

**Before the
UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL TELECOMMUNICATIONS AND INFORMATION
ADMINISTRATION**

Washington, DC

Technical Approaches to Preventing Contraband)
Cell Phone Use in Prisons) Docket No. 100504212-0212-01

**COMMENTS OF
THE BOEING COMPANY**

The Boeing Company (“Boeing”) and its wholly-owned subsidiary Digital Receiver Technology, Inc. (“DRT”) provide the following comments pursuant to the National Telecommunications and Information Administration’s (“NTIA’s”) Notice of Inquiry (“NOI”) regarding contraband cell phone use in prisons.¹ The NOI discusses three categories of technologies that could be used to address the contraband use of cell phones in prisons – jamming, managed access and detection. Although each of these categories of technology could be beneficial in combating the use of contraband cell phones in prisons, each category also has significant limitations.

In contrast, hybrid technologies are available that combine the most effective aspect of each of the three categories described in the NOI while at the same time limiting the impact on legitimate and approved wireless communications. For example, DRT manufactures a line of wireless location and management technologies that emulate a base station to detect and locate wireless handsets of interest in a limited geographic

¹ See Preventing Contraband Cell Phone Use in Prisons, 75 Fed. Reg. 26733 (May 12, 2010).

area. Such devices could provide an effective and unobtrusive solution to the problem of contraband cell phone use in prisons.

NTIA should therefore recommend to Congress that the Communications Act of 1934 be modified to allow prison officials and state and local law enforcement to use appropriate cell phone management, prevention or location technologies. Appropriate Federal Communications Commission (“FCC”) licensing should also apply.

I. EACH OF THE TECHNOLOGICAL METHODS DESCRIBED BY THE NTIA TO ADDRESS THE USE OF CONTRABAND CELL PHONES IN PRISONS HAS DEFICIENCIES

In the NOI, NTIA describes three main categories of technological solutions to combat the problem of cell phone use in prisons – jamming, managed access and detection. Although each category of technologies offers potential benefits in the elimination of contraband cell phones, each type of technology has deficiencies. For example, pure jamming technologies are effective, but imprecise and arguably excessive. The jamming technologies described in the NOI transmit a signal on the same frequencies as the cell phones, blocking their connection to their network’s base station, and therefore prohibiting their use. Jammers are the most effective at protecting against the use of contraband cell phones to place and receive calls. They are not, however, precise instruments because they do not discriminate. They impact contraband and legitimate cell phone communications equally, thus potentially preventing the use of legitimate cell phones during emergencies. Further, jamming devices do not aid in the detection and confiscation of contraband cell phones.

In contrast, detection technologies are unobtrusive to legitimate wireless communications, but they are the least effective in preventing contraband cell phone use.

Detection technologies locate, track and identify cell phones, often by triangulating the cell phone's signal during use. Passive detection technologies impact legitimate wireless communications the least and do not require an FCC license, but these technologies require that the contraband cell phone be in use (*i.e.*, on a call) to locate it. That restriction gives the operators of the detection technologies and prison guards limited opportunities and little time to actually locate the user of the contraband cell phone.

Of the three technologies described in the NOI, managed access technologies are the most effective and precise solution to the problem of contraband cell phone use in prisons. Managed access technologies capture or reroute cell phone calls depending on whether they are made by known users. Managed access technologies, however, do not necessarily locate the user of the contraband cell phone so that the phone can be confiscated and the prisoner appropriately disciplined.

As amplified below, DRT has developed a device that utilizes the positive aspects of each category of technology to be the most effective and precise radio frequency-based solution, without the drawbacks. NTIA should therefore consider a fourth, hybrid category of technologies and the benefits that it can provide for prison security and other law enforcement efforts.

II. HYBRID DETECTION AND LOCATION TECHNOLOGIES COULD BE USED TO EFFECTIVELY AND PRECISELY LOCATE AND CONTROL CONTRABAND CELL PHONES

The most appropriate technological solution to the use of contraband cell phones in prisons should allow prison officials to effectively locate, control and confiscate contraband cell phones with as little impact as possible to legitimate wireless communications in the area. DRT has developed a device that emulates a cellular base

station to attract cell phones for a registration process even when they are not in use. During this registration process calls are not disrupted. All calls, including 911 calls, are released, including those made from the contraband cell phones. The DRT device identifies cell phones as “not of interest” or “of interest” (i.e., the contraband cell phones).

