

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

In the Matter of

Service Rules for the 698-746, 747-762 and 777-792 MHz Bands)) WT Docket No. 06-150
Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission’s Rules) WT Docket No.06-169)))
Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band) PS Docket No. 06-229))
Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010) WT Docket No. 96-86)))

**COMMENTS OF THE NATIONAL PUBLIC SAFETY
TELECOMMUNICATIONS COUNCIL**

The National Public Safety Communications Council (NPSTC) submits this response to the Commission’s *Public Notice* requesting comment on the *ex parte* letter submitted by Google, Inc. (Google). Google recommends service rules for the 700 MHz Band spectrum.¹ The Commission should ensure that its decisions addressing Google’s and other similar proposals recognize that public safety and commercial operations in the 700 MHz Band must coexist.

Google requests the Commission to clarify that existing rules governing commercial spectrum in the 700 MHz Band allow licensees to use “dynamic auction

¹ Comment Sought on Google Proposals Regarding Service Rules for 700 MHz Band Spectrum, *Public Notice*, DA 07-2197, WT Docket No. 06-150, Docket 06-169, PS Docket 06-229 and WT Docket No. 96-86 (May 24, 2007).

mechanisms,” such as real-time auctions and per-device registration fees. In Google’s real-time airwaves auction model, a licensee could bestow the right to transmit an amount of power for a unit of time, with the total amount of power in any location being limited to a specified cap. As part of the proposed real-time auction process, the communications device itself could become key to the payment process. A consumer’s price to purchase a device could include an airwaves registration fee that would grant the ability to gain unlimited use at a specified power level.

Google also requests that the Commission examine whether to mandate such techniques for some or all of the commercial spectrum to be auctioned in the 700 MHz bands. Google presents a proposal that particular channels in the 700 MHz band be primarily or exclusively designated for the deployment of broadband communications platforms. Google recommends that these channels be used for interactive, two-way broadband services, be connected to the public Internet and be used to support innovative software-based applications, services, and devices.

Google advocates that modern spectrum sensing technologies enabled by low cost computers in communications devices can restore the spectrum to efficient use. It states that a flexible, marketplace driven spectrum regime responsive to economic signals should be at the forefront of federal spectrum policy. Many of the concepts promoted by Google are embraced by Frontline Wireless, LLC (Frontline) in its proposal to establish a 10 MHz E Block in the 700 MHz band.

As NPSTC noted in its Reply Comments to the recent *Further Notice of Proposed Rulemaking (Further Notice)* the economic viability of Frontline’s E Block proposal, which encompasses a commitment to deploy and maintain a broadband network for the

public safety segment in the 700 MHz band, is important.² NPSTC's concern and caution regarding Google's and Frontline's recommendations center on how these commercial operations affect public safety operations. These concerns extend to the designated 700 MHz public safety channels and the priority access afforded public safety under the Frontline proposal. Adjacent public safety operations must be protected; the priority access proposal cannot be subject to conditions or confusion.

NPSTC's concerns do not relate to commercial operations that have no effect on 700 MHz public safety communications. Yet, what is missing from the Google *ex parte* letter is that the 700 MHz band involves two different services, public safety and commercial. Google's advocacy of innovative concepts promoting more efficient spectrum management must be tempered by a reality, and a responsibility, of differences between these two services and the fundamental principle that licensees and users must seek to coexist. Google proposals must cause no encroachment to public safety use of the 700 MHz band.

NPSTC is especially concerned about the Google proposal as it relates to the potential 10 megahertz of spectrum that would be provided to public safety under the Frontline proposal. If the Commission embraces the concept of 10 megahertz for public safety services, then deployment of Google devices in that band would be of serious concern. While deployment of cognitive devices in a purely commercial segment would likely have no effect on public safety, deployment in a portion of the spectrum shared by public safety would be of great concern. Any malfunction or lack of ability to allow public safety preemptive use of the spectrum could jeopardize the safety of life and

² NPSTC Reply Comment at 6, the *Further Notice* addresses WT Docket No. 06-150, CC Docket No. 94-102, WT Docket No. 01-309, WT Docket No. 03-264, WT Docket 06-169, PS Docket 06-229 and WT Docket No. 96-86, FCC 07-72 (April 27, 2007).

property. This would be an unacceptable situation. If the Commission accepts the Frontline and Google proposals, NPSTC recommends that the Google-type devices not be allowed in the 10 megahertz designated for public safety systems.

Google's emphasis on spectrum sensing technologies ignores public safety standards. The public safety service is not an experimental environment. While maturing as a commercial service, its embrace by the public safety sector awaits further experience. NPSTC actively participates in the Software Defined Radio (SDR) Forum. An international non-profit, the SDR Forum is the world's leading organizations dealing with SDR and Cognitive technologies in a number of different market spaces, both commercial and government. Google's proposal clearly embraces concepts from both of these technologies. As noted by the SDR Forum in its filing earlier this year on this same topic:

“The SDR Forum believes that the Public Safety community will embrace Cognitive Radio technology as it becomes proven and available. Cognitive Radio technology must be demonstrably proven not to adversely impact Public Safety mission critical communications before it becomes operational, in keeping with the high standards of robustness, reliability and interference protection required.”

“The SDR Forum recommends caution in deployment of new technology to ensure a smooth introduction. Initial application of Cognitive Radio technology should take place under controlled conditions in geography and spectrum where critical usage is low in order to minimize the probability of problems. Successful experience will reinforce the feasibility and practicality of this technology, make clear the advantages it brings, and demonstrate the level of reliability needed for use in mission critical operations.”³

While NPSTC supports the viability of these technologies, we agree with the SDR Forum that none of them yet approach public safety standards. Public safety, in contrast to commercial systems requires technology and applications of proven field reliability.

³ SDR Forum Comments to 9th Notice of Proposed Rulemaking, pp 6-7, WT Docket 96-86 and PS Docket 06-229 (February 23, 2007).

Planning, testing and field experience must emerge prior to deployment commitments. A communications failure presents too large a risk to citizens and emergency service responders.

The market driven direction Google fervently embraces does not capture the standard by which emergency response is judged, that of dispatching the proper resources as expeditiously as possible. Emergency response is measured by neither revenues nor return on capital. If technologies and applications are to coexist with other services, each must accommodate, not ignore, the other. Google's proposals need to acknowledge and demonstrate this capability.

NPSTC urges the Commission to make clear in its decisions that operations in the 700 MHz band must preserve the integrity of public safety communications. Federal spectrum management has evolved to a more market-oriented direction, yet the Communications Act of 1934 has not changed in the priority and protection it insists be accorded public safety communications.

Respectfully submitted,

Vincent R. Stile

Vincent R. Stile, Chair
NATIONAL PUBLIC SAFETY
TELECOMMUNICATIONS COUNCIL
8191 Southpark Lane, Number 205
Littleton, Colorado 80120-4641
866-807-4755

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