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Network Operations Subcommittee

SCTE OPERATIONAL PRACTICE

SCTE 239 2017 (R2022)

United States Department of Homeland Security SHARES Overview – Operational Practice for Cable Sector Operators

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Document Types and Tags

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☐ Test or Measurement	☐ Checklist	☐ Facility
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☒ Procedure, Process or Method	☐ Cloud	☐ Customer Premises

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Note: This document is a reaffirmation of SCTE 239 2017. No substantive changes have been made to this document. Information components may have been updated such as the title page, NOTICE text, headers, and footers.

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1. Introduction

1.1. Executive Summary

SCTE ISBE has partnered with the United States Department of Homeland Security (DHS) on their high frequency (HF) radio network program– SHAred RESources or SHARES for short. The program administered by DHS's National Coordinating Center for Communications (NCC), provides a means for users with a national security, essential service and emergency preparedness mission to communicate when landline, satellite, public safety and cellular communications are unavailable. This document's purpose is to provide an easy to follow guide to help cable industry staff understand the requirements for participating in SHARES.

1.2. Scope

This document and the SHARES Network is meant to serve as a reliable last mode of communication during extreme incidences or high risk events. Risks include but are not limited to extreme weather such as hurricane, tsunami or blizzards; extended grid power outages, man-made incidents such as cyber-attacks or times where multiple incidents are happening at the same time resulting in traditional communications outages.

1.3. Benefits

Failure to prepare for communications outage can result in extended restore periods. This document will highlight operational practices necessary to prepare for the use of HF radio when attempting to restore traditional modes of communications. By joining the SHARES program through partnership with SCTE ISBE licensed HF station members will gain access to a deep directory of contacts that includes DHS, FEMA, National Guard and other key restoration agencies. This directory can prove to be an invaluable resource when attempting to restore services and gain access to fuel, security and restoration zone access in time of need. Finally, by participating in SHARES and becoming familiar with this document, the cable industry will become better prepared for disasters threatening the essential services the millions of customers depend on every day for business, security, entertainment and communications.

1.4. Intended Audience

Cable operator business continuity mangers, regional directors, government relations, supply chain mangers, security, and network operational center professionals will benefit from reviewing this document.

1.5. Areas for Further Investigation or to be Added in Future Versions

None at time of publication.

2. Normative References

The following documents contain provisions, which, through reference in this text, constitute provisions of this document. At the time of Subcommittee approval, the editions indicated were valid. All documents are subject to revision; and while parties to any agreement based on this document are encouraged to investigate the possibility of applying the most recent editions of the documents listed below, they are reminded that newer editions of those documents might not be compatible with the referenced version.

2.1. SCTE References

- No normative references are applicable.

2.2. Standards from Other Organizations

- No normative references are applicable.

2.3. Published Materials

- No normative references are applicable.

3. Informative References

The following documents might provide valuable information to the reader but are not required when complying with this document.

3.1. SCTE References

- SCTE 208 2014 Business Continuity
- SCTE 227 2015 Location Risk Assessment
- SCTE 226 2015 Facility Classification

3.2. Standards from Other Organizations

- No informative references are applicable.

3.3. Published Materials

- United States Department of Homeland Security United States Coast Guard Radiotelephone Handbook CGTTP 6-01.1A January 16, 2013

- Guide to Radio Communications Standards for US Department of Environmental Management (DEM) Emergency Responders
  http://www.dtic.mil/jcs/j6/cceb/acps/acp125f.pdf

- SHARES Form1
  https://www.dhs.gov/sites/default/files/publications/SHARES%20Form%201.pdf

- Amateur Radio Emergency Service® ARES Field Resources Manual
  https://www.amazon.com/dp/B011BUF3I6/ref=cm_sw_su_dp

- ARRL HF Safety Reference Introduction to Emergency Communication Course,
  http://www.arrl.org/emergency-communications-training

- ARRL Grounding and Bonding for the Radio Amateur,
  http://a.co/dzVD8rw

- FCC Guide to RF Potential Hazards
  https://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf

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Shall	This word or the adjective "***required***" means that the item is an absolute requirement of this document.
shall not	This phrase means that the item is an absolute prohibition of this document.
forbidden	This word means the value specified shall never be used.
should	This word or the adjective "*recommended*" means that there may exist valid reasons in particular circumstances to ignore this item, but the full implications should be understood and the case carefully weighted before choosing a different course.
should not	This phrase means that there may exist valid reasons in particular circumstances when the listed behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.
may	This word or the adjective "*optional*" means that this item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because it enhances the product, for example; another vendor may omit the same item.
deprecated	Use is permissible for legacy purposes only. Deprecated features may be removed from future versions of this document. Implementations should avoid use of deprecated features.

