

SET 2009 "Operation Highball" ARES Net Script #1

Air Date: Week of August 31st

Intro

Announcer or EC Copy: Welcome to the "Whistle Stop", a weekly series of short training modules to help prepare Alabama ARES for the Simulated Emergency Test on October 3rd.

Last year, Alabama ARES placed fourth in the nation in the Simulated Emergency Test, its best score in over 20 years. Congratulations to all the local EC's and volunteers who made this performance possible.

This year's exercise will focus on responding to railroad related emergency incidents. These are the third most common type of major incident in the state historically, behind only hurricanes and severe weather. Over 80% of the state is served by one of three major "Class One" railroads-such as Norfolk Southern and CSX. Additionally, many other parts of the state are home to Class Three railroads, including a concentration of small lines that serve the chemical industry in Western Alabama. AMTRAK also provides regular passenger service to Gadsden, Birmingham, & Tuscaloosa on a daily basis.

Over 25% of the freight that passes through our borders every day is classified as HAZMAT, including gases like Chlorine, flammable liquids, molten metal products, and many other potentially dangerous materials. Fortunately, incidents involving large releases of these materials are rare, and the railroad industry has an outstanding record for both safety and emergency response.

A frequent question is "What role would amateur radio play in a railroad incident?" The answer is that it would depend on the type and severity of the incident. Derailments involving HAZMAT will often result in the need for evacuations and sheltering. In rare instances, they may become mass casualty events, with the need for triage, emergency medical treatment, and victim transportation.

Amateurs could be called to support their local EMA, Red Cross Shelters, or simply to provide extra "eyes and ears" at local hospitals and incident command sites. For a real world example of amateurs responding to a railroad incident, visit the following web site to learn how California hams responded in 2002.

<http://www.hdscs.org/metro2.html>

Next week, we'll look at how railroads operate, and their communication systems.

Your "homework" for this week is to take note of the railroad crossings in your area. Most crossing signs are marked with emergency contact information including telephone numbers to reach public safety call centers for each railroad. Take note of these and report what you find to your local EC before next week's net.

All amateurs should have the emergency contact telephone numbers for their local railroad saved in their cell phone contact lists, and posted at their stations. The major Class One railroad contact numbers are:

CSX- 1-800-232-0144

Norfolk Southern 1-800-453-2530

BNSF 1-800-832-5452

Depending on your location in Alabama, your area may also be served by smaller regional railroads, which is why it's important to check crossing along your daily route to insure that you have all the numbers you might need in an emergency.

In any railcar emergency, it's important to contact the railroads immediately so that oncoming train traffic may be halted. It can take up to two miles for a fully loaded freight train to stop, so stopping oncoming trains is the first order of business. If you come across an automobile stalled on the tracks, a derailment, or any incident that involves the railroad, call those emergency contact numbers immediately.

SET 2009 "Operation Highball" ARES Net Script #2

Air Date: Week of September 7th

Intro

Announcer or EC Copy: Welcome to the "Whistle Stop", a weekly series of short training modules to help prepare Alabama ARES for the Simulated Emergency Test on October 3rd.

During our training last week, we talked about the importance of contacting railroad officials quickly in an emergency so that they could halt traffic in the affected area. Did you remember to jot down the telephone numbers posted at crossings in your area? If

not, take time to do so today. Please add the following emergency contact telephone numbers to your cell phone directory and be sure that they're posted at your station:

CSX- 1-800-232-0144

Norfolk Southern 1-800-453-2530

BNSF 1-800-832-5452

This week we'll look at the basics of how railroads operate, and their communication systems.

Unlike the old days, when you could set your watch to the arrival of a train in your area, today's modern railroads operate 24 hours a day, and deliver their freight in demand driven schedule. Vital parts, products, and goods arrive from the manufactures "just in time" to supply their customer demands. As such, trains are assembled in yards around the clock, and can carry a number of types of cargo within the same train.

Both non-hazardous and HAZMAT shipments may be included within a single train of cars, and these may pass through your area at any given time of day. A document that lists all the cargo being carried in any train is called a "consist" and that document is carried by the Conductor. In an emergency, it's important that document be consulted by first responders quickly as it contains information about each car in the train, its contents, and the appropriate response actions. It has additional information about HAZMAT materials.

It's also important to note any cars involved in the incident, and their markings. These would consist of both initials and a number, and these are stenciled on the both sides of the car, and the front and rear of the car. If you're able to provide this information to the railroad Public Safety Centers, it will help speed up their response.

