

YOUR FUTURE IN EMERGENCY ALERTING

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Abstract

Under the direction of the White House, the FCC has begun an overhaul of the Emergency Broadcasting System. They believe that they can greatly improve the effectiveness of the system by adding cable participation. Participation in the new system truly represents an opportunity for cable operators to help minimize the loss of lives in their communities. It also could represent a significant cost to the cable industry.

WHY THE CHANGE ?

After hurricane Hugo, and shortly before Operation Desert Shield was publicly announced, the white house directed the FCC to update the Emergency Broadcasting System (EBS) in order to provide an effective means of alerting the public to both national and local emergency situations. Following an initial investigation, FCC staff determined that cable operators needed to be involved in the system. In fact, former FCC Chairman Sikes stated a number of times that "Since over 60% of U.S. households now have cable television, no emergency alert system would be effective without cable participation".

For this reason, Chairman Sikes asked the cable industry to participate in designing the new system and in determining how cable would participate in the new system. In response to this, the SCTE established the EBS subcommittee. It has been the feeling of our committee that, since the FCC intends to include cable in the new system, it would be best to be involved in defining both the system and our participation.

THE CURRENT SYSTEM

Under the current EBS, when there is a reason to activate the system, the activating party notifies designated regional broadcast stations (called CPCS-1 stations). These broadcasters transmit a "two-tone" signal (that annoying sound which makes you change stations once a week during tests). The two-tone is received by secondary broadcasters, who are required to monitor the CPCS-1 station, and retransmitted. Broadcasters who are down stream from (and monitoring) these secondary stations then, in turn, retransmit the signal to still more distant broadcasters, and so on.

This "daisy chaining" method of delivering the activation is one the areas of weakness with the current system which the FCC has identified. If any broadcast station in the link does not retransmit the signal, all stations (and listeners) down stream do not get the message. In addition, it is felt that the two-tone is an antiquated and ineffective method of signaling, primarily because it can not deliver any information about the emergency situation.

Another area of weakness with the current system is the human factor. If a broadcast operator (announcer) does not hear the alert, or is not properly trained in what to do when an alert is received (which is often the case), the alert will not be passed on to other areas.

THE NEW SYSTEM

As currently proposed, the new system would improve upon the current system in a

number of ways. The system could be activated by a number of authorities at the Federal, State, and local level. These could include the National Weather Service (since 85% of emergencies are weather related), local emergency management offices or police agencies, and private industries which pose a danger to their communities (such as nuclear power plants, chemical plants, etc.).

System participants (such as broadcasters and cable operators) could receive activations from a number of sources, thereby eliminating the daisy chaining limitations. Equipment for the new system would automatically override programming in the event of an emergency situation, to ensure that human error didn't preclude getting the alert out.

A new, addressable, digital signalling scheme would replace the current two-tone method. Not only would this speed up the activation of the network, but it would allow for the transmission of pertinent information. For example, information could be coded in data fields to indicate: whether the activation was a test or an actual emergency; the nature and severity of the emergency; and the affected area(s). The participants equipment could use this information so that the alert was only transmitted in affected areas (thereby eliminating the "cry wolf" situation experienced with the current system).

CABLE PARTICIPATION

In order to participate in the new system, a cable operator would need to have two pieces of equipment. The first is a new receiver/decoder device which the FCC proposed for all participants in both the Notice Of Inquiry (NOI) and the Notice of Proposed Rule Making (NPRM) regarding EBS. This device would monitor several sources, receive the activation signal, decode the information contained in the received signal, and, if appropriate, trigger the second

piece of equipment. This second piece would be the equipment which delivers the emergency message to the subscriber.

There are a number of ways in which the cable operator could deliver the alert to subscribers. These include an override of audio programming, an override of video programming, a text crawl in the video, or a combination of these. In addition, equipment exists for the operator to deliver an alert independent of the television. With this equipment, a signal transmitted over the cable system activates an in home receiver (with broadband pass through). This receiver can then activate alarms, strobe lights, bed shakers, etc. This could address the concern of how to alert the hearing impaired or persons who are watching a signal from a VCR or have their television and radio turned off.