5. Abbreviations and Definitions

5.1. Abbreviations

ALE	automatic link establishment
ARRL	American Radio Relay League
DHS	Department of Homeland Security
FCC	Federal Communications Commission
HF	high frequency
Hz	hertz
ISBE	International Society of Broadband Experts
kW	kilowatt
Mhz	megahertz
NCTA	The Internet and Television Association
NET	network
NOC	network operation center
NVIS	near vertical incidence sky wave
SCTE	Society of Cable Telecommunications Engineers
SHARES	SHAred RESources
US	United States
VHF	very high frequency

5.2. Definitions

None

6. High Frequency Radio Fundamentals

Before registering as a SHARES participant it is helpful to understand some fundamental principles regarding high frequency (HF) radio communications. This section is not intended to be a full blown training or comprehensive information section; however, it is intended to introduce the fundamentals of what enables the SHARES communication. HF radio is one segment of the overall radio spectrum. Lower frequencies have longer wavelengths and higher frequencies have shorter wavelengths. A wavelength is the time required for a signal to complete one complete cycle. It is important to note, that antennas need to match the desired transmit and receive frequencies/bands that communications are destined for. Higher frequencies require smaller antennas and lower frequencies need larger antennas. For example, one of the antennas in use at SCTE in support of the SHARES frequencies requires 90 feet total to cover the wavelengths in the allocated spectrum. Matching antenna to allocated frequencies is essential.

HF operates from 3Mhz to 30Mhz bands and can be found right above the medium frequency and below very high frequency (VHF) spectrums. Each band has its advantages and use cases. The HF space is used by military, police, emergency services, disaster relief organizations and SHARES. The transmission of communications is called propagation, that is moving of transmissions across the open air. Note there is no physical infrastructure required to carry the message.

6.1. Propagation Methods

Ground wave propagation takes place when the antenna is configured parallel to the Earth's surface and the range decreases as frequencies increase. The terrain will determine how far the signal will travel. Line of site waves travel point to point and typically found in use for air traffic communications. Finally, HF is able to leverage a powerful mode of propagation that takes advantage of the Ionosphere in Earth's atmosphere to refract signals from one point to another. This is called sky wave propagation. Performance using this method will vary from hour of the day, night-day, winter-summer, and frequencies.

When leveraging sky wave propagation use of an antenna designed for maximizing near vertical incidence sky wave (NVIS) will help achieve the receipt of signal. On average NVIS propagation can cover distances between 30-400 miles. The angle of the antenna in comparison to the sky will affect how close/far the signal will return to the earth. It is possible to "bounce" the signal up and down however, strength of signal will diminish with each hop. Finally, NVIS frequencies for SHARES will be found between 3 and 12Mhz. It is important to note that there is an area between ground wave propagation and the HF hop called the skip zone. In this area, there could be no signal received.

6.2. Base Station Essentials

When deploying a fixed base station at a hardened site, it is important to note a few essential considerations. Grounding the transceiver is important and good electrical safety practices. Locate the base station in a comfortable climate controlled area. Remember, SHARES is a last line of communication and operators could be faced with lengthy periods of operating the station until traditional modes of communication restored. When deploying the antenna, besides the matching of frequency support previously mentioned, choose what polarization preference based on antenna spec. For example, vertically polarized antennas would include whip antennas primarily utilizing ground wave propagation. Horizontal polarization antennas include broadband dipole antennas that often will be arranged in an inverted V configuration to maximize NVIS propagation. Regardless of antenna selected, the following should be taken into consideration:

- be free from obstructions, such as buildings and trees,
- be away from other antenna systems,
- have good drainage to prevent flooding,
- be away from metal surfaces such as metal roofs, fences, satellite dishes, etc. to avoid reflections, and
- include a lighting arrestor to protect the base station from high voltage

Finally, to obtain optimal results, define your desired use case (local regional vs. long distance) propagation, consult a reputable antenna supplier and take the necessary time to properly install the equipment.

6.3. Antenna Configuration and Requirements

The antenna should match the use case as indicated above – local coverage vs. long distance communication needs. Note that a full HF spectrum antenna can require some substantial space (90+ feet) when deployed horizontally (one of the easier deployments). Permanent installations can be accommodated on commercial rooftops with the proper "tie down." If high winds are typically experienced, please take caution to ensure necessary tie downs are performed properly to ensure the antenna does not blow down and thus compromising the communications system. Antenna orientation can be as earlier mentioned horizontal, vertical or sloped (depending on the style of antenna).

Figure 1: SCTE Broadband HF Antenna at Exton PA Office

Emergency deployment of the system including the antenna can be done with careful equipment planning. Broadband antennas can be light, flexible and with some nylon rope and available tree, be hoisted to ten plus feet at a sloped configuration. Be sure that the ends of the antenna are not touching the ground or tree structure that could impact propagation. Also, be sure that the coaxial feed from the antenna to the radio is ideally located with proper length connector. Having inventory of 25, 50 and 100 feet of 50 ohm coax is ideal to have on hand.

