and/or Emergency Management Director. During a large-scale incident, operational transmission procedures will be on the BOSTON INTEROP channel until the BEOC is fully staffed.

Agency heads will be able to speak to each other for acquisition of resources. Once the BEOC is fully staffed, the Operations Officer at the BEOC will be the primary source for acquisition of resources. At this point, the BOSTON INTEROP Channel's function will shift to unified command, incident mitigation and personnel safety.

Radio Channel Activation Authority

Use of the BOSTON INTEROP channel may be requested whenever an agency's Incident Commander (highest-ranking officer of the controlling agency) determines the need to communicate directly with other agency representatives with access to the BOSTON INTEROP channel. Each agency has the right to use BOSTON INTEROP as it suits that agency's needs for public safety and availability of necessary resources. It is important to note that the use of BOSTON INTEROP is not intended to replace the establishment of an on-scene unified command post among responding agencies. BOSTON INTEROP is intended to facilitate communication until a command post can be established, or to speak to an agency representative not yet on scene.

Establishing and Transferring Lead Dispatch Radio Command Control
The Incident Commander (IC), identifying the need for interoperability communication, will contact their respective dispatch/radio communication center (i.e. Mayor's Office, Boston Police Dispatch Center, Fire Alarm and/or Boston EMS) and identify the agencies requested to switch their radio to BOSTON INTEROP. The dispatch/radio communication center of the agency that initiates use of the BOSTON INTEROP channel has the responsibility to notify all other required agencies by radio or telephone in accordance with the procedures outlined in this SOP. The dispatch/radio communications center of the agency activating the interoperability channel will become the lead dispatch/radio communications center.

The designation of the lead dispatch/radio communications center may be changed as required or requested by the lead agency.
If the Incident Commander is transferred, the new Incident Commander shall notify their respective dispatch/radio communications center by radio or telephone that s/he is the new Incident Commander for his/her agency. This dispatch/radio communication center will then become the lead dispatch/radio communication center of BOSTON INTEROP.

Please refer to Appendix 3 for dispatch/radio communications center contact information.

Notification Process for Establishing Command Control

Each agency participating in BOSTON INTEROP will follow its own internal notification procedures for establishing command and control. The Mayor, Police Commissioner, Fire Commissioner, EMS Chief, and BEMA Director or their designees are authorized to activate BOSTON INTEROP.

Discontinuation of the INTEROP Channel

At such a time that communication on the BOSTON INTEROP channel is no longer required, the Incident Commander of the lead agency will notify their respective

dispatch/radio communications center to discontinue active use of the BOSTON INTEROP radio channel and normal monitoring will resume. The lead dispatch/radio communication center will notify all participating dispatch/radio communications centers that BOSTON INTEROP is no longer in use.

Separation of the INTEROP Channel Due to Interference

In the event that there is intentional or unintentional interference with the BOSTON INTEROP frequency, the dispatch/radio communications center and/or Incident Commander (IC) should notify the Boston Police Department Dispatch Center Duty Supervisor by telephone. The Police Duty Supervisor will notify the Director of Communications to take down the patch; however, the responsibility of ensuring the patch is terminated belongs to the police Duty Supervisor. When the patch between the UHF and 800 MHz trunked systems is separated, the radios may still work within their own frequency.

Communication Alternatives
Several alternatives have been identified to ensure interoperable communications remains available among all agencies if BOSTON INTEROP is inoperable. These alternatives may be used instead of or in addition to BOSTON INTEROP.

- Telephone Conference Bridges
Telephone Conference bridges permit direct communication among a number of users, assuming they have access to telephone service.   See Appendix 4 for instructions to set up the conference bridge.

- Cellular / Push to Talk Commercial Wireless Technology
Currently, most City agencies use cellular/push to talk commercial wireless communication technology. In the event that the BOSTON INTEROP Channel is malfunctioning, this technology may be used to disseminate critical information to department heads and/or designees.

- Computerized Emergency Notification System
The computerized emergency notification system shall be programmed to contact specific individuals and agencies, depending on the nature of the incident. This includes appropriate media outlets, which could be used to inform the general public of situation updates, specific instructions, and/or emergency locations if warranted.

- Internet/E-mail
Another lesson learned from September 11, 2001 was the power of the Internet and email. While conventional communication outlets (i.e. wireless phones and land lines) were either damaged or overwhelmed, the Internet was up and provided an invaluable service to concerned members of the general public. The Web EOC® can be used as a means to pass information to various agencies that are participating in the event.

