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

In the Matter of	)	
	)	
Enterprise Wireless Alliance and Pacific DataVision, Inc. Petition for Rulemaking Regarding Realignment of 900 MHz Spectrum	))))	RM -11738

To: The Wireless Telecommunications Bureau

COMMENTS OF
THE AMERICAN PETROLEUM INSTITUTE

The Telecommunications Subcommittee of the American Petroleum Institute ("API") hereby submits its Comments in response to the Commission's Public Notice regarding the Supplement to the Petition for Rulemaking ("Petition") filed by the Enterprise Wireless Alliance ("EWA") and Pacific DataVision ("PDV") (together "Petitioners") proposing realignment of the 896-901/935-940 MHz band ("900 MHz Band").[1] As described herein, the proposed rules submitted by the Petitioners begin to address some of the issues raised by API in its Comments but require substantial modification as well as additional technical support.

Most importantly, the Commission must evaluate the practicability of Petitioners' plan and determine whether it actually benefits critical infrastructure ("CII") users as promised before moving forward with a Notice of Proposed Rulemaking ("NPRM"). Before proposing to reallocate a heavily utilized band and authorize a Private Enterprise Broadband ("PEBB") licensee as overseer of broadband applications by oil and gas companies and other CII entities,

[1] *See* Wireless Telecommunications Bureau Seeks Comment On Supplement To Enterprise Wireless Alliance and Pacific DataVision, Inc. Petition for Rulemaking Regarding Realignment of 900 MHz Spectrum, *Public Notice*, RM-11738 (May 13, 2015).

the Commission must ensure the CII industry as a whole (and not just a single PEBB licensee) will substantially benefit from it.

I. The Commission Must Ensure that Petitioners' Proposal Will Benefit Critical Infrastructure Users

API previously filed Comments in this proceeding stating that a commercial LTE service offering priority to CII users may be a useful tool for satisfying certain oil and gas industry communications requirements. API noted, however, that two-way voice operations in the 900 MHz band are some of the most critical of applications employed by API members, and include voice systems that literally are the lifeline for workers at refineries, chemical plants, exploration and production fields, and along pipelines.

API made clear it did not support moving forward with a NPRM at the time due to unanswered questions regarding the potential creation of a PEBB allocation. The proposed rules submitted by the Petitioners begin to fill in some of the details of the plan but critical issues remain unaddressed.

API requested Petitioners' ensure the proposed realignment of the band is practicable and would not result in a substantial increase in congestion or a partially retuned band that negatively impacts the viability of 900 MHz land mobile operations. To that end, API suggested the PEBB licensee be required to provide specific technical documentation and a relocation plan illustrating that 1:1 replacement of channels, without a reduction in modulation, is practicable and achievable. API also requested that Petitioners provide reasonable business projections regarding the time and financial costs associated with the relocation of incumbent systems to Comparable Facilities, and that they demonstrate how critical trunked systems will not be taken out of service during relocation of the control channel.

Petitioners acknowledged in their Reply Comments that "some markets will be challenging" but stated that "no market can have a definitive replacement frequency analysis until more information is available about actual system deployment and the preference of incumbents to migrate to broadband is quantified."[2] No further details were provided and the mechanics for such an analysis were not included in the proposed rules.

A conclusive demonstration that the Petitioners' plan is practicable and achievable and will benefit CII must be made as a threshold matter before moving forward with an NPRM. Without it, an NPRM is grossly premature.

II. The Proposed PEBB Rules Require Substantial Revision.

On May 3, 2015, Petitioners supplemented their Petition for Rulemaking by providing proposed rules. As the filing notes, API met with the Petitioners beforehand to discuss a draft of the proposed rules but does not support moving forward with an NPRM at this time. As described below, several changes are needed for certain rules and additional information is required for others.

1. Section 90.635(c) – Limitations on Power and Antenna Height

Petitioners propose power and antenna height limits for operations in the 898-901/937-940 MHz band, but do not provide any justification for why these limits are appropriate. Petitioners also associate the proposed power limit reductions at heights greater than 305 meters above average terrain with the same antenna height limits applicable to narrowband systems without explanation. These proposed limits may be acceptable but because no explanation has been provided API is unable to determine how Petitioners arrived at these values. Petitioners should provide additional detail, including a description of the typical deployment and coverage

[2] Reply Comments of Petitioners at 12.

using these power and antenna height limits, particularly in rural areas where many API members operate.