Be cautious of antenna deployments that also occupy space where people are moving about. Cars or individuals could easily compromise the anchors and bring the antenna to the ground if proper flagging

isn't present. Cones or signals should be used to help prevent injury to individuals or damage/compromise to the antenna. See the ARRL website for most up to date HF radiation safety worksheets and website and note the informative FCC reference listed in the earlier section.

Note, talented RF engineers at many of the cable operators could build an antenna as needed with wire on hand (see ARRL on wire antennas on the www.arrl.org site).

The following models depict some example antenna propagations:

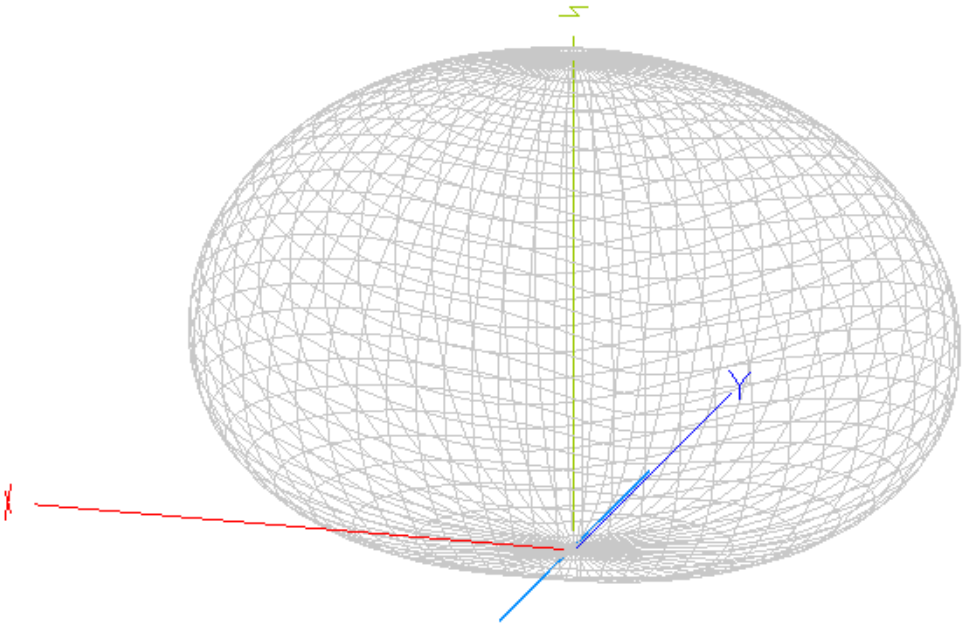

Figure 2: Vertical Horizontal Plot , Dipole 20MHz at 3 Meters height

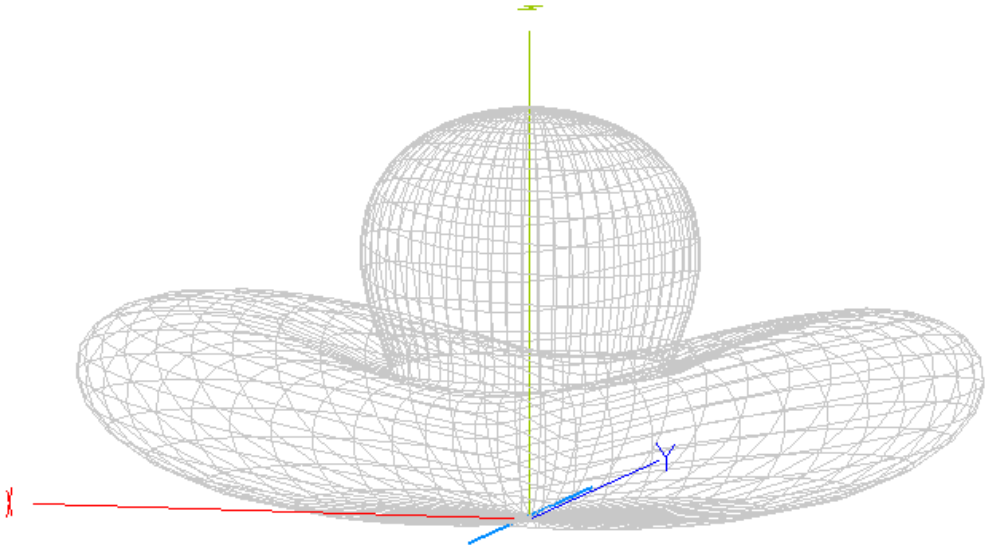

Figure 3: Vertical Horizontal Plot, 20 MHz   10 Meters height

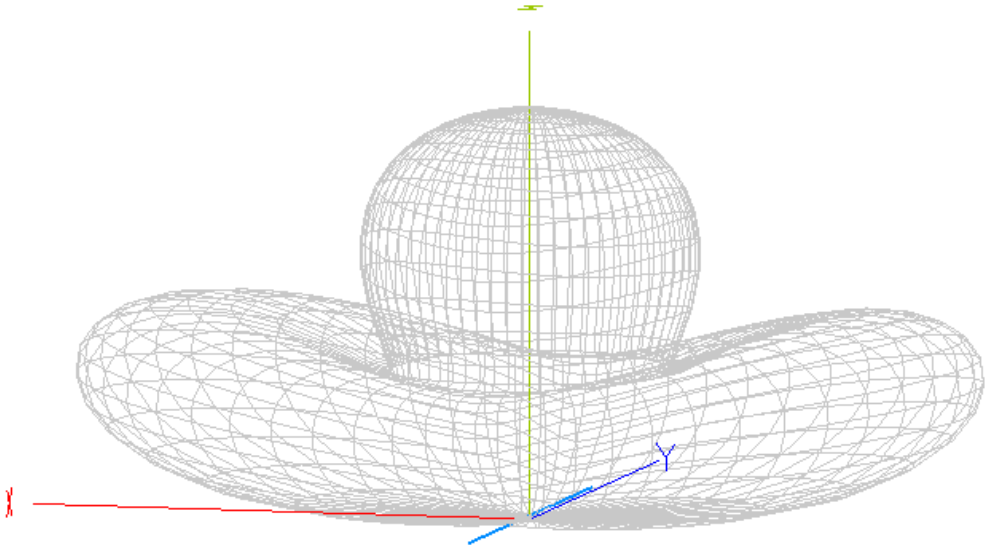

Figure 4: Vertical Horizontal Plot, 20 MHz   10 Meters height

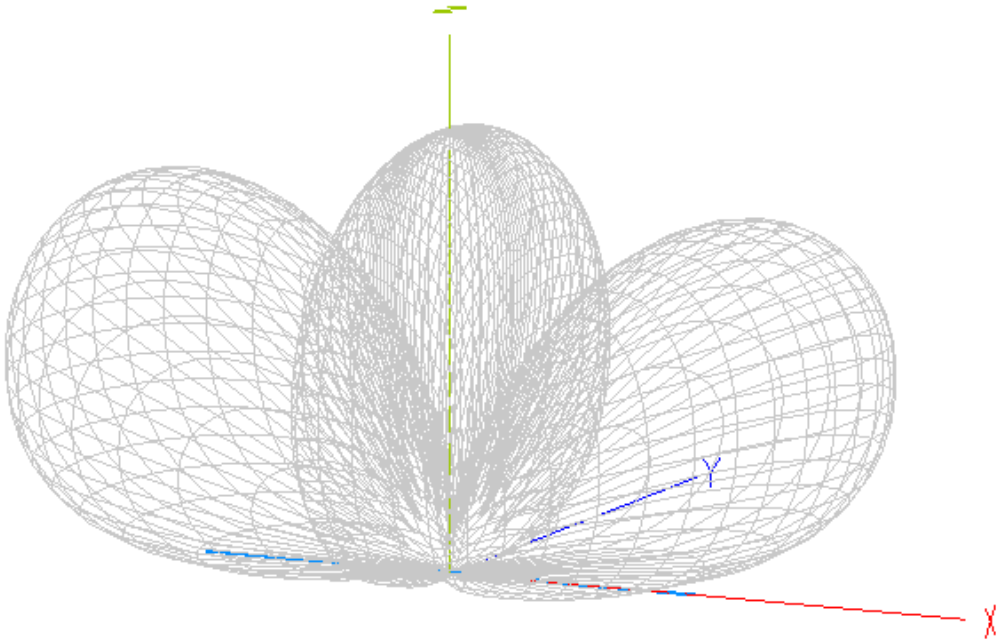