- Satellite Phones

Satellite phones have been assigned to the agency heads of BPD, BFD, BEMS, BEMA, and the Mayor's Office for intercommunications in the event that conventional phone lines become impaired. A cache of satellite phones will be stored at the BEOC and assigned for use by the BEMA Director and/or Operations Officer. The satellite phone numbers for agency heads are listed in Appendix 5.

- Cache of 800 MHz Portable Radios

Three caches of 800 MHz portable radios (18 total) are available through BEMA. These radios are able to provide a communication system on a local, regional and statewide level in accordance with existing mutual aid, MOU's, resource sharing agreements and requests from other first responder agencies. Because these radios work only on ITAC channels, their activation must be coordinated with the Massachusetts State Police or the Massachusetts Emergency Management Agency, prior to use.

- Mobile Capabilities with Conventional Channels (Future Capability)

Several Command Posts and Communication Support vehicles are available through the various public safety agencies. These resources can be deployed to provide: a cache of spare UHF radio equipment, spare batteries, provide network video downlink capability, cross band patching, or base station repeaters to help support an extended operation, or replace a damaged fixed repeater site.

- Dispatch/Radio Communications Center to Dispatch/Radio Communications Center Messaging

Boston Police, Fire and EMS share a common computer aided dispatch (CAD) system capable of providing text messaging between users.

- Runner System

In the unlikely event that BOSTON INTEROP and redundant back-up systems are all unavailable, the BPD will arrange for a "runner system" in which designated personnel respond to the residence of Department heads and other key agency representatives to make notifications and provide transportation as necessary.

Training Requirements
Personnel Training Requirements
Participating agencies will be responsible for ensuring that their personnel are familiar with this SOP and are properly trained in accordance with the guiding principles in Appendix 6.

Testing Requirements
Radio Testing: During standardized testing, the testing agency will communicate with participating Public Safety and Public Service agencies on the BOSTON INTEROP channel. There will be two different phases of radio testing:

- Communications Center Testing

This weekly test of the BOSTON INTEROP Channel (Wednesdays at 1:00pm) will be done between the Public Safety and Public Service Dispatch/Radio Communication

Centers (BPD, EMS, FIRE, BEMA and MUNI PD for City Hall). The agency radio technician shall monitor the UHF and 800 MHz trunked systems during testing.

- Operational Testing

Each agency will decide when testing should take place. All agency heads or designated representatives with radios pre-set with the BOSTON INTEROP channel will participate in this testing. During this test, the technical support will be checking the accuracy and performance of various sites.

Responsibility

Responsibility for SOP Compliance
It shall be the agency heads' responsibility to ensure that these standard operating procedures are followed when necessary.

It shall be the responsibility of all communication personnel to be familiar with and comply with this SOP.

Appendix 1
Personnel with BOSTON INTEROP Capabilities:
Boston Police Department

Title
Commissioner
B.F.S. Bureau Chief
O.P.C., Chief Hearings Officer
B.F.S., Night Command
B.P. Dev., Bureau Chief
B.I.S. Bureau Chief.
O.P.C., DNC Planning Group
B.A.T. Bureau Chief
B.I.I., Bureau Chief
B.F.S. Asst. Bureau Chief
O.P.C., Labor Relations Officer
B.I.I., Asst. Bureau Chief
B.F.S., Night Command
B.I.S., Invest. Support Div
B.F.S., Special Operations Div
B.A.T., Operations Division
O.P.C., Chief of Staff
B.P. Dev., Assistant Chief
B.I.S., Homicide Unit
B.I.S., Major Cases Division
B.I.S., Family Justice Division

O.P.C., Media Relations
Mayor's Office
B.A.T., Assistant Chief
B.F.S., Detail Assignment Unit
B.F.S., Staff Inspections
B.F.S., Area A-1
B.F.S., Area B-2
B.F.S., Area B-3
B.F.S., Area D-4
B.F.S., Area E-5
B.F.S., Area C-6
B.F.S., Area A-7
B.F.S., Area C-11
B.F.S., Area E-13
B.F.S., Area D-14
B.F.S., Area E-18
B.F.S., Operations Division
B.P. Dev., Training & Education
B.F.S., Special Operations
B.I.S., Forensic Technology
B.A.T., C.A.T. Details
B.A.T., Hackney Carriage Unit
B.F.S. Court Unit
B.S.O. MOP
B.S.O. Y.V.S.F.
B.S.O. Bomb Squad
B.S.O. Harbor
B.S.O. Mounted
B.P.D. Professional Development
Mayor's Driver
Drug Control Division

Date of Last Revision_____

Name and Title_____

Personnel with BOSTON INTEROP Capabilities:
Boston Fire Department

Title/Rank
Commissioner
Chief of Field Operations
Chief of Support Operations
Personnel Division
Emergency Management Div/BEMA

