

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of)	
)	
Amendment of Sections 90.20(d)(34) and 90.265 of the Commission’s Rules to Facilitate the Use of Vehicular Repeater Units)	PS Docket No. 13-229
)	

**REPLY COMMENTS
OF THE
AMERICAN PETROLEUM INSTITUTE**

The Telecommunications Subcommittee of the American Petroleum Institute (“API”) is pleased to submit these Reply Comments in response to the Commission’s Notice of Proposed Rulemaking (“NPRM”) regarding the use of Vehicular Repeater System (“VRS”) units on the 173.2375, 173.2625, 173.2875, 173.3125, 173.3375, and 173.3625 MHz telemetry channels (“173 MHz Band”).¹ API opposes the proposed rule change. Permitting two incompatible technologies, both of which are used for mission critical purposes, is not appropriate. Other options to accommodate VRS should be explored.

I. Background

API is a national trade association representing more than 400 companies involved in all phases of the petroleum and natural gas industries, including exploration, production, refining, marketing and transportation of petroleum, petroleum products and natural gas. Among its many activities, API acts on behalf of its members before federal and state regulatory agencies. The API Telecommunications Subcommittee evaluates and develops responses to state and federal proposals affecting telecommunications facilities used in the oil and gas industries.

¹ Amendment of Sections 90.20(d)(34) and 90.265 of the Commission’s Rules to Facilitate the Use of Vehicular Repeater Units, Notice of Proposed Rulemaking, PS Docket No. 13-229, FCC 13-121 (Rel. Sept. 16, 2013).

API's members make use of a wide variety of wireline, wireless and satellite communications services on both a private and commercial basis and are authorized by the Commission to operate facilities in the Private Land Mobile Radio ("PLMR") service and Private Operational-Fixed Microwave Services ("POFS"), among other telecommunications systems.

API's members utilize PLMR systems, for example, to support the exploration and production of oil and natural gas, to ensure the safe pipeline transmission of natural gas, crude oil and refined petroleum products, to process and refine these energy sources and to facilitate their ultimate delivery to industrial, commercial and residential customers. The 173 MHz band fixed channels are used by API member companies for telemetry, remote monitoring and control, and alarm functions.

II. The Rules Should Not be Changed to Authorize VRS Operations on Telemetry Channels

API does not dispute that VRS operations are of great importance to Public Safety. A number of Comments have been filed reflecting examples of instances in which Public Safety users have encountered difficulty obtaining spectrum suitable for VRS operations. API does not believe, however, that the record supports a rule change to allow regular licensing for mobile voice operations on the 173 MHz Band telemetry channels.

API is concerned that no information has been provided regarding how two incompatible technologies will exist in the same band without causing interference to each other. The other comments in this proceeding reflect that those concerns are widely shared. The National Public Safety Telecommunications Council ("NPSTC") recommends that "engineering analysis and/or sample frequency coordination be conducted to ensure vehicular repeater use and telemetry operations in the band can co-exist compatibly without interference prior to finalizing any

decision.”² The Enterprise Wireless Alliance (“EWA”) states that “more analysis needs to be performed to determine the risk of interference to incumbent telemetry systems from VRS operations.”³ The Utilities Telecom Council (“UTC”) states that “VRS voice operations are incompatible with data operations on the six telemetry channels.”⁴ The Commission itself recently held that the operation of VRS units for voice communications is incompatible with remote control and telemetry operations in the 173 MHz band.⁵

Apart from four channels in the 154 MHz band, the 173 MHz band telemetry channels are the only site-based VHF band options available to critical infrastructure licensees for primary fixed data use.⁶ Pyramid Communications, Inc. (“Pyramid”) asserts in its Petition for Rulemaking that, similarly, “there is no dedicated spectrum for VRS use.”⁷ Attempting to resolve this dual scarcity, however, by allowing two incompatible technologies to share the same band would be a particularly poor outcome.

A. Frequency Coordination is Unlikely to Satisfactorily Address the Issue

Frequency coordination generally does not grant licensees exclusivity. Instead, recognizing that land mobile spectrum is a shared resource, coordination attempts to provide applicants with the option least likely to result in interference to, and from, other users. API does

² Comments of NPSTC at 1.

³ Comments of EWA at 3.