Figure 5: Vertical Horizontal Plot , Dipole 4 MHz at 3 Meters height

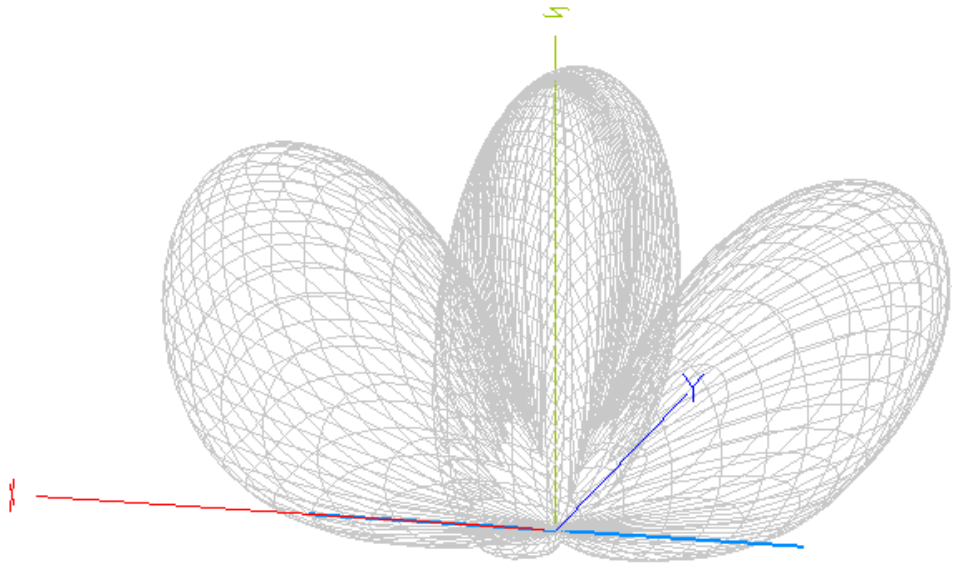

Figure 6: Vertical Horizontal Plot , Dipole 4 MHz at 10 Meters height

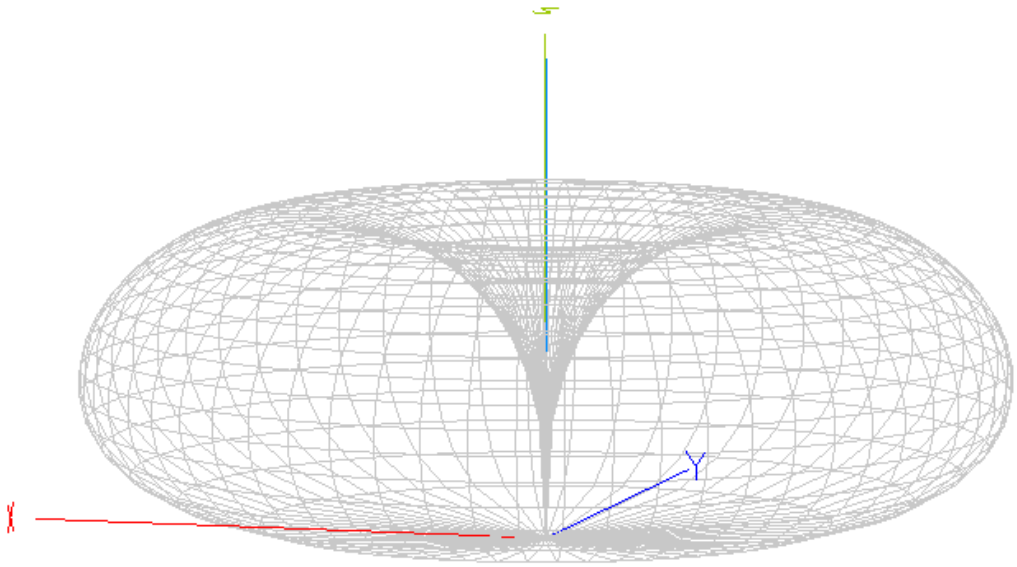

Figure 7: Vertical Horizontal Plot , Vertical 20MHz at 0 Meters height Ground mounted

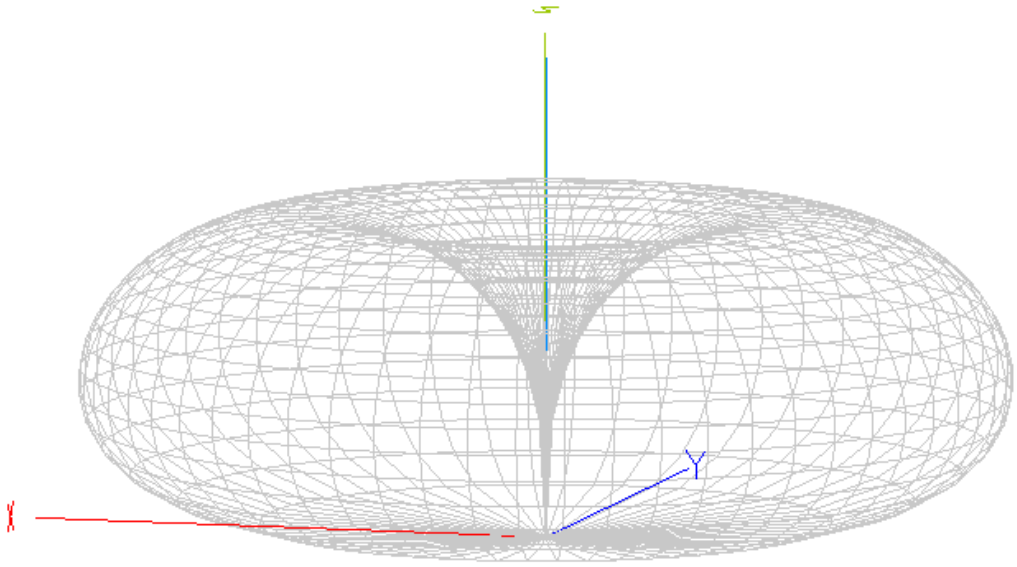

Figure 8: Vertical Horizontal Plot , Vertical 4 MHz at 0 Meters height Ground mounted

6.4. Portable Setup Consideration

Man packs or truly portable systems can be considered for inventory. Key advantages to man packs include:

