

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of )  
 ) WP Docket No. 15-32  
Creation of Interstitial 12.5 kHz Channels in the ) RM-11572  
800 MHz Band between 809-817/854-862 MHz )

To: The Commission

**REPLY COMMENTS  
OF THE  
ENTERPRISE WIRELESS ALLIANCE**

The Enterprise Wireless Alliance (“EWA” or “Alliance”), in accordance with Section 1.45 of the Federal Communications Commission (“FCC” or “Commission”) rules, respectfully submits its Reply Comments regarding the Notice of Proposed Rulemaking in which the Commission has proposed to authorize new, full power, interstitial 12.5 kHz channels in the 809-817/854-862 MHz band (“800 MHz Mid-Band”).<sup>1</sup> The Comments filed in response to the NPRM confirm that the Part 90 community has a keen interest in deriving highly efficient use from its limited spectrum allocations. Virtually all parties support the availability of 800 MHz interstitial channels in the 800 MHz Mid-Band if appropriate protection is provided to adjacent 25 kHz bandwidth systems.<sup>2</sup> While there are important issues still to be resolved as detailed below, there is a consensus that the Commission should move forward in adopting rules that will provide for the more intensive use of this band.

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<sup>1</sup> In the Matter of Creation of Interstitial 12.5 kHz Channels in the 800 MHz Band Between 809-817/854-862 MHz, WP Docket No. 15-32, *Notice of Proposed Rulemaking*, 30 FCC Rcd 1663 (2015) (“NPRM”).

<sup>2</sup> The Utilities Telecom Council (“UTC”) urges the FCC not to proceed, since it argues that doing so will make it more difficult for utilities to deploy wideband technologies in the future.

## I ISSUES

### A Interference Protection

Understandably, the most significant issue raised in the Comments is the need for an effective analysis for determining where interstitial channels can be deployed without adversely affecting adjacent 25 kHz channel licensees.<sup>3</sup> Some parties seem to believe that no such analytical model can be developed or that, if it is, the protection criteria will be so stringent as to preclude any meaningful use of interstitial channels.<sup>4</sup>

The Alliance respectfully disagrees. The Land Mobile Communications Council (“LMCC”) is close to completing a detailed matrix that will enable frequency advisory committees (“FACs”) that chose to coordinate these channels to make appropriate, consistent determinations as to the interference potential between interstitial and full channel systems.<sup>5</sup> Because so many advanced, primarily digital technologies have been introduced into the Part 90 Private Land Mobile Radio (“PLMR”) services in the past few years, and recognizing that new, spectrum efficient digital products continue to be introduced, frequency coordination analyses and certification processes need to be highly particularized: Is interference expected between an interstitial and a full channel system based on the particular technology each entity has selected as identified by its licensed or proposed emission designator? As further protection for all licensees and applicants, the analysis will be reciprocal to determine not only whether the interference contour of the applicant overlaps the incumbent’s service contour, but whether the incumbent’s interference contour overlaps the applicant’s service contour.

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<sup>3</sup> The LMCC intends to recommend that the current co-channel protection criteria in FCC Rule Section 90.621 apply to interstitial 12.5 kHz, as well as incumbent 25 kHz, channels.

<sup>4</sup> See, e.g., Comments of Entergy Services, Inc. (“Entergy”), American Electric Power Service Corporation (“AEPSC”) and Joint Comments of Peak Relay, Inc. and Palomar Communications, Inc (“Peak/Palomar”).

<sup>5</sup> As noted in the Comments filed by Southern Communications Services, Inc. d/b/a SouthernLINC Wireless (“SouthernLINC”), there is a unique 800 MHz band plan in a defined area around Atlanta, GA that will require specific provisions in the rules. EWA supports the recommendation of SouthernLINC that 1 MHz of separation be established between 800 MHz interstitial assignments and the ESMR band in the Southeastern U.S.