⁴ Comments of UTC at 8. *See also*, Comments of Edison Electric Institute at 3 (“mixing data and voice on the channels, is likely to lead to interference”).

⁵ Wayne County Sheriff Department, DA 12-1163, released July 19, 2012.

⁶ The NPRM states that API “contends that critical infrastructure industry entities have greater need than VRS for additional spectrum.” NPRM at 6. This misconstrues API’s comments, which are intended only to assert that it is inappropriate for the FCC to reallocate spectrum currently used by critical infrastructure, without first exploring CII spectrum requirements and whether those requirements are being met.

⁷ Modification of Sections 90.20(d)(24) [sic] and 90.65 [sic] of the Commission's Rules to Facilitate the Use of Vehicular Repeater Units, Petition for Rule Making of Pyramid Communications, Inc. (filed June 27, 2011) at 3.

not believe that frequency coordination alone will allow VRS and telemetry users to satisfactorily share the 173 MHz band.

Fixed data systems typically operate on a 24/7 basis and are not designed to avoid interference to Public Safety voice radios. Unlike voice systems, a live person does not actively listen to transmissions received by telemetry radios. In addition, the Commission's rules provide that telemetry radios need not transmit station identification.⁸ As a result it will be difficult to mitigate interference from telemetry systems to Public Safety VRS units on the timeframe that would be required during Public Safety incident response.

The reverse is also true. Once deployed in a vehicle, VRS units are itinerant and may travel as needed throughout an entire city, county, state – or even beyond. There is a high likelihood for interference to telemetry systems, many of which are used to protect safety of life, property and the environment.

Because VRS and telemetry operations are incompatible, shared use of the band will lead to interference without additional protections. Although there are additional tools that are sometimes used in the frequency coordination paradigm to allow incompatible technologies to co-exist, these are not reasonable options in this case as explained below.

1. Secondary Status

Previously, when the Commission has authorized Public Safety VRS operations in the 173 MHz band it has done so on the condition that such users are secondary to telemetry operations.⁹ This may be appropriate on a case-by-case basis, but it is not good policy to adopt a rule change to require widespread secondary licensing of critical Public Safety systems.

⁸ 47 C.F.R. Section 90.425(d)(3).

⁹ See Wayne County Sheriff Department, DA 12-1163, released July 19, 2012.

2. Exclusion Zones/Exclusivity

The Commission asks whether to establish exclusion zones to protect telemetry operations from VRS. Exclusion zones, or granting incumbent licensees exclusive status, do not address expansion by current telemetry users or licensing of new systems by future users.¹⁰ Pyramid, a single manufacturer, states that it has sold 40,000 VRS units. According to ULS, certain VRS applicants have sought authority for all 173 MHz telemetry channels in a given area.¹¹ API is extremely concerned that if the 173 MHz band is opened to Public Safety VRS for regular licensing, Public Safety users who would otherwise initially look to other options for VRS, will quickly occupy the 173 MHz band and preclude future telemetry uses.¹²

B. Other, More Favorable, Options Exist to Accommodate VRS

The Commission quotes Pyramid as stating that additional spectrum is required for VRS use because of the limited spectral separation and heavy use by existing base/mobile licensees have resulted in the 150-159 MHz band being unsuitable for VRS.¹³ While undoubtedly true as a general statement, the number of *specific* cases in which current options cannot satisfy VRS requirements is not clear from the record.

The Commission's Universal Licensing System reflects hundreds of public safety VHF licenses operating with the station class MO3 in the 150-159 MHz band. As previously stated, API appreciates that congestion in the VHF band can be severe. Regardless, in many areas, licensees clearly are able to use VRS units in the 150-159 MHz band or deploy cross-banded mobile repeaters.

¹⁰ ULS currently reflects more than 3,000 active licenses for the 173 MHz band telemetry channels.

¹¹ See ULS File No. 0005883249.

¹² API opposes the Commission opening the 173 MHz band to B/ILT VRS use as well.

¹³ NPRM at 9.

