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Cyren Call and Siren Calls: Spectrum Allocation for Emergency Communications

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Many argue that Washington needs to provide more radio spectrum for emergency service providers such as police and fire departments. Last week, Senator John McCain endorsed an idea put forth by Morgan O'Brien, a wireless industry pioneer and founder of a new company called Cyren Call, to set aside billions of dollars worth of spectrum now used for television for public safety agencies.¹ Certainly, public safety communication capabilities need improvement, but a better solution would be to make more effective use of existing resources. The Federal Communications Commission took an important step in this direction last month when it reformed overly restrictive rules on certain public safety frequencies. That FCC action shows that solutions to America's public safety woes do not necessarily lie in ever more spending and resource allocations but in better use of resources now being wasted.

For decades, the ability of emergency personnel to communicate with one another—whether through the ubiquitous police car radio or a paramedic's walkie-talkie—was taken for granted. Massive communications failures during 9/11 and Hurricane Katrina, however, scuttled this confidence. During both catastrophes, emergency personnel were often unable to get vital information and share it with one other. Moreover, few had access to advanced broadband communications now common in the private sector, which would have allowed them to access real-time data and make voice calls. As a result, the need for improved public safety communications has been recognized across the political spectrum.²

Cyren Call's Proposal. Last summer, a newly formed company called Cyren Call—headed by Nextel founder Morgan O'Brien—proposed that 30 megahertz of radio spectrum be reallocated to public safety users.³ These frequencies are among those currently used for analog UHF television but will be vacated in 2009, when analog TV transmissions are scheduled to end.⁴ Anticipating this change, Congress in 1997 directed the FCC to auction these frequencies—the equivalent of five television channels—for commercial use. That auction is scheduled to take place next year.

Under Cyren Call's plan, 30 megahertz of the 60 megahertz planned for auction would instead be given free of charge to a new "Public Safety Broadband Trust." This trust—apparently to be created by the FCC itself—would represent state, local, and federal public safety users. In turn, the trust would contract with private sector firms to build and operate an advanced broadband network using this spectrum. While the primary users of the system would be public safety agencies, excess capacity would be leased to the private sector operators for commercial use.

This large, undivided block of spectrum would be ideal, proponents of the plan say, for operation

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of an advanced broadband network for police, fire departments, and other public safety users. And the leasing of excess spectrum to private sector firms (perhaps including Cyren Call), would provide a continuous source of revenue for public safety users, all without any appropriations from the U.S. Treasury.

Cyren Call first petitioned the FCC to consider its plan early last year. The FCC, however, dismissed the proposal on the grounds that Congress mandated that these frequencies be allocated to commercial uses. The plan will soon be before Congress. No bill has yet been introduced, but Senator John McCain has stated that he will introduce legislation to set aside the spectrum.

Opportunity Costs. The Cyren Call proposal is not as attractive as it may appear. While no money would be spent directly, the actual cost of the scheme would be titanic. The planned auction of these frequencies is officially projected to raise some \$5 billion for the Treasury. That is a low estimate; private estimates have put possible auction revenues as high as \$14 billion, or around one-fourth of the total homeland security budget.⁵ Under Cyren Call's proposal, these billions would not be available for other national priorities, including public safety itself.⁶

The cost to American consumers could be even larger, as new services, such as advanced mobile telephony and wireless Internet access, are forced to find frequencies elsewhere. This has safety consequences too. Private communications services serve critical safety functions, such as allowing individuals to learn of dangers, call for help, and even be located in time of emergency.

Supporters of the Cyren Call plan argue that—despite these opportunity costs—police and fire departments have an even greater need for the spectrum. But there is no shortage of frequencies set aside for public safety. Some 143 megahertz has already been allocated for such purposes.⁷ This includes 24 megahertz of analog television spectrum already put aside—the single largest transfer of spectrum to emergency services in history.

