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



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| In the Matter of | ) | |
| | ) | |
| Petition for Rulemaking to permit access to | ) | RM |
| the Business Industrial Radio Service | ) | |
| Frequency Pool for Governmental Survey | ) | |
| Operations | ) | |

To the Secretary of the Federal Communications Commission:

**PETITION for RULEMAKING of**
**THE NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL**

The National Public Safety Telecommunications Council (NPSTC) submits this Petition for Rulemaking to allow government surveying operations to use frequencies in the Industrial/Business Service. This amendment to the Commission's rules will permit state and local government to use modern survey technology and equipment that is otherwise unavailable.

**The National Public Safety Telecommunications Council**

NPSTC serves as a resource and advocate for public safety organizations in the United States on matters relating to public safety communications. NPSTC is a federation of public safety organizations dedicated to encourage and facilitate through a collective voice the implementation of the Public Safety Wireless Committee (PSWAC) and the 700 MHz Public Safety National Coordination Committee (NCC) recommendations. NPSTC explores technologies and public policies involving public safety agencies, analyzes the ramifications of particular issues, and submits comments to governmental bodies with the objective of furthering public safety communications worldwide. NPSTC serves as a standing forum for the exchange of ideas and information

for effective public safety telecommunications. The following thirteen organizations participate in NPSTC:

American Association of State Highway and Transportation Officials

American Radio Relay League

American Red Cross

Association of Fish and Wildlife Agencies

Association of Public-Safety Communications Officials-International

Forestry Conservation Communications Association

International Association of Chiefs of Police

International Association of Emergency Managers

International Association of Fire Chiefs

International Municipal Signal Association

National Association of State Emergency Medical Services Officials

National Association of State Telecommunications Directors

National Association of State Foresters

Several federal agencies are liaison members of NPSTC. These include the Department of Agriculture, Department of Homeland Security (SAFECOM Program and the Federal Emergency Management Agency), Department of Commerce (National Telecommunications and Information Administration), Department of the Interior and the Department of Justice (National Institute of Justice, Communications Technology (CommTech)).

**Government Surveyors Need Access to Frequencies That Support Modern Technology**

State and local agencies have enormous responsibility in land planning, highway and building construction, flood control, conservation, infrastructure repair and a range of other areas where modern surveying capability is critical. Significant advances in precision, efficiency and in surveying larger and more remote areas have emanated from technology built around the Global Positioning System (GPS). By delivering these capabilities GPS Real Time Kinematics (RTK) survey systems have emerged as a vital tool for any surveyor. These improvements are an example of the continuing innovation pervading telecommunications.

GPS technology uses the constellation of the highly specialized satellites that provide location and direction information, overcoming the logistical constraints inherent in a traditional land-based surveying systems. GPS RTK enables crews to survey between control points even on opposite sides of a mountain without having to traverse or even see the other point. Since one person can conduct an RTK survey, overall costs are reduced while precision increased.

RTK's general operating concept is to use a GPS receiver equipped with a wireless transmitter. This transmitter sends correction signals in real time to rover units that can be as far away as 24 Km from the master station. The key element in any RTK system is this data communications link that uses the radio spectrum to transmit reliably the correction factor data throughout the site of a survey. For GPS RTK to work effectively, surveyors need a wireless data link that works every time and has sufficient

range to cover a wide variety of applications. The typical data link system includes radio transmitters and receivers, tuned to particular UHF or VHF channels, antennas, cables, and batteries to power the system since all work can now be performed in the field. The market provides several fully integrated radio solutions and varied price ranges.