In addition, Petitioners propose a maximum ERP for mobile and portable subscriber units, but not for fixed remote units in the 898-901 MHz portion of the band. Because LTE does not currently support voice communications that meet mission critical requirements, API anticipates that, at least initially, any PEBB service would be used predominantly for fixed point-to-multipoint applications. It is not clear whether Petitioners are proposing to treat fixed remote units in the 898-901 MHz portion of the band as mobile units or whether Petitioners do not envision offering a point-to-multipoint service. This should be clarified.

From a clerical perspective, it would appear that power and antenna height limits applicable to the PEBB licensee should be in Subpart AA and not Subpart S of Part 90. Also, it appears the ERP limits in Petitioners' proposed Table 1 and Table 2 should be described as "ERP/MHz" as opposed to total ERP as is currently implied in Petitioners' proposed rules.

2. Section 90.1405 – Licensing of the 898-901/937-940 MHz Band

Petitioners' proposed licensing rules omit key aspects that are common to other wireless radio service rules.

Most importantly, the proposed rules do not describe the construction requirements applicable to the PEBB license. API appreciates that PDV is proposing a novel service, but licensees should not be able to warehouse licenses indefinitely. API suggests a requirement that the PEBB licensee demonstrate that it provides substantial service on a license-by-license basis within ten years of license grant. To the extent the PEBB licensee has some minimal construction but does not meet the requirements of substantial service, the FCC should require the PEBB licensee to return the unused portions of its license to the Commission.

The PEBB license should not be subject to automatic termination for permanent discontinuance during the initial construction period in the event the licensee discontinues SMR operations to transition to LTE service, but the permanent discontinuance rules should apply after the first substantial service deadline has passed.

Petitioners' proposed rules do not address the procedure for relicensing if the PEBB license is cancelled or terminated. API proposes that any spectrum from the PEBB allocation that is returned to the Commission should be available to CII entities for site-based licensing subject to a frequency coordination requirement similar to other Part 90 services.

Also, the proposed rules do not clearly require that the PEBB will offer a broadband service, instead referring to the PEBB license as comprised of 240 channels. The rules do not specify whether the PEBB licensee will be required to turn in only MTA licenses in order to receive the PEBB license, or whether it will also return site-based licenses that it may hold. API notes that PDV has described its available spectrum holdings to reflect both site-based and MTA licenses.

3. *Section 90.1409(c) – Realignment Agreements Between the PEBB Licensee and Incumbent Licensees*

Petitioners propose that an incumbent licensee may initiate mediation if it believes the PEBB realignment proposal will not provide it with comparable facilities and/or does not address all costs reasonably associated with realignment. Petitioners propose that the mediator be selected from persons designated by API, UTC, and EWA. API strongly believes that any mediator selected to resolve realignment disputes must be neutral.

API would have an inherent conflict serving as, or designating, a mediator for realignment issues involving its members. API will not agree to serve as, or designate, a mediator for the purpose of resolving disputes. Any organization that has FCC licensees as

members likely will be faced with a similar conflict. Thus, API strongly believes the Commission should select a neutral third party to resolve such disputes.

4. Section 90.1413) – Reimbursement of Retuning Costs

A critical component of Petitoners' plan is that the PEBB licensee be required to compensate the incumbent licensee for all external and internal costs of retuning, including staff time, project management fees, and costs associated with coordinating the relocation. Petitioners propose that the PEBB licensee's obligations to pay any increase in the operating costs of narrowband users subject to realignment should terminate at the end of a five year period following retuning of the incumbent's system. This period is too short and would require the incumbent to bear an inequitable amount of the costs associated with the PEBB licensee's deployment.

API recommends instead that the PEBB licensee pay any increased operating costs incurred by the narrowband licensee as a result of retuning during the life of the retuned system. As an alternative, the PEBB licensee should be able to elect to make an upfront payment to the incumbent licensee of a lump sum equal to the net present value of 15 years of operating cost increases. This seems especially appropriate in light of the significant benefit the PEBB will receive, unlike 800 MHz rebanding efforts, which was to resolve a public safety issue.

5. Section 90.1413(c)(2) – Reimbursement of Retuning Costs

Petitioners propose that in the event the PEBB licensee is not able to provide a replacement system to an incumbent licensee, the incumbent licensee shall be permitted to remain in the 898-901/937-940 MHz band and receive "appropriate interference protection" from PEBB licensee operations. What constitutes an "appropriate interference protection," however, is undefined. This is a key issue for parties remaining in the PEBB portion of the band

and in fairness must be defined with clarity before the Commission proposes to reallocate these frequencies.

