

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

**In the Matter of**

Reliability and Continuity of Communications Networks,  
Including Broadband Technologies.

PS Docket No. 11-60

Effects on Broadband Communications Networks of  
Damage or Failure of Network Equipment or Severe Overload

PS Docket No. 10-92

Independent Panel Reviewing the Impact of  
Hurricane Katrina on Communication Networks

EB Docket No. 06-119

**Date: August 1, 2011**

**Comments of**

P. H. Longstaff  
Professor  
David Levidow Professor of Communications Law and Policy  
S.I. Newhouse School of Public Communications  
Syracuse University  
215 University Place  
Syracuse NY 13244-2100  
315 443 3854

I. General comments

- A. I commend the Commission for this endeavor to take a broader look at the issues raised here and to "...consider the ecosystem of relevant factors." (NI at p. 17) American communities are often served by a variety of communications systems that will be called upon in times of crisis. Sometimes they serve different functions and sometimes they can act as back-up for each other. Sometimes they cooperate in their day-to-day operation and sometimes they are fierce competitors. This ecosystem includes print, postal, broadcast, telephone, satellite, and cable systems. It is important to note that it behind the concern for the continuity of communication services is a more basic concern that all people be able to undertake the communications necessary to save themselves and/or

their property. The *functions* necessary to do this can be provided by a variety of technologies. Any efforts the commission can make to enable cooperation in times of crisis would go a long way toward making sure that critical *functions* are available, even if all the *technologies* are not.

- B. It is clear that these issues are not the same in all American communities. Not all communication technologies will be available in all communities. For example, many small communities have lost their broadcast radio service in the last few years, and even if they have a station it will almost certainly not have a local news capability. Some communities may have minority populations who do not speak English or do not trust information from government.
- C. What *is* the same in each community are critical communications that must be available in times of crisis.<sup>i</sup> This will require both point-to-point systems and point-to-multipoint systems. All citizens need to know about the emergency (where, how big, where to escape, etc.) and they need this from a *trusted* source. They also need to be able to contact local authorities if they need help. And they need to be able to contact family and friends both locally and in far-away places. Local authorities can also benefit from communication *from* citizens about damage and dangers that they cannot inspect immediately – allowing citizens to be assets and not just victims. There are a variety of ways that the communication assets of a community could be configured or reconfigured to accomplish these functions. But some advance planning and the ability of communication systems (and people) to work together is critical.
- D. It is not clear that a technology-specific nation-wide mandate by the Commission would help all communities. But a mandate to work with local communities to come up with plans that will make the most effective use of their communication assets in times of crisis would be helpful – and especially helpful if this is part of a larger community plan that involves all critical services (including energy).<sup>ii</sup>

## II. Is this Reliability a Public Good?

- A. It must be noted that the investments in redundant equipment and extra capacity (that may or may not be used) will not be easy in industries that are highly competitive – particularly where the competition is on price and getting all unnecessary costs out of the system is paramount. There is little or no evidence that companies ask consumers to choose them over a competitor because they will offer reliable service in times of crisis. Thus *The Market* may not provide the desired level of reliability.
- B. Is reliable communication service so important in times of crisis that it is a Public Good? Could government keep anyone who did not pay away from the benefits? Can government require an industry to perform Public Goods without any compensation? Should it? Should it pay to have *all* communication services reliable, or just critical services?

### III. Specific comments on the NOI

- A. It may be helpful to define some terms. Word like “resilience” have begun to take on so many meanings that any reviewing court may have a hard time getting a sense for the Commission’s intentions. Generally, a system is said to be *robust* if it will continue to work under a wide range of conditions. It is said to be *resilient* if it will bounce back after it is knocked out. The later would allow for back-up (or *redundant*) systems and/or alternative delivery systems that perform the same function.
- B. It should be noted that any mandate for robust or resilient services *might* have an impact on the regulatory trade-off made many years ago that relieved telecom carriers of liability for consequential damages suffered by their customers. The Commission’s intentions in this regard should be made clear.
- C. There is a current mania for “best practices.” It is a logical goal in situations where everyone is the same – so what works best for one will work that way for everyone else. Unfortunately, this may not be the case in the communication industries. As noted above, the size of the community, the level of competition, and the employed technology may dictate a different practice. And what is best today may be hopelessly inadequate tomorrow. And sharing information about your reliability plans with your competitors might be less than attractive if that were to become a competitive advantage.
- D. Plans for back-up power will clearly make a communication service more reliable. But what about the power available to their customers to receive their services? A cell phone battery will not last forever. Should some of the effort here be aimed at the consumer level to make them more resilient?
- E. Could the system capacity problems be made more tractable if they the signal carriers were allowed to refuse to carry large non-essential uses like music and movie downloads during the crisis? (NOI p. 34)
- F. When considering the dangers of cascading overloads and graceful system recovery (NOI p. 38) it may also useful to consider systems that *degrade gracefully*, that is, do not crash but slow down.

Respectfully submitted,  
Via Internet  
P. H. Longstaff

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<sup>i</sup> Longstaff, P., *Security, Resilience, and Communication in Unpredictable Environments Such As Terrorism, Natural Disasters, and Complex Technology*, Harvard University Program for Information Resources Policy, November 2005.

<sup>ii</sup> Longstaff, Patricia H. et. al., 2010, “Building Resilient Communities: A Preliminary Framework for Assessment.” *Homeland Security Affairs* VI, no. 3 <http://www.hsaj.org/?article=6.3.6>