- Rechargeable systems with extended battery time when fully charged (2 plus days)
- Rugged designs to stand up to extreme weather related conditions
- Self contained full kit to get an operator on the air literally anywhere they may be
- Matched portable antenna system should be included in the kit (tactical broadband antenna is ideal)
- Combine with a vehicle HF antenna, this solution could be mobile

6.5. System Summary

By way of summary, there are three key components to the HF radio system. Each one as important as the other:

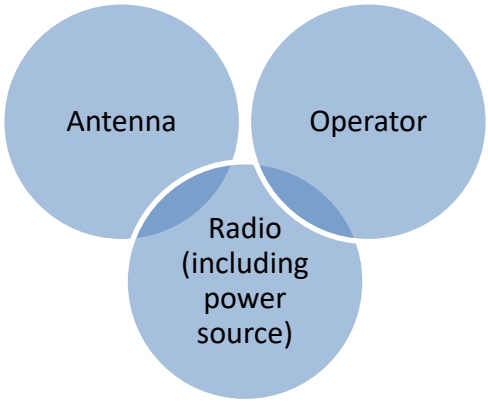

Figure 9: Essentials to Communication

Attention to each of these key components should not be neglected to ensure optimal success of this last method of communication when all other traditional means have failed.

7. SCTE ISBE SHARES Coordination

7.1. Why SHARES?

At the time of publication, it is becoming more and more difficult to forecast the size, nature, location of disaster areas. In recent years the United States has experienced extreme incidences such as Hurricanes Katrina and Sandy, North East Grid Blackout and the tragic terrorism example of 911. When these things occur traditional means of communications are at risk. High Frequency radio is a good last line of communication during times of need.

DHS's SHARES offers several key components that enable cross sector communication to help expedite return to normalcy. These components include:

- Multiple regional and national frequencies reserved specifically for SHARES
- Nationwide directory of HF stations, locations, agencies and call signs
- Organized and exercised networks coordinated by experienced HF radio operators on a re-occurring weekly basis

Joining the program coordinated by SCTE for the cable sector will provide the means to getting on the air and getting status, obtaining status, requesting assistance and building an essential network of professionals interested in preserving and restoring "business as usual." Required Equipment

7.2. Who is involved with SHARES?

The following sectors are represented in the SHARES directory and participant list:

Table 1: SHARES Sector Participants

Chemical Sector	www.dhs.gov/chemical-sector
Commercial Facilities Sector	www.dhs.gov/commercial-facilities-sector
Communications Sector	www.dhs.gov/communications-sector
Critical Manufacturing Sector	www.dhs.gov/critical-manufacturing-sector
Dams Sector	www.dhs.gov/dams-sector
Defense Industrial Base Sector	www.dhs.gov/defense-industrial-base-sector
Emergency Services Sector	www.dhs.gov/emergency-services-sector
Energy Sector	www.dhs.gov/energy-sector
Financial Services Sector	www.dhs.gov/financial-services-sector
Food and Agriculture Sector	www.dhs.gov/food-and-agriculture-sector
Government Facilities Sector	www.dhs.gov/government-facilities-sector
Healthcare and Public Health Sector	www.dhs.gov/healthcare-public-health-sector
Information Technology Sector	www.dhs.gov/information-technology-sector
Nuclear Reactors, Materials, and Waste Sector	www.dhs.gov/nuclear-reactors-materials-and-waste-sector
Transportation Systems Sector	www.dhs.gov/transportation-systems-sector
Water and Wastewater Systems Sector	www.dhs.gov/water-and-wastewater-systems-sector

SCTE and its approved licensed station participants are part of the Communications Sector. At the time of publication in 2017, the following cable industry participants have approved SHARES applications:

- Altice USA
- CableLabs
- Charter Communications
- Comcast
- Cox
- NCTA
- SCTE ISBE

7.3. Features of HF Radio

High Frequency radio is a means of communication that is not dependent on external infrastructure. Radio signals propagate via air, transmitted by end points and antennas. Up to 1.5 kW signals can be sent over reserved frequencies to communicate to other members of the NET. The national net has the capability of transmitting messages coast to coast. Automatic Link Establishment (ALE) can be used on advanced radios to enable a direct link call (similar to cell phone call) using the best frequency at the time. This removes complexity of figuring out what frequency should be used when. Advanced radios are also able to transmit both free-form as well as pre-set text messages to entries in an address book. Unattended acknowledgement of station status is also able to be obtained. This can be beneficial if the location in question cannot physically be accessed. Broadcast basic text messages can be transmitted and received to efficiently reach a wide number of people without the need of tying up voice channels for

extended periods of time. Finally, by leveraging HF capabilities, participants can get access to a hybrid "email to HF" network to address partial or full Internet outage.

7.4. Three Levels of SHARES Activation

The SHARES networks can be used at any time and without activation or escalation from DHS. Participants do not "need permission" to use the NET. However, as the coordinating official DHS has recognized the following three conditions or levels of SHARES activation as represented in table two.