Most commenters that expressed reservations about introducing interstitial channels into the 800 MHz Mid-Band acknowledged that those reservations might be addressed by the adoption of appropriately protective interference criteria.<sup>6</sup> The matrix necessarily is more complex than the one proposed by the LMCC almost half a decade ago.<sup>7</sup> It has been developed with input from the LMCC membership collectively and represents a conservative, but not excessively protective assessment of interference potential.<sup>8</sup> As stated in its Comments, the Alliance agrees with the LMCC that the matrix itself should not be codified in the FCC rules. Instead, the Commission should require participating FACs to adhere to the matrix, while allowing the LMCC to update and modify it as appropriate in response to future technological developments. Both the original matrix and any modifications would be subject to FCC oversight.

EWA, whose members include a substantial number of incumbent 800 MHz licensees, as well as other FACs with similar constituencies, would not endorse an approach that threatened the continued interference-free operation of incumbent 25 kHz licensees.<sup>9</sup> The LMCC is confident that an objective assessment of the protection criteria in the matrix will confirm that

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<sup>6</sup> See Comments of Entergy, AEPSC and Peak/Palomar.

<sup>7</sup> See Letter from Mark E. Crosby, LMCC, Secretary/Treasurer to Ruth Milkman, Wireless Telecommunications Bureau and Jamie A. Barnett, Jr., Public Safety and Homeland Security Bureau (June 23, 2010).

<sup>8</sup> Some of the concern about interference potential may stem from the problems that arose from cellularized operations in and adjacent to the 800 MHz band. Since systems deploying cellular network architecture are expressly prohibited from operating in this part of the 800 MHz band, interstitial systems will not present those same issues. They will be the same type of high-site, high-power systems that have been deployed by the 25 kHz bandwidth incumbents.

<sup>9</sup> The Boeing Company (“Boeing”) has raised concerns about the potential impact of interstitial channels on their Class B broadband signal boosters. While it is theoretically possible that the introduction of interstitial operations in specific instances could affect the operation of a particular Class B signal booster(s), that possibility is highly dependent on the technical parameters of the particular interstitial transmitter and its location relative to the signal booster and the Boeing site to which the booster is transmitting. The Part 90 frequency coordination process historically has not considered signal boosters in a frequency recommendation analysis, and EWA sees no practical way of doing so in this instance, although it would encourage the parties to cooperate in resolving such problems should they arise.

interstitial channels can be deployed without adversely impacting adjacent 25 kHz operations and EWA concurs with that conclusion.<sup>10</sup>

For this reason, EWA opposes the recommendation that interstitial channels be authorized only on a secondary, non-interference basis.<sup>11</sup> The entities that need this spectrum, such as those conducting public safety, critical infrastructure, manufacturing, and transportation activities, are not likely to invest in systems that have only secondary status. The better approach is to establish appropriate interference criteria and ensure that systems are coordinated consistent with them. The 800 MHz NPSPAC allocation in which frequencies are separated by only 12.5 kHz and systems operate equipment with up to 20 kHz authorized bandwidth confirms that proper coordination can support this level of spectrum utilization.<sup>12</sup>

Some parties object to 800 MHz interstitial channels on the basis that they may preclude incumbents from deploying wideband equipment at some later date or because they could impact other types of system modifications in the future.<sup>13</sup> EWA recognizes that incumbents who are considering, but are not yet prepared to deploy, a different technology prefer an environment that they consider “fixed and predictable”<sup>14</sup> since it preserves maximum options. It also appreciates that greater utilization of the band could affect the ability of today’s incumbents to modify their licenses at some point. The issue is whether the public interest favors rules that permit more immediate and intensive use of spectrum by new entrants and incumbents alike or rules that enable incumbents to reserve the right, although not the obligation, to migrate to different technology or to implement a hypothetical license modification at some future date. In the

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<sup>10</sup> Coordination based on the matrix also ensures that licensed interstitial channels will not be impacted by future 25 kHz applicants.

<sup>11</sup> See Comments of UTC, AEPSC, and Entergy.

<sup>12</sup> The more stringent emission mask applicable to NPSPAC spectrum is not needed for Mid-Band interstitials that will be limited to 12.5 kHz bandwidth.