Make Better Use of Resources. Rather than a shortfall of spectrum, the problem is the inefficient way that it is used. Many public safety users still use clunky, spectrum-inefficient technologies, reducing the use they can get out of allocated frequencies. Moreover, much of the spectrum is fragmented, either lying in non-contiguous chunks or subdivided into narrow channels, pursuant to FCC rules, rather than in larger segments that can be

1. News Brief, *Communications Daily*, February 1, 2007. See also Jerry Brito, "McCain Signs on to Cyren Call Plan," *Techliberation.org*, February 1, 2007, at <http://www.techliberation.com/archives/041981.php>.
2. For a detailed analysis of the issue, see James Jay Carafano, Ph.D., "Talking Through Disasters: The Federal Role in Emergency Communications," Heritage Foundation *Background* No. 1951, July 17, 2006, at www.heritage.org/Research/HomelandDefense/bg1951.cfm.
3. See Cyren Call Communications Corporation, Petition for Rulemaking filed with the Federal Communications Commission, April 27, 2006.
4. For background on the digital television transition, see James L. Gattuso, "Handouts and Takings: Congress and Digital Television," Heritage Foundation *WebMemo* No. 884, October 14, 2005, at www.heritage.org/Research/Regulation/wm884.cfm.
5. See William P. Zarakas and Dorothy Robyn, The Brattle Group, letter to Representatives Joe Barton, John Dingell, Fred Upton, and Ed Markey, May 18, 2005.
6. Responding to criticism on this point, Cyren Call's Morgan O'Brien has offered to pay \$5 billion to the Treasury, to be raised by the sale of bonds. These bonds would be funded by future revenue from the leasing of excess capacity (aided by federal loan guarantees). See Jeffrey H. Birnbaum, "Public Safety and Profit: On the Same Wavelength," *Washington Post*, January 9, 2007, p. A13. However, if auction revenues would exceed \$5 billion—as seems likely—this would still leave a shortfall. If \$5 billion could be paid from the future revenue stream of only the excess capacity, then the value of the entire spectrum allocation would certainly be more.
7. Comments of the Progress and Freedom Foundation to the Federal Communications Commission, In the Matter of Spectrum Needs of Emergency Response Providers, WT Docket No. 05-157, April 28, 2005, p. 3. It should be noted that these frequencies are at different sections of the radio spectrum and, therefore, are not directly comparable. One megahertz at one part of the spectrum may be much more useful than one megahertz at another.

used for broadband communications. Licensing is also fragmented among thousands of local public safety entities, making standardization and interoperability harder to achieve.

Focusing on the 24 megahertz already allocated, the FCC addressed exactly these problems in its December ruling. Following its usual practice, the agency had subdivided the 24-megahertz block into minute slices—four “narrowband” segments and two “wideband” segments. Each of these was, in turn, divided into 120 to 480 channels. Licenses for these frequencies were to be assigned individually to thousands of public safety users.

Under the FCC’s new plan, fully half of this spectrum—12 megahertz—will now be assigned as a single block to a single national licensee.⁸ This plan is similar in many ways to the Cyren Call plan and promises to provide many of the same benefits. The licensee would be a nonprofit entity broadly representing all public safety users and would be free to

subdivide this block as it chooses. And because the license is national in scope and broad in terms of frequency, improvements in interoperability should be easier. The licensee, as in the Cyren Call plan, would be able to lease excess spectrum for commercial use, providing ongoing revenue.⁹ All this would be achieved using already-allocated frequencies, not new ones.

The FCC’s decision is not a cure-all for the problems of public safety communications. But it is an important step, not least because it shows that reform does not necessarily require massive new resources. The most important reforms are those that allow existing resources to be used in smarter and more effective ways. As is often the case, better does not have to mean more.

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8. Federal Communications Commission, Ninth Notice of Proposed Rulemaking, “In the Matter of Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band,” PS Docket No. 06-229, adopted December 20, 2006.
 9. Current rules allow leasing excess capacity only to other public safety users.