Table 2: SHARES Activation Levels

Level 3	Conditions normal. No emergency exists. The channels may be used by SHARES station personnel for training and non-emergency operations.
Level 2	Emergency potential exists. Non-emergency operations on the NET suspended. Shares Coordinating Net monitoring increased. Communications operations established on the National and Regional nets to receive Stations Availability Reports.
Level 1	Emergency exists. SHARES message support required. National and regional nets maintain full-period operations to receive Station Availability Reports, to list SHARES message traffic, and to coordinate the processing of SHARES messages.

7.5. SHARES Regional Nets

Reserved frequencies in the SHARES Network often work best over a region vs. trying to reach coast to coast. HF propagation will vary night and day as well as summer and winter. Therefore, the frequencies reserved in attempt to optimize HF propagation. Table three below outlines what states are included in what region.

Table 3: SHARES Regions

Region		States
Northeast	1	Connecticut, Maine, Massachusetts, Rhode Island, Vermont
Northeast	2	New York
Northeast	3	Delaware, Maryland, Pennsylvania, Virginia, Washington DC, West Virginia
Southeast	4	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee
North	5	Indiana, Illinois, Minnesota, Michigan, Ohio,
South	6	Arkansas, Louisiana, New Mexico, Oklahoma, Texas
North	7	Iowa, Kansas, Missouri, Nebraska
North	8	Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming
Southwest	9	Arizona, California, Hawaii, Guam, Nevada
Northwest	10	Alaska, Idaho, Oregon, Washington

Each of the corresponding regions have been assigned designated frequencies and identified net controllers.

7.6. High Level SHARES Program Essentials

The following list outlines the fundamental principles needed to become active in the SHARES Network.

1. Identify mission critical support sites that could be logistical communications command center(s)
   a. Network operation centers, regional data centers, or mission critical hardened facilities are logical first considerations
2. Identify key employees to take ownership in the program
3. Complete and submit the SHARES Form 1 application to SHARES@scte.org
4. Secure necessary ALE compliant HF radio(s), antenna(s) and necessary backup power source
5. Program radios with necessary support frequency for SHARES
6. Deploy antenna
7. Cross train necessary support employees
8. Check into the SHARES NET based on their weekly exercise
9. Update SCTE ISBE SHARES Admin of any personal changes

7.7. Communication Protocols

When on the radio, it is important to note some fundamental communication standards that the SHARES Net uses. Although similar to HAM radio communications, SHARES is not HAM and no formal FCC exam or FCC license is required to communicate. However, it is important to be familiar with the commonly heard language on the net.

SHARES has recognized the US Coast Guard Radiotelephone Guide as primary point of communication reference. The latest version of this guide can be found online. Some key provisions of this guide include:

Table 4: Phonetic Alphabet

Letter	Phonetic	Spoken As
A	alfa	AL-fah
B	bravo	BRAH-voh
C	Charlie	CHAR-lee
D	delta	DELL-tah
E	echo	ECK-oh
F	foxtrot	FOXS-trot
G	golf	golf
H	hotel	Hoh-TELL
I	India	IN-dee-ah
J	Juliett	JEW-lee-ett
K	kilo	KEY-loh
L	lima	LEE-mah
M	Mike	Mike
N	November	no-VEM-ber
O	Oscar	OSS-cah
P	papa	pah-PAH
Q	Quebec	Keh-BECK
R	Romeo	ROW-me-oh
S	Sierra	see-AIR-ah
T	tango	TANG-go
U	uniform	YOU-nee-form

V	Victor	VIK-tah
W	whiskey	WISS-key
X	X-ray	ECKS-ray
Y	Yankee	YANG-kee
Z	Zulu	ZOO-loo

Use the phonetic alphabet to spell out difficult words (or groups) within the message text. If the word in question can be pronounced, do so before and after spelling it:

"CABLE - I SPELL - CHAR-lee AL-fah BRAH-voh LEE-mah ECK-oh – CABLE"

For full briefing on the US Coast Guard reference document please download the latest release.

7.8. Communication Propagation Conditions Quality Report

When communicating on the SHARES HF network, it is helpful to report back to net control the condition of their communications. The various levels of voice transmission heard is as follows:

Table 5: Signal Strength Conditions

Signal Strength	
LOUD	Your signal is strong.
GOOD	Your signal is plainly audible.
WEAK	I can hear you, but with difficulty.
FADING	At times your signal fades so much that continuous reception is not dependable.
NOTHING HEARD	I cannot hear you at all.

Table 6: Signal Propagation Readability Conditions

Readability	
CLEAR	Excellent quality.
READABLE	Good quality; no difficulty in reading you.
DISTORTED	Having problems reading you due to distortion.
WITH INTERFERENCE	Having trouble reading you due to interference.
INTERMITTENT	Having trouble reading you because your signal is intermittent.
NOT READABLE	I can hear that you are transmitting but cannot read you at all.

Providing this detail back to net control can help aid them understand current propagation conditions as they can change from day to day, week to week and even hour to hour.