All Class One Railroads are equipped with their own emergency response teams, including HAZMAT experts. These officials will work within the Incident Command System to advice local commanders about the nature of the release, appropriate response measures, and clean-up. Most railroads also employ specially trained and equipped contractors who can provide rapid response to any incident along their lines. Alabama has several of these contactors around the state.

RAILROAD COMMUNICATIONS

Railroads assigned a group of 97 frequencies in the VHF band for their communications. These frequencies are in the range of 160.110 MHz to 161.565 MHz, in 15 kilohertz increments. Most communications are done in FM voice mode, with limited data transmissions as well. Encryption is rare. The frequency assignment within this frequency range is managed by the Association of American Railroads (AAR), which is an industry association composed of the various railroads of the United States and Canada.

Most of America's railroads are equipping locomotives with radio transceivers capable of using all 97 railroad frequencies. For simplicity, the frequencies are assigned channel numbers that are used to select the proper frequency on any AAR 97-channel radio. Since the various railroad operating timetables often refer to the AAR channel numbers, it is common for train crews and dispatchers to refer simply to channel numbers rather than frequencies on the air.

Communications are often made in simplex mode, but repeaters are also common to span longer distances. The use of PL Tones is common on these frequencies. There is no "emergency channel" for rail, instead, incidents are managed using the channels commonly assigned to a given railroad in the area. Usually railroads will provide a radio to the Resource Section Leader or COM-L at an incident site to be patched into an ACU unit, allowing first responders to interoperate with rail communications. Many amateur 2 Meter radios can be modified to operate on these channels, but that use would be limited to life and death emergencies. Having the ability to monitor these channels may be helpful to your served agencies, and is a role that amateur radio could fill.

Outside the VHF band, the railroads of North America use the frequency **457.9375** megahertz for transmissions from a train's end-of-train (EOT) device to the train's lead locomotive. Monitoring for EOT devices is a great way to tell when a train is getting near your location, since the range of these devices is limited.

Many amateur radio transceivers can monitor these frequencies, and it is a great idea for ARES volunteers to become familiar with the channels in use in their area. A few hours of casual listening will help you become versed in terminology used by dispatchers and train crews.

Frequencies specific to your area of the state, and lots of additional information about monitoring railroad communications can be found at:

www.radioreference.com

If you monitor rail traffic for long, you'll also hear automated voice transmissions called "Equipment Defect Detectors". These are track mounted laser scanners which inspect trains as they pass overhead. They can detect defects in equipment, and alert train crews to the problem immediately. These are usually found on the "road frequency" for

each railroad. For example, Norfolk Southern uses 160.95 MHz as their road frequency in the central part of the state. It's common to hear EDD announcements such as:

"Norfolk Southern---milepost 87 DOT 8, no defects" REPEATS

You'll notice that railroads use "Mileposts" to reference specific parts of their routes. Since rail tracks often runs for hundreds of miles in virgin forests or other rural areas, common landmarks such as the names of towns or roads would not serve them well. Instead they rely on "mileposts" which are marked along the track each mile.

During an incident, knowing the milepost nearest to the accident site can also be important. Maps of major railroads including their milepost markings can be found online at:

<http://tinyurl.com/mympu>

Your "homework" for this week is simple. Find the frequencies for railroads operating in your area, and share them during next week's nets. Do some monitoring and become familiar with the terminology used by railroads in their on-air communications.

SET 2009 "Operation Highball" ARES Net Script #3

Air Date: Week of September 14th

Intro

Announcer or EC Copy: Welcome to the "Whistle Stop", a weekly series of short training modules to help prepare Alabama ARES for the Simulated Emergency Test on October 3rd.

So far in our training, we've addressed the potential threats of cargo carried by modern railroads, especially as it relates to HAZMAT materials. This time we'll look at the locomotives, and the hazards they present.

A modern diesel-electric locomotive can carry up to 5,600 gallons of fuel. This fuel represents a significant hazard if the tank is ruptured. In addition to the fuel dangers, locomotives can also present an electrocution danger if not properly shut down.

There are three emergency fuel cut off switches on all locomotives. Two of these switches are located on the outside of the unit, directly above the fuel tanks on each side. The switches are clearly marked with a red outline, and are activated by pushing a button. This causes a solenoid valve at the top of the fuel tanks to close, and all engines will shut down within one minute. The other cut-off switch is located inside the cab directly behind the engineer's control stand.

While ARES volunteers are not first responders, it is possible that they will be present when a railroad accident occurs, and may be tasked to provide assistance until qualified responders arrive on scene.