Training Division
Information Technology Division
Fire Prevention Division
Fire Alarm Division
Special Operations Command
Emergency Management Div/BEMA
Division 1
Division 2
District 1
District 3
District 4
District 5
District 6
District 7
District 8
District 9
District 10
District 11
District 12
Safety Chief
Mobile Command Post
Marine Unit 1
Marine Unit 2

Date of Last Revision_____

Name and Title_____

Personnel with BOSTON INTEROP Capabilities:
Boston Emergency Medical Services

RANK/TITLE
Chief of Boston EMS
Medical Director
Superintendent-In-Chief
Superintendents
Deputy Superintendents
Captains
Communication System Engineer
Communication Specialist-II

Date of Last Revision_____

Name and Title_____

Personnel with BOSTON INTEROP Capabilities:

City of Boston

Title/Rank
Mayor
24 Hour Service
Chief Operating Officer
Deputy Chief Operating Officer
Chief Financial Operator
Chief of Health & Human Resources
Chief of Staff
Deputy Chief of Staff
Chief of Policy & Planning
Chief of Basic Services
Director of Operations
Animal Control
Director, Mayor's Office of Homeland Security
Deputy Director, Mayor's Office of Homeland Security
City Auditor
City Treasurer
Municipal Police
Municipal Police Dispatch
Commissioner – Transportation
Deputy Commissioner - Eng & Ops
Operations Director
Supervisor, Traffic Enforcement
Enforcement
Towing
Commissioner - Public Works
Superintendent – Highways
Assistant Superintendent- Highways
Superintendent - Street Lighting
Director Central Fleet Maintenance
Sanitary Division
Radio Shop Central Fleet Maintenance
Commissioner -Parks & Recreation
Director - Park Maintenance
General Superintendent
Administration
Chief Ranger
Commissioner - Inspectional Services
ISD Senior Manager
Commissioner - Elderly Commission
Deputy Commissioner - Planning
Deputy Commissioner - Transportation

Senior Shuttle - Fleet Service Director
Superintendent - School Department
Emergency Operations Leader
Director of Engineering - EDIC
Chief Information Officer - Mgmt Info
Director of Technology
Telecommunications Manager
Public Safety Director
Special Events
Superintendent - Suffolk H.O.C.
Deputy Chief - Boston Housing Police

Date of Last Revision_____
Name and Title_____

Appendix 2
The Military Phonetic Alphabet

The phonetic alphabet may be used to communicate over BOSTON INTEROP only when necessary. Plain language should be used whenever possible.

The phonetic alphabet system, provided below, is a recommendation for those agencies lacking an operational alphabet system.

Alpha	**B**ravo	**C**harlie	**D**elta
Echo	**F**oxtrot	**G**olf	**H**otel
India	**J**uliet	**K**ilo	**L**ima
Mike	**N**ovember	**O**scar	**P**apa
Quebec	**R**omeo	**S**ierra	**T**ango
Uniform	**V**ictor	**W**hiskey	**X**-ray
Yankee	**Z**ulu		

Appendix 3
Communications Centers Contact Information

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Discipline	Communication Center/POC	Phone Number
Boston EMS	Dispatch operation supervisor (24 hour number)	617-343-1400
Boston Fire	Fire alarm operations/Officer in Charge	617-343-2880
Boston Police	Boston Police Dispatch center/Duty Supervisor	617-343-5449 617-343-4680 (supervisor's clerk)
BEMA	Fire alarm operations	617-343-2880
City agencies	Mayor's 24 hour hotline	617-635-4500

Date of Last Revision_____
Name and Title_____

Appendix 4
City of Boston Telephone Conference Bridge

To use the City of Boston telephone conference bridge each participant will need the conference dial-in phone number and the pass code.

Dial-in Number: 1-866-441-2942
Passcode: 6354783

Participant Directions:

1)   Participant: Please dial 1-866-441-2942
2)   When answered, you will be prompted to dial the passcode, 6354783, followed by a #.
3)   <u>Wait and listen. Do not dial or press anything.</u>
4)   Hear a message announcing that you are in a "Quick Start Conference" and that you will be put into conference, please stand by.
5)   You will now hear the other participants and may announce your name.

Appendix 5
City of Boston Satellite Phone Numbers

Satellite Tel #	Agency/Department

881631446470	Mayor's Office
881631446469	BPD
881631446468	BFD
881631446467	EMS
881631446466	BEMA

Irridium Motorola Satellite Phone User Guide

Please Read Before Use. The Iridium Satellite equipment and service is an invaluable tool. It does not function like a cellular phone, however it will operate well when used as directed.