API does not doubt that in many areas congestion is such that VRS operations are not available in the 150-159 MHz band because it is not possible to achieve the required frequency separation. The record in this proceeding, however, contains no information as to specific locations experiencing the problem. For example, Pyramid states that in Wyoming there is one telemetry licensed user on 173.3625 MHz.¹⁴ However, it does not necessarily follow that the 150-159 MHz band is so encumbered for *every* licensee in *all* parts of Wyoming that the 173 MHz band needs to be available to *all* VRS applicants throughout that state. To the extent that Public Safety licensees need to make use of 173 MHz band channels for VRS, such requests are more properly addressed on a case-by case basis through the waiver process.

However, it appears that only a limited number of waiver requests have ever been submitted by Public Safety users to operate VRS on B/ILT channels. According to ULS, only a small subset of those applications requested authority for operations on 173 MHz band telemetry channels. Disposition of those applications has varied widely. The Commission has dismissed applications in which it appeared that channels in the 150-159 MHz band may have been available.¹⁵ In some instances, nearby B/ILT licensees or other entities have expressed concerns or asked that conditions be placed on the VRS applicant.¹⁶ Other applications have been granted without significant, if any, opposition from B/ILT users.¹⁷ Allocating the 173 MHz band telemetry channels for VRS use is not a proper “one size fits all” solution to the issue.

Pyramid states that “neither API nor UTC have ever pointed to alternative spectrum for the public safety user’s need.”¹⁸ But the record in this proceeding includes many examples of

¹⁴ Comments of Pyramid at note 8.

¹⁵ See ULS File No. 0002242433.

¹⁶ See e.g., ULS File Nos. 0005883249, 0005778484.

¹⁷ See ULS File No. 0003061539.

¹⁸ Comments of Pyramid at 5.

Public Safety operating VRS through currently available processes as described above. Indeed, even the Commission precedent Pyramid cites in its own Comments reflects that Public Safety licensees have successfully deployed VRS either by using cross-banded VRS units¹⁹ or by availing themselves of the Commission's waiver process.²⁰

API is concerned that modifying the rules at the request of a single VRS manufacturer to allow 173 MHz operations for all VRS licensees creates an incentive for Public Safety licensees to abandon options that have worked to this point, whether those options are in the 150-159 MHz band, are cross-banded repeaters, or the Commission's waiver process. Where frequencies are not available in the 150-159 MHz band or cross-banded VRS equipment is not practical, API is not opposed to allowing case-by-case consideration of Public Safety requests to access spectrum above 159 MHz for VRS. API does oppose allocating the very limited 173 MHz band telemetry channel resource as effectively the first option to incompatible VRS equipment.

III. The Commission Should Consider Other Options to Increase the Use of the 173 MHz Band by Critical Infrastructure.

Operations on VHF telemetry channels are limited by several outdated rule restrictions that reduce the usefulness of the band.

Licensees are limited to very narrow bandwidths of 3 and 6 kHz.²¹ Operational fixed stations must employ directional antennas having a front-to-back ratio of at least 20 dB and omni-directional antennas having unity gain may only be used if a station communicates with at least three receiving locations separated by 160 degree of azimuth.²² On many channels, fixed station maximum effective radiated power is limited to 20 watts and antenna height may not

¹⁹ Iowa Department of Public Safety, DA 12-1981 (2012) (stating that VRS units used by the applicant “[convert] the portable UHF signal to mobile VHF”).

²⁰ County of Sandoval, New Mexico, DA 13-1926 (Rel. Sept. 18, 2013).

²¹ 47 C.F.R. § 90.35, notes 39, 54.

²² 47 C.F.R. § 90.35, note 41.

exceed 15.24 meters (50 ft.) above the ground.²³ These rules were adopted decades ago, prior to narrowbanding, to mitigate the likelihood of interference to adjacent licensees.

API's members increasingly are seeking to deploy machine-to-machine technology to make use of next generation applications that will increase efficiency, effectiveness and safety in the energy industry. These radios rely on IP transport to control smarter machines in the field used for monitoring, control, and leak detection and for advanced remote access to equipment for maintenance and troubleshooting. As API explained in its previous Comments regarding Pyramid's Petition for Rulemaking, the spectrum tools necessary to make use of this equipment are largely lacking.

To the extent that part of the reason for the Commission's proposal to reallocate the 173 MHz band is to encourage additional use of the band, API believes that use of the band by telemetry users would significantly increase were the Commission to relax decades old outdated technical restrictions.

²³ 47 C.F.R. § 90.35, note 42.