7.9. Equipment Recommendations

It is important to note, the specialized, advanced feature equipment necessary to get on the HF SHARES needs to be secured prior to need. Often radios require programming with proper frequencies and addition of other ALE contacts. Up front planning is essential to ensuring readiness in time of true need. That being said, the key components required to get on the network include:

1. ALE ready HF radio
2. Broadband HF antenna capable of transmitting and receiving on frequencies between 3 Mhz and 30 Mhz
3. Proper space and elevation of 10 feet or higher to enable radio signal propagation
4. Necessary coax cabling to connect antenna to radio
5. Reliable power supply compatible with the selected HF radio
6. Backup power in the event primary power fails

Additional items that can prove handy include:

1. Laptop computer with digital broadcast demodulation software such as MixW configured to receive MT63 transmissions at setting of 1000Hz interleave and 500Hz buffer
2. Six foot A frame extension ladder to aid in hanging the antenna
3. Bungee cords to secure the antenna

Finally, when evaluating the setup of radio stations, consider securing both a fixed and portable solution. The portable solution can be shipped/setup when and where needed in time of need. A logical location for a fixed station should be at a hardened facility such as a data center, network operations center (NOC) or other strategic facility designed to meet SCTE 226 2015 Class A specifications.

7.10. Checking Into the Weekly SHARES Net

After the SHARES Form 1 application has been processed and call sign assigned, as of time of publication a weekly exercise is held on Wednesday's of every week to help ensure equipment is working as expected. Participating in the weekly exercise will also help net control familiarize themselves with the locations that regularly maintain and test equipment. When checking into the net, the first hour will support the national network and the second hour will allow for a regional check-in. It is important to attempt to check in with net control on both frequencies. When registering on the net please provide:

1. Call sign
2. State (location not condition) of operation
3. Estimated frequency departure time (when you will be leaving the station/frequency)

Regional check in will be called by numbered region. For example, in the Northeast, Region 1 will be called followed by Region 2 then Region 3. This will aid in the flow of check in. If you miss the designated check in, you are still able to register on the Net, as Control will be at stations for the duration of the hour accepting registrations. Also note, if you are unable to be on frequency, you are permitted to acknowledge check in and notify Net Control that you will be "in and out" indicating that you are providing a courtesy check in but will not be present for further instruction/communications.

Finally, a digital MT63 broadcast message is sometimes sent to all stations. This broadcast will require proper software to demodulate the transmission typically containing training tips. An example of a received training tip is contained in Appendix A.

8. Conclusion

The importance of the cable telecommunications products and services has grown dramatically since the early days of cable TV. Support of 911 services, cellular backhaul and digital messaging emphasizes the need for the proper contingency plans as responsible essential service providers. As illustrated in the opening overview, the forecast of unplanned incidence impacting service is proving to be challenging. Having the proper plan in place to help address the restoration of services in the event of total traditional communications outage is essential. Pre-planning, exercises and familiarization of resources is vital on an ongoing basis to ensure the most rapid restore to "business as normal." Working with SCTE ISBE and participating in the SHARES Network should be one tool in the preparation and response toolkit.

9. Appendix A: Sample Received Broadcast Message

MSG NR1

R 061700Z DEC ZYJ

FM SPO ARLINGTON VA

TO ALL SHARES STATIONS

BT

UNCLAS

SUBJ: SHARES TRAINING TIP 095

1. The following is being provided for use by all members to use should it become necessary to draft and send a SPOT REPORT (SPOTREP) if information is requested by Headquarters (NCCIC) on the status of telecommunications in your area.

Example:

DE (your call sign ser. no.)

P (date time group) ZYJ

FM (call city state)

TO “CALL SIGN” ARLINGTON VA

INFO “CALL SIGN” DEWITT MI

(Your RCS Region Director)

BT

UNCLAS

SUBJ: SPOTREP <Date>

SPOTREP for NCCIC, directly observed by (name/role/location) -or- as reported on (AM/FM/TV/Cable station/date/time) etc. -or- etc.

1. CITY STATE: (city and state of area being reported)

2. LANDLINE STATUS: (providers if known, operational or not)

3. CELL PHONE STATUS: (providers if known; operational or not)

4. AM/FM BROADCAST RADIO STATIONS: (operational or not, call sign and frequency or channel)

5. BROADCAST TV: (operational or not, call sign, channel, city and state

6. CABLE TV: (operational yes or no, provider, city/state

7. COMMERCIAL POWER: (operational or not)

8. INTERNET: (providers, operational or not)

9. COMMENTS: (your comments if needed for additional Information, such as status of other critical infrastructure, e.g. water/sewer systems, roads, airports, ports, hospitals etc.

POC: (name, call sign, city, state) (phone number)

BT

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2. POC: Dan (270)xxx-xxxx

3. Acknowledge receipt of this message to SPO ARLINGTON VA.

BT

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SHARES NE “CALL SIGN”