<sup>13</sup> See, e.g., AEPSC Comments.

<sup>14</sup> Entergy Comments at 4.

Alliance’s opinion, the answer is clear: The very limited spectrum resources allocated for non-public safety PLMR use demand that maximum capacity be derived from that spectrum, consistent with sound spectrum management principles. The spectrum landscape cannot be frozen while awaiting actions by incumbents that might never take place. To the extent incumbents want the flexibility to implement wideband systems at some future date, they may wish to acquire contiguous 25 kHz channels during the pendency of this proceeding, since a licensee that holds contiguous channels will have significant control over the disposition of the interstitial channels between them.<sup>15</sup>

Further, because all participating FACs will need to use the matrix, not a more subjective process, for analyzing interstitial-to-full channel and full channel-to-interstitial applications, the Alliance recommends that those coordinating 800 MHz applications be authorized to do so irrespective of the applicant’s eligibility.<sup>16</sup> After decades of inter-category sharing and rebanding, 800 MHz frequencies no longer support only the licensee category for which the channel is designated. User types have become largely inter-mingled across the band. The coordination of any application may need to consider an adjacent SMR licensee to the north, a B/ILT entity to the south, and public safety licensees to the east and west. In this hybridized

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<sup>15</sup> Some incumbents undoubtedly are licensed already for contiguous frequencies, but that is not the norm. For the most part, PLMR licensees have sought frequencies with greater not less separation to avoid combining issues, and the 800 MHz channel assignments were designed to facilitate that preference.

<sup>16</sup> The Michigan Public Safety Frequency Advisory Committee (Region 21 Planning Committee) recommended that Regional Planning Committees (“RPCs”) should coordinate public safety applications for interstitial channels because of their experience with NPSPAC spectrum. With all due respect to the RPCs and their NPSPAC responsibilities, it is not obvious that experience in assigning frequencies allocated exclusively for public safety entities pursuant to a regional plan negotiated by those entities is comparable to the coordination of individual 800 MHz Mid-Band channels that may impact a variety of user types on adjacent channels within a geographic area.

environment, applicants should be free to select any FAC to coordinate their requests just as they are permitted to do when filing for Sprint-vacated 800 MHz spectrum.<sup>17</sup>

#### B Eligibility/Preferential Access

EWA proposed in its Petition for Rulemaking that is the foundation of this proceeding<sup>18</sup> that interstitial channels be available for all qualified applicants. It did not recommend that any such frequencies be reserved for particular classes of Part 90 eligible entities, but suggested that they be treated as “General Category” spectrum. Activity in the intervening five years required the Alliance to raise a related issue in its Comments, one that would not be resolved for other than public safety entities by adoption of the FCC’s proposal to assign each interstitial channel the same eligibility as the lower adjacent 25 kHz channel.

EWA cautioned that companies selling FCC applications as investment opportunities, rather than as a means to build and operate wireless communications systems, were likely to flood the 800 MHz Mid-Band interstitial coordination process as they have the 800 MHz Expansion Band/Guard Band (“EB/GB”) spectrum. They would not qualify to apply for frequencies designated as public safety, but could claim both Specialized Mobile Radio (“SMR”) and Business/Industrial/Land Transportation (“B/ILT”) channels. The Alliance urged the Commission to convene a meeting of interested parties to see how best to address this issue before accepting applications for interstitial channels or for additional EB/GB spectrum.<sup>19</sup>

However that matter is resolved, EWA opposes the requests from various commenters to afford priority access to interstitial channels to certain classes of users even for a limited

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<sup>17</sup> Not all FCC-certified FACs executed the Memorandum of Agreement that governs the process for coordinating applications for Sprint-vacated spectrum and thereby avoids the submission to the FCC of mutually exclusive applications.

<sup>18</sup> See Petition for Rulemaking of the Enterprise Wireless Alliance, RM-11572, filed April 29, 2009 (“Petition”).