The FCC staff has been very interested in all of the above capabilities of cable systems. Our committee has put significant effort into stressing the costs associated with each of these capabilities.

INPUT TO FCC

Since its formation just over a year ago, our subcommittee has focused primarily on working with the FCC to provide them with a clearer understanding of cable's capabilities and limitations, as well as the cost implications to cable of participating in the new system. We have done this through frequent conversations with their EBS staff, serving on various work groups of theirs, and filing documents with them during their Notice Of Inquiry and Notice of Proposed Rule Making procedures. Along with these efforts, we have also researched the equipment which cable operators have already installed and the equipment alternatives which cable has available to it today.

Cable's Needs

One area which we have addressed with the FCC is the differences between cable and broadcasters (the traditional EBS participants). Since virtually all cable head ends are unattended sites (no round-the-clock staff to operate EBS equipment), it is essential that the new system operate in an automated mode (this is prohibited under current regulations). In addition, it will be necessary to have the emergency information (such as an audio and/or text message) fed to us so that our equipment can merely pass it through to subscribers (since we don't have announcers on duty). Cable operators will also need to receive an "end-of-message" signal so that our override equipment can be triggered to return to normal programming. We have also pointed out repeatedly that, unlike broadcasters, we will have the hardware cost of overriding not one, but dozens of channels.

Existing Equipment

We have also made the FCC aware that approximately four thousand cable head ends currently have programming override equipment in place. It is crucial that the new regulations not obsolete this alerting equipment investment which the industry has already made. Almost all of this equipment is activated with DTMF signals (via a phone line from a local authority) and provides a blanket override of the audio (only) signal of all channels.

Cost Of Participation

An area in which we have provided a significant amount of input to the FCC is the capital cost to cable operators of participating in the new system. In addition to addressing specific cost issues, we took the stance that equipment purchases should not be mandatory unless Federal or State

funding is made available to offset those purchases. We felt that private businesses should not be required to fund this public program.

In the NPRM, the FCC estimated the cost of the new device at \$3000. Assuming that this is accurate, and that there are 11,086 cable head ends in the U.S., this represents a cost to the industry of \$33,258,000.

However, the larger cost by far will be the equipment for delivering the alert to the subscribers. Because there are approximately four thousand head ends with audio only override capabilities in place, we have strongly encouraged the FCC to only require cable operators to provide an audio override. As a result, when the NPRM was issued, it only proposed audio override capabilities for cable. However, in response to the NPRM, the FCC has received input (primarily from the hearing impaired community and vendors) to require both audio and video override. At this point, they appear to be leaning toward requiring both in the Final Report and Order.

If the audio override equipment which is in place should prove to be acceptable, and we should need to outfit the 7,086 remaining head ends with audio override capability, this could be done for approximately \$10,000 per head end. This represents a cost to the cable industry of \$70,860,000. Added to the cost of the proposed new device, this represents a total cost to the industry of just over \$100,000,000.

However, in the seemingly likely event that the FCC reverts to the position of requiring audio and video override, the cost will be significantly higher. Equipping a head end for audio and video override with equipment which is readily available today would cost approximately \$42,000 for a

400MHz system. Since almost no head ends are currently equipped for video override, this would need to be done for almost all 11,086 head ends. This represents a cost to the cable industry of \$465,612,000. Added to the cost of the proposed new device, this represents a total cost to the industry of just under \$500,000,000.

It should be noted that we have spoken with a number of manufacturers regarding the development of lower cost equipment which would be either an alternative or an adjunct to the currently available equipment. At least one has responded with a design for such equipment. They feel that, once the FCC finalizes specifications for the new system, this equipment could be developed and produced within approximately six months.

