AMERICAN PETROLEUM INSTITUTE

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

In the Matter of	)	
	)	
Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band	)))	GN Docket No. 12-354

To: The Commission

REPLY COMMENTS OF
THE AMERICAN PETROLEUM INSTITUTE

The Telecommunications Subcommittee of the American Petroleum Institute ("API")[1] is pleased to submit these Reply Comments regarding the Commission's Further Notice of Proposed Rulemaking proposing rules for the 3550-3650 MHz ("3.5 GHz") band.[2] As described herein, the record in this proceeding supports excluding the 3650-3700 MHz ("3.65 GHz") band from the Citizens Broadband Radio Service ("CBRS"). API also provides comment regarding certain technical aspects of the FNPRM.

[1] API is a national trade association representing more than 600 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. API is supported and sustained by companies that make use of a wide variety of wireline, wireless and satellite communications services on both a private and commercial basis.

[2] *See* Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band, *Further Notice of Proposed Rulemaking*, GN Docket No. 12-354 (Apr. 23, 20144) ("FNRPM").

I. The Record Supports Excluding the 3.65 GHz band from the Citizens Broadband Radio Service

On behalf of the oil and gas industry, API filed Comments in this proceeding strongly urging the Commission not to expand the CBRS licensing rules to the adjacent 3.65 GHz band. The record reflects similar strong opposition from a variety of other parties.

In particular, a large number of individual companies in the critical infrastructure industry ("CII") described serious service impairments that would result if the 3.65 GHz band were included in the CBRS.[3] These entities point out, as did API, that in reliance on the Commission's current rules many CII companies already have made significant investments in the 3.65 GHz band, which fills a gap in the Commission's broadband spectrum allocations for CII use. Transition of the 3.65 GHz band to the CBRS would negatively impact CII entities seeking to migrate to IP-enabled services and other wider bandwidth applications.

The comments reflect the same type of concern across other industry segments. For example, echoing Commissioner O'Rielly's statement that the Commission's proposals for the 3.5 GHz band are "one big experiment," the WiMax Forum accurately describes the Commission's 3.5 GHz band as an underutilized "sandbox" for testing potential new concepts.[4] API generally supports the Commission's efforts to develop the 3.5 GHz band, but API also wholeheartedly agrees with the WiMax Forum that by contrast, the 3.65 GHz band, with its large number of incumbents, is not a viable candidate for 'testing new ideas.'

BLiNQ Networks, Inc. correctly points out that if 3.65 GHz band were subject to the proposed rules for the 3.5 GHz band, current 3.65 GHz users could be forced to reduce EIRP by up to 10 dB, since Section 90.1321(a) of the rules specifies a power limit of 25 W per 25 MHz

---

[3] *See e.g.*, Comments of Iberdrola USA Networks, Great River Energy, Ameren Services, Exelon Corporation, Oncor Electric Delivery Company LLC, Southern Company Services, Inc.

[4] *See* Comments of WiMax Forum at 2.

(40 dBm per 10 MHz) for the 3.65 GHz band, whereas the CBRS rules would impose a 30 dBm per 10 MHz power limit for non-point-to-point operations in non-rural areas.[5] A major concern of 3.65 GHz band users is that recently-deployed equipment will need to be replaced if 3.65 GHz band is included in the Commission's 3.5 GHz band rules. In fact, because of the power differential proposed by the FCC, the 3.65 GHz band may no longer be an option at all for many current users. It's no wonder that certain commenters indicate they are backing away from plans to expand use of the 3.65 GHz band because of uncertainty over the FCC's proposals.[6]

Sacred Wind Communications, Inc. notes that the way to improve the usefulness of the 3.65 GHz band is not to replace the current rules with an untested regulatory regime, but to tweak the current rules to further mitigate the potential for interference.[7] API suggested other changes could be made to the band such as power increases, an ability to register fixed "subscriber" units according to an area of operation, and a better defined earth station coordination procedure. Now that the Commission has developed experience with the 3.65 GHz band rules, it is better to make minor, common sense, improvements to the existing rules, rather than abandoning those who relied on the rules and starting over from scratch.

The 3.65 GHz band has been a proven success story for the Commission. Licensees in the 3.65 GHz band – who relied on the Commission's current regulatory regime – stand to lose significant investments in the band if the Commission moves forward with a short, five-year transition period to its 3.5 GHz band rules. The CBRS may never prove to be a reasonable replacement for current 3.65 GHz band systems. Under these circumstances, the Commission

---

[5] *See* Comments of BLiNQ Networks Inc. at 5.

[6] *See* Comments of Great River Energy at 3, Comments of Cohere Technologies at 3.

[7] *See* Comments of Sacred Wind Communications, Inc. at 6.

should not expand its 3.5 GHz band licensing rules as proposed in the FNPRM to the 3.65 GHz band.

II. API Supports Many of the Technical Proposals That Have Been Submitted

API shares the concerns of several comments that the proposed EIRP of 30 dBm for non-directional operations in non-rural areas is too low. As stated above, this limit is many times lower than permitted in the 3.65 GHz band and, as Google points out, four times lower than the levels permitted for non-directional operations in the 2.4 GHz and 5.8 GHz (U-NII-3) bands.[8] One way to resolve this would be to adopt intermediate power levels, similar to those proposed by BLiNQ, Inc.[9] Particularly the proposed limit of 27 dBm + 13dBi (40 dBm EIRP) for horizontal beamwidths between ninety and thirty-five degrees would be very helpful to deployments that involve sectorized antennas. In addition, API agrees with ENTELEC that for point-to-point systems the maximum EIRP of 53 dBm should be permitted for a 5 MHz channel (an increase of the power spectral density to 23 dBm/MHz for a 5 MHz channel).[10]

API also agrees with ENTELEC that an out-of-band-emission ("OOBE") limit of -40 dBm/MHz for emissions above 3680 MHz and below 3520 MHz, coupled with a -13 dBm/ MHz limit for emissions between 3680 MHz and 3520 MHz, is sufficient to permit effective operation in the 3.5 GHz band. As Google correctly points out, devices may well prove capable of achieving tighter OOBE performance, which could be taken into account in the future in spacing of adjacent channel licensees by the database. But the proposed limits will serve as an effective OOBE floor.

---

[8] *See* Comments of Google, Inc. at 17.

[9] *See* Comments of BLiNQ Networks Inc. at 15.

[10] *See* Comments of ENTELEC at 13.

The FNPRM also proposes a -80 dBm limit at the border between licensees. In its Comments in this proceeding, API disagreed with the Commission's proposal to base 3.5 GHz band PAL service areas on Census Tracts, stating that wireless operations will rarely if ever conform to Census Tract boundaries. The result, as accurately pointed out by other commenters, will be wasted spectrum resources.[11] API reiterates its position that service areas should be defined based on the actual operating parameters of the proposed station, whether by contour or other method. This capability can be developed in the spectrum assignment database.

III. CONCLUSION

API urges the Commission to adopt rules for the 3.5 and 3.65 GHz bands consistent with these Reply Comments and its Comments in this proceeding.

Respectfully submitted,

By: /s/_____

James Crandall
American Petroleum Institute
1220 L Street, NW
Washington, DC 20005-4070
Phone: (202) 682-8000

Date: August 15, 2014

4831-8899-4071, v. 1

[11] *See e.g.*, Comments of Google at 10.