<sup>19</sup> This issue is not related to the licensing of interstitial frequencies as indicated by Entergy. Entergy Comments at 5. As evidenced by the applications filed when 25 kHz EB/GB spectrum was released in certain markets, the problem can arise whenever the FCC makes spectrum available and creates an “opportunity” that can be marketed as an attractive investment to an unsuspecting, uneducated public.

period.<sup>20</sup> The Commission abandoned that spectrum management approach in the VHF and UHF bands, because the FCC realized that it was not able to quantify to any degree of accuracy how much spectrum would be needed by which type of licensee even in a particular market area, much less on a nationwide basis. The decision to reserve 800 MHz Sprint-vacated spectrum, first for public safety entities and then for public safety and critical infrastructure industry (“CII”) eligibles, was specific to the 800 MHz interference and rebanding situation and should not be a precedent in other instances where PLMR spectrum becomes available.<sup>21</sup> Major manufacturing, transportation and other essential industries that support America’s economic vitality that unfortunately were excluded from the CII definition crafted several decades ago also have compelling requirements for 800 MHz channels and have received no new allocations or preferential access to existing spectrum for three decades. Assuming the matter of speculative applications discussed above is resolved, EWA continues to recommend that interstitial 800 MHz frequencies be treated as General Category spectrum available to all qualified applicants.

Finally, the Alliance opposed the FCC’s suggestion that interstitial channels be made available first for relocating public safety T-Band licensees on both practical and policy grounds. The National Public Safety Telecommunications Council (“NPSTC”) agreed with the Alliance with regard to the correlation between where interstitial channels will be available and where replacement spectrum will be needed by T-Band licensees. As stated by NPSTC, “Given that 800 MHz interstitial channels will need to be geographically separated from the 800 MHz main

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<sup>20</sup> See, e.g., Comments of UTC, AEPSC, Entergy, the Association of Public-Safety Communications Officials-International, Inc., and the State of Florida.

<sup>21</sup> In its Comments, the State of Florida argues that governmental entities should have first claim on any 800 MHz interstitial channels that become available. Public safety entities already have access to NPSPAC spectrum, to their own Mid-Band allocation, to all Sprint-vacated spectrum, and to narrowband 700 MHz spectrum. To argue that they are at a disadvantage vis-à-vis business enterprise, CII and SMR applicants in accessing spectrum demonstrates a sense of entitlement that entirely discounts the needs of other PLMR entities.

channels, NPSTC does not believe the interstitials will provide significant opportunities for relocation of T-Band operations in most T-Band areas.”<sup>22</sup>

### C Bandwidth and Emission Mask

EWA agreed with the FCC’s proposal that the authorized bandwidth on 800 MHz Mid-Band interstitial channels should be 11.25 kHz. Most commenting parties concurred. This is not to discount the efficiencies that can be derived from wider band equipment such as TETRA and other technologies that can support multiple transmissions paths in 25 kHz bandwidth channels.<sup>23</sup> They should be encouraged and the matrix needs to ensure that they receive appropriate protection from interstitial operations. It even may be possible in the future to allow greater than 11.25 kHz operations on the interstitial channels, but that would require further technical analysis and possibly a modified emission mask, such as applies to the NPSPAC band.

## II CONCLUSION

The PLMR community has confirmed that it supports more intensive use of the 800 MHz Mid-Band, provided that interstitial channels do not cause interference to incumbent 25 kHz bandwidth operations. EWA encourages the Commission to adopt rules that allow the licensing of 12.5 kHz interstitial spectrum once it has reviewed the LMCC’s plan for coordinating this spectrum and has addressed the issue of speculative applications.

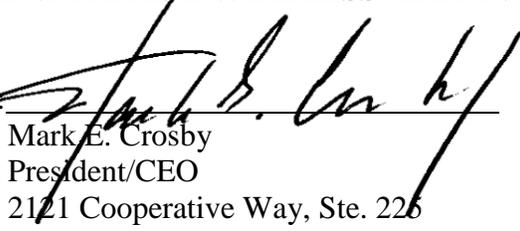
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<sup>22</sup> NPSTC Comments at 7.

<sup>23</sup> See Comments of Motorola Solutions, Inc. at 3-4.

Respectfully submitted,

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