Cell phones not of interest, such as those belonging to prison personnel or commercial users in the area, are returned to their local network. A list of such cell phones can be kept and defined by prison officials for cross-reference.

Cell phones of interest are forced to transmit so that the DRT device can locate them by calculating a line of bearing. In one mode of operation, the DRT device then returns the cell phone to its network, permitting it to send and receive calls. In another mode of operation designed for use by federal law enforcement entities, the cell phone can be locked onto the DRT device, preventing its contraband use.² Whether the cell phone is returned to its network or controlled, the DRT device operator can direct prison officials to the location of the contraband cell phone, and hopefully its user. This system design allows prison officials to effectively locate or control contraband cell phones without impacting legitimate wireless communications in the area of the prison. NTIA should take into consideration the availability of such hybrid detection and managed access devices when making recommendations to Congress regarding appropriate remedies for the problem of contraband cell phones in prisons.

² Only federal entities can currently use devices that jam or block wireless communications. *See infra* Section III.

III. STATE AND LOCAL LAW ENFORCEMENT SHOULD BE PERMITTED TO USE JAMMING TECHNOLOGIES OUTSIDE THE PRISON CONTEXT

The NOI recognizes that technological approaches exist to combat the use of contraband cell phones in prisons.³ In fact, cell phone management, prevention and location technologies could also provide important benefits in a wide variety of law enforcement situations outside the prison context. For example, Special Weapons and Tactics (“SWAT”) teams and other paramilitary tactical units could greatly benefit from the ability to effectively control wireless communications by suspects in a building during a raid. Suspects may use cell phones to signal associates during raids on buildings or call for a getaway vehicle to evade apprehension. In such situations, the use of appropriate cell phone jamming technologies can save lives.

As stated in the NOI, however, “[c]urrently, the operation by non-Federal entities of transmitters designed to jam or block wireless communications violates the Communications Act of 1934, as amended.”⁴ Federal law enforcement entities are exempted and permitted to use wireless jamming technologies in critical situations to protect law enforcement personnel and the general public when apprehending suspects. State and local law enforcement entities are not exempted. The NTIA should recommend that Congress extend the federal exemption to state and local law enforcement so that they can take advantage of the same wireless management, prevention and location technologies as federal entities.

³ See NOI at 26734.

⁴ *Id.*

NTIA and Congress should not be concerned that extending the wireless management exemption to state and local law enforcement may result in wide proliferation of such devices. That is extremely unlikely. The wireless management technologies described herein are not inexpensive and must be operated by highly trained and sophisticated law enforcement personnel, as they currently are by federal entities. Therefore, they are likely only to be procured by large and sophisticated state and local law enforcement entities that are properly equipped to manage and control the operational use of such devices. Further, pursuant to direction from Congress, NTIA and other federal agencies could adopt regulations governing and restricting the use of such devices by state and local authorities.

IV. CONCLUSION

The jamming, managed access and detection categories of technologies described in the NOI could all be beneficial in combating the problem of contraband cell phone use in prisons, but they are all also deficient. Hybrid technologies exist, however, that can address the problem effectively and precisely. For example, DRT's device emulates a cellular base station to cause dormant cell phones to perform a registration with the DRT device. Cell phones not of interest are released. Cell phones of interest are forced to transmit location information to the DRT device operator who can then assist prison personnel to locate the contraband phone and the user. Depending on the DRT device mode used, cell phones of interest can then be returned to their network or locked onto the DRT device, preventing contraband use. Hybrid technology, such as DRT's, could effectively combat the use of contraband cell phones in prisons without impacting legitimate and approved wireless communications in the area.

Like federal entities, however, state and local law enforcement should be permitted to use cell phone management, prevention and location technologies both inside and outside of the prison context to apprehend suspects in the safest and most effective manner without disturbing legitimate wireless communications. Boeing therefore recommends that NTIA provide recommendations to Congress that are consistent with Boeing's proposals herein.

Respectfully submitted,

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