Small And/Or Rural Systems

We have expressed particular concern over the impact on small and/or rural cable systems. It is important to note that, of the 11,086 cable systems in the United States, more than 5,800 serve fewer than 1000 subscribers. It is also crucial that it be realized that a typical cable system serving 500 subscribers likely has a net income (before taxes, depreciation, and interest) of approximately \$70,000 annually. Mandatory participation in a new 'EBS' type system which would require equipment purchases in excess of \$40,000 would be financially devastating to these operations. For these operations in particular, there needs to be some form of protection from the financial burden of participation - whether that protection comes in the form of federal or state funding of equipment, or a waiver of the participation requirements.

Digital Signals

In reply to the NPRM, we pointed out

that the cable industry is moving very aggressively (and rapidly) toward transporting compressed, digitized video signals. We also stated that this is a major step toward a much larger and more important goal of establishing a broadband, high speed, telecommunications 'digital highway'.

Indeed, there has been much discussion and interest on the part of communications-dependant industries (such as computer industries), as well as legislators, the FCC, and the new administration, in the establishment of such a 'digital highway'. In addition to enhancing the competitive abilities of American businesses, this would allow the United States to maintain a status as the world leader in telecommunications infrastructure. We feel certain that the FCC will not want this rule making to impede such development.

We also pointed out that in the early stages of transporting compressed digitized video signals, many cable operators will merely pass through digital signals which they receive via a satellite link. In many cases, the local cable operator will not be able to alter the signal in order to insert information or override programming.

Including Other Technologies

The NPRM sought comment on the inclusion of other technologies as participants in the new system. We supported this idea on the understanding that the FCC desires to add cable television to 'EBS' in order to reach all viewers with emergency messages. We stated that, in order for the new system to approach ubiquitous coverage, it is essential that participation include Wireless Cable (MMDS), Satellite Master Antenna Television (SMATV), Multichannel Local Distribution Service (MLDS), video dial tone, and all other present and future

providers (and technologies) of audio and video services.

Implementation Timetable

In the NPRM, the FCC proposed that all equipment be installed and operational by July 1, 1994. We replied that, before participants can implement equipment for the new system, a Rule Making will need to specify parameters for the new device and for the activation signal(s). Following that, manufacturers will need to develop and produce the necessary hardware. We suggested that the implementation timetable be tied to the commercial availability of the required equipment, rather than being fixed at this point. In addition, we stated that, after the equipment becomes available, participants will need sufficient time to plan, budget, install, test and activate the equipment. We therefore recommended that full implementation be set at 24 months after the equipment becomes available.

System Testing

Due to the "cry wolf syndrome" which results from the excessive testing of the current EBS system, we recommended that the weekly testing of the new system be done in a silent mode. This could be done by testing the system up to the point of programming override. Because there is a need to maintain some public awareness, and to test the final piece of the system (programming override), we proposed that the "on-air" testing be reduced to monthly, with all participants in an operational area testing simultaneously (to eliminate the "tune out" associated with the current one-at-a-time approach).

Other Areas Of Input

While most of the key points of concern have been discussed here, there are many

other topics which were addressed in the subcommittees filing with the FCC. These include: voluntary versus mandatory participation; suggested features and configuration of the new device; the ability to automatically turn on televisions and radios during an alert; the shortening/elimination of the two-tone signal (to be used as an audible alert only); and the re-naming of EBS to eliminate the use of the word "Broadcast".

WHERE DO WE GO FROM HERE?

This summer, a work group established by the FCC will be conducting tests of some of the potential equipment, protocols, and operational aspects of the proposed new system. Members of our committee will be involved in those tests, as well as in the formulation of recommendations based upon the results.

We will also continue our discussions with potential manufacturers toward the development of low cost alternatives for the hardware requirements. It could be very beneficial for individual operators to also pursue this with their vendor contacts.

In addition to the new national system, each state and operational area has been charged with developing their own local plan to compliment the national system. In many cases, the committees which are formulating these plans are comprised entirely of broadcasters. In some cases, plans have been developed with requirements for cable operators which are difficult, if not impossible, to meet.

The FCC has committed to placing cable representatives as co-chairs on each of these committees (if candidates can be identified). We would strongly urge anyone who is interested to become involved (whether or not as co-chair) in these committees.