The key response actions for anyone who witnesses a railcar accident are as follows:

- A.) Immediately call 9-1-1 to report the accident. If cars are derailed or leaking, attempt to provide the rail car identification numbers identified by stencils on the sides of the cars, or at their front or rear.
- B.) Contact the Railroad Public Safety Center. These emergency numbers should be in your cell phone contact files, and posted at your station. These numbers are also posted on placards at each railroad crossing.
- C.) Be prepared to cut off fuel to the locomotive if the crew cannot directly respond to the emergency and if it is safe for you to do so.
- D.) The next most important action is to stop the movement of oncoming trains. A fully loaded freight train can take up to two miles to stop, even in an emergency. If the railroad cannot confirm that all rail traffic has been stopped in the area of the incident, then ARES volunteers should be prepared to stop oncoming trains with visual signals.

The proper method is to send two volunteers down the track, one in each direction. They should travel at least one mile down track if possible. A road flare, flashlight, or other light device should be used to signal an oncoming train. The “emergency stop” signal is to point the light source at the train, and move your arm up, then down, in the widest arch possible. Be prepared to identify yourself to the engineer, and explain the emergency when the train stops.

It is far more likely that your role in responding to a railcar incident will be in providing auxiliary communications in a supporting role to your served agency. Railcar incidents can quickly become mass casualty incidents, or sudden, widespread evacuation and sheltering events.

Unlike hurricanes, or other disasters that see large evacuations and sheltering, railcar incidents can occur anytime without warning. In their haste to evacuate, people are often unprepared to go anywhere except public shelters. In addition, facilities such as hospitals, nursing homes, and other special needs housing may need to be evacuated, triggering an even larger response.

During these events, local cell phone networks can become overwhelmed by caller volume, and communications needs can become critical. Amateur radio can support first responders during these events by providing additional communications resources.

In addition, ARES volunteers may be tasked with supporting response operations in outlying or rural areas, where public service repeaters may lack coverage. Our ability to use simplex, cross band repeaters, gain antennas, and other resources can aid first responders in their communications from these areas.

Review your served agencies Emergency Response Plan for railcar incidents, and discuss how amateur radio may benefit them during these events. Look at maps of rail track in your area, and identify areas where communications might be an issue for first responders. Pay particular attention to tunnels, since these can often completely block communications for first responders. Make suggestions on how ARES may be of assistance, and plan to exercise these roles during the Simulated Emergency Test.

SET 2009 "Operation Highball" ARES Net Script #4

Air Date: Week of September 21st

Intro

Announcer or EC Copy: Welcome to the "Whistle Stop", a weekly series of short training modules to help prepare Alabama ARES for the Simulated Emergency Test on October 3rd.

This is the last stop before the train leaves the station for this year's Simulated Emergency Test, "Operation Highball". Each county has been tasked with developing their own scenario for this year's exercise, wrapped around the common theme of railcar emergencies. A bit later in the net, we'll hear from your EC regarding their plans for SET.

But right now, let's review how the exercise is graded, and make sure that your group is prepared to do their best on October 3rd!

Alabama ARES has placed special emphasis on two areas for this SET:

Number One: Passing situational updates to the Alabama EMA in Clanton, AL using digital modes rather than voice. You can use so called "sound card modes including PSK-31 and MT63" to do this on HF. Or you can send them using D-STAR slow speed data or APRS messages on VHF.

Sound card modes require only an HF radio, tuned to 3570 KHz in Upper Sideband Mode, and a simple soundcard interface to your computer, such as those made by

Rigblaster, Signa-Link, and others. You can practice sending traffic prior to the net by checking into the ARES Digital Net each Sunday at 3:30PM local time on 3570.

Number Two: Passing NTS formatted messages in either voice or digital modes. This is worth a nice bundles of points for your score, and it couldn't be easier to do. Send an NTS formatted radiogram using any voice or digital mode, including this 2 Meter repeater! Have someone relay it to Clanton on HF or D-STAR if you're not within range. But the important thing is to generate the message and send it in.

Some other easy things that your group can do to improve your score:

- Invite your served agency representative to attend and witness your team in action.
- Make sure that your EC or one of his AEC's participates in the exercise.
- Generate a press release for your local newspaper, radio, or TV station.
- Promote SET on your weekly net, and encourage members to check in during the test. If they have emergency power available such as a spare car battery, or gel cell, you get even more points. And they can check in on more than one net or group. You're in both ARES and Skywarn? No problem, check into both nets!
- Send in those after action reports quickly to N1LF@arrl.net. Be sure that your group is recognized for all their hard work.

Now let's hear from your groups Emergency Coordinator about the scenario that they have planned for SET, and your role in this major exercise:

(LOCAL ANNOUNCER COPY HERE)