When information is obtained, it is stored in data collectors with real-time coordinates, thereby reducing data processing times. Once the data gathering process is complete, the information is downloaded from the receivers to computers, then processed into a number of coordinate formats, such as Geodetic (latitude and longitude in feet or meters), state plane coordinate systems, or a local grid system, before saving the data in various file types. These coordinate files can then be entered into any coordinate geometry program.[1]

While part of one system, these radio data links using UHF or VHF channels are separate from and independent of the GPS network. The radio data links are used to survey larger areas more quickly with greater precision. The data links allow location determinations, previously performed manually to be transmitted immediately and calibrated with other locations. Replacing the need of the surveyor to move constantly from one spot to another and having to then calculate the interim coordinates, GPS RTK technology presents an enormous advance in accuracy and speed. RTK technology can produce highly accurate data in areas presenting substantial challenge such as areas with minimal cover or overhead vegetation. It is frequently used for wetland locations to

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[1] See the websites of Pacific Crest Corporation, www.Paccrst.com, KCI Technologies, www.KCI.com/tech, and Trimble Navigation Limited, www.Trimble.com.

minimize disturbance to the environment caused by clearing lines for conventional surveys.[2] It allows one person to operate the system.

**The Challenge to Government Employed Surveyors**

Surveyors employed by government agencies perform the same functions as do surveyors employed by private entities. They need the same equipment, have the same requirements for accurate measurements, and work in the same geographic areas. Their equipment requirements are those of privately-employed surveyors. Surveyors employed by government agencies represent a small portion of the market providing surveying technology, equipment and services. There is no separate market devoted to the government sector.

Manufacturers of land surveying equipment design their products to serve the needs of the larger marketplace, private sector surveyors. The systems' radio equipment providing the needed data links transmit on UHF and VHF channels designated as "itinerant" under the Commission's rules in the Industrial/Business Service.[3] Embedding these channels in a unit's radio is reasonable. These frequencies are intended for operation at temporary locations for limited periods of time and for which the area of operation could change frequently (daily or even hourly). The channels are specifically reserved for these types of usage. The challenge for government surveyors is that private

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[2] See www.kci.com/tech/surveying.html

[3] Section 90.35(c)(17) of the Commission's rules. The frequencies include 43.04 MHz, 151.5050 MHz, 151.5125 MHz, 158.4000 MHz, 158.4075 MHz, 451.8000 MHz, 451.80625 MHz, 451.8125 MHz, 451.81875 MHz, 456.8000 MHz, 456.80625 MHz, 456.8125 MHz, 456.81875 MHz.

sector surveyors are eligible to be licensed on these channels; government agencies are not.

It is technically feasible for government radio equipment to be adjusted to frequencies authorized under the Public Safety Pool. Yet such an alternative is neither practical nor cost effective. It denies government agencies the innovation and efficiencies the market has produced with regard to modern surveying equipment. It imposes an enormous cost on public agencies that will stifle if not deny the technology to the public sector.

Additionally, no channels within the Public Safety Pool have similar operational characteristics to the itinerant channels of the Industrial/Business Pool under Note 17 of Section 90.35(c). These Industrial/Business frequencies comport with the capabilities of the GPS RTK survey technology. The investment and design of this equipment was built around the character of these channels.

The result is that government agencies with surveying responsibilities cannot use modern technology as the equipment is embedded with radios for which only authorized users in the Industrial/Business Pool are eligible. Without a waiver, government agencies are precluded from being licensed in the Industrial/Business Service. The breadth of government surveying operations and the lengthy and expensive process a waiver entails bars government surveyors from acquiring this technology. NPSTC recommends that the Commission amend its rules to permit government surveying activities to be authorized to conduct operations on the itinerant channels in the Industrial/Business Service.

**NPSTC's Proposed Amendment to the Commission's Rules**

Section 90.35(c) (17) is amended to state: This frequency will be assigned only to stations used in itinerant operations. A station operated by an entity eligible under Section 90.20 may be assigned a frequency for purposes of carrying out geographic survey operations.

Section 90.20(c) (3), the Table of Allotments for Public Safety Pool frequencies, is amended to enumerate that the itinerant frequencies of the Industrial Business Pool may be assigned to an eligible entity for purposes of carrying out geographic survey operations and a paragraph shall be inserted in section 90.20(d) explaining the assignment.

**Conclusion**

NPSTC respectfully requests that the Commission commence the process to initiate a Notice of Proposed Rulemaking to obtain a record to permit government surveyors the benefit of modern technology. NPSTC recommends that state and local government agencies be eligible to hold licenses in the Business/Industrial Frequency Pool for purposes of carrying our survey operations.

Respectfully submitted,

*Vincent R. Stile*

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