In addition, Petitioners' proposed rules do not provide interference protections for co-channel licensees in other MTAs. This could be in the form of a border area signal strength limitation while a separate mileage-based or contour-based distance separation could be provided for co-channel systems operating within the shared MTA.

6. *Section 90.1415(a)(4) – Broadband Systems Requested by CII or Other PE Entities; Priority Access for CII Entities*

Petitioners' proposed Section 90.1415(a)(4) provides that an entity entering into a broadband system contract with a PEBB licensee will not be subject to the Priority Access requirements of Section 90.1415(b). The intent of this section is unclear. The PEBB should not be able to circumvent the Priority Access requirement of Section 90.1415 by using an intermediary agent or spectrum lessee. To the extent end users wish to enter into sharing arrangements and other *bona fide* agreements to make cooperative use of a PEBB system, API agrees that such parties should not be required to stand in the PEBB's shoes and offer Priority Access arrangements. But otherwise, any entity that enters into an agreement with the PEBB licensee and then seeks to sell, directly or indirectly, on a commercial basis PEBB services should be required to adhere to the Priority Access requirements.

Additionally, the terms and conditions of the broadband system contracts generally are unknown at this point. Other than the PEBB licensee taking all "reasonable, practicable, and financially viable actions," the scope and terms of any contract are "wholly within the discretion and control of the negotiating parties." Notably, although there is a requirement to provide Priority Access to CII entities upon request, there is no requirement in the proposed rules regarding whether the PEBB licensee may charge a premium for such access. Also, the level of

throughput that PEBB licensee must maintain under the definition of Priority Access is not defined.

"Reasonableness," of course, is often in the eye of the beholder. Additional, general parameters regarding the anticipated contracts – including guidelines on pricing – would be helpful in addressing concerns of those who may be relocated as a result of PDV's Petition.

7. 90.1419 – Emission Limitations and 90.1421 – Interference Protection Rights

The interference rights in proposed Section 90.1421 appear to be taken from current Section 90.672 of the Commission's rules. Section 90.672 of the Commission's rules was not developed to mitigate interference from commercial broadband LTE systems into CII land mobile systems, and there is no explanation provided as to why Petitioners' believe these values are appropriate for use here. Similar to API's comments regarding proposed Section 90.635(c) (*Limitations on Power and Antenna Height*), API is unable to determine how Petitioners arrived at the proposed values for emission limits because no explanation has been provided. Petitioners should be required to provide additional technical detail to enable commenters to evaluate the proposal.

API appreciates that certain aspects of PDV's technology may still be under development, but without real world engineering it is impossible to determine whether Petitioners' proposals adequately protect narrowband systems. A proof of concept or pilot program demonstrating the interference potential of Petitioners' proposed deployment would be useful to collect data to develop proposed rules.

At least in one respect, the figures proposed by Petitioners significantly under-protect CII land mobile systems. Petitioners propose that before a narrowband user may complain of harmful interference, it must be receiving a minimum median desired signal strength of -88 dBm

for mobile units and -85 dBm for portable units. These values may be typical of target receive signal strengths for commercial broadband systems, but the narrowband mobile/portable units used by API's members operate at median desired receive signal strengths much lower than those proposed by Petitioners. Receive signal strengths in the range of -101 to -105 dBm are commonly used, particularly for wide area operations. As a result, Petitioners' proposed threshold would leave many land mobile uses unprotected from interference. Issues such as the capability of any given receiver are the result of licensee business decisions often made many years prior to the development of the PEBB concept and should not factor in to interference protections. In addition, in real world median applications, receive signal strength measurements may vary by time and slight changes in location.

API recommends that instead of using median desired signal strength as a threshold for determining interference, the Commission should require that interference protections should apply to narrowband units operating within the licensee's maximum R-6602 (50,50) 40 dBu contour, calculated per Section 90.621 of the Commission's rules (stations presumed to operate with 1000 watts ERP). This is the contour border at which the Commission requires co-channel licensees to limit their interference contour to 22 dBu. As a result, narrowband licensees reasonably rely on the 40 dBu contour as representative of their service area. The Commission should protect operations within that contour from co-channel and adjacent channel sources of interference.

III. CONCLUSION

Due to the sensitivity and importance of current uses of the 900 MHz band, API urges the Commission to conduct an extremely diligent review of Petitioner's proposals to ensure protection of current and future narrowband operations before initiating a rulemaking proceeding to adopt them.

Respectfully submitted,

By: /s/

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