To achieve the greatest success with your new Iridium phone:

1. Always use the phone outside with clear line of sight of the sky. Move away from buildings, tall structures and trees. The rule of thumb is "if you are in an area where you can fly a kite, the phone will usually work very well"
2. Check to make sure that the rotating antenna is fully "seated" into the phone. It should fit tightly and rotate with a slight resistance. Prior to making your call, snap the antenna into the upright position.
3. Extend the antenna to its full length – pointing at the sky.
4. Turn the phone on by pushing the button on the lower left. The phone will display several screens and startup information. YOU CAN IGNORE THE MESSAGE "Insert cassette".
5. To be sure the phone is properly connected to the satellite network your phone should indicate that it has "REGISTERED". Once connected to the network the display will show signal strength in the upper left hand corner using small bars.
6. Once you have at least 1 bar signal strength begin dialing – please note that you must always dial the international prefix of 00 before placing any calls, whether local or international.

   Example:

   00 + country code + area code + phone number
7. After you've dialed your number push the send button like any mobile phone. Antenna MUST still be pointed towards sky, even while talking.
8. Unlike a normal mobile phone you will hear a series of beeps while the satellite network connects the call. The beeps will be followed by the normal ringing tone indicating your call is being connected. You should now be successfully talking to your intended party.
9. For questions or briefing on the Iridium Satellite service and equipment please contact us at 1-888-WORLDCELL or 1-301-960-0078

POWERING UP THE PHONE

The antenna MUST have a clear view of the sky in order to operate. The antenna may dislodge during shipping. Please check or press the release button at the top of the phone and remove the antenna. Reinsert it in the down position by holding the release button until it locks into place.

• Following powering, screen will display "REGISTERING"

• When you see 'REGISTERED" and the signal strength indicator (green light top of the phone) or the home signal on the phone screen.

• If you see "ROTATE ANTENNA" or "ORIENT ANTENNA" extend the antenna upward

and make sure you have a clear view of the Sky.
• If you see "CALL FAILED", "SYSTEM BUSY", "RESTRICTED AREA" or "WEAK SIGNAL" this means the phone is unable to access the network. Try again in a few minutes. This means a satellite may not be available to take you into the system at that time. The phone will continue trying to connect until a new satellite moves into range.

OUTGOING CALLS
Rotate antenna upward and extend it fully. The antenna MUST have a clear view of the sky in order to operate.

- All calls must be dialed in the international format. Begin call by pressing and holding down **0+** key until **"+"** symbol appears on phone display, or by using the international access code of **00**
- Enter the country code
- Enter the city/area code (excluding the 0 if applicable)
- Enter the telephone number and press **OK**.
- Phone beeps while connecting your call. **DO NOT HANG UP.** Phone will begin ringing tone as soon as it connects.

Example: Calling a North American number from any country:
+ 1 212 555-1234 **or** 00 1 212 555-1234 **OK**
Example: Satellite to Satellite calling, from any country:
+ 8816 314-12345 **or** 00 8816-314-12345 **OK**

HOW TO REACH YOU
People trying to reach you from your office in the U.S. or Canada **MUST** dial **011-8816** followed by your Iridium eight-digit phone number. If calling you from other countries and want to reach you they **MUST** dial **00-8816** followed by your Iridium eight-digit phone number.

Appendix 6
Training Guiding Principles

At a minimum each agency will give its own overview of the following:

- How the radio is set up
- How to select the right channel
- Proper terminology and Radio Etiquette
  - Agencies using BOSTON INTEROP must use plain English
  - Agencies using BOSTON INTEROP will use agency affiliation and title (Fire Incident Commander, EMS Staging Officer, etc) in lieu of established agency call signs
- Who to notify in their agency if they have a radio problem

Proper terminology and Radio Etiquette Examples/Reference Guide

1. Contact is established before a message is given.

       Contact is initiated by holding the microphone 3 inches from the mouth, keying the radio, waiting 1-2 seconds before speaking. The initiating party identifies his/her agency affiliation and title in addition to those of the person being called.

           Example:

       "Fire District 5 to Public Works Highway Superintendent, have 3 front-end loaders report to Tremont and Stuart for removal of debris."

2. The basic content of messages requiring an action is repeated back to the originator.

           Example:

       "Public Works Highway Superintendent to fire District 5, sending 3 front-end loaders to Tremont and Stuart for removal of debris."

3. If the person being called responds with "Who is calling the Public Works Highway Superintendent?" he/she did not understand who was calling him/her. The initiating party would then repeat his/her agency affiliation and title in addition to those of the person being called to establish contact.

           Example:

       "Fire District 5 to Public Works Highway Superintendent"

Ring Down is defined as a hotline that applies to Boston city agencies.