

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

In the Matter of	)	
	)	
Key Bridge Global LLC	)	WT Docket No. 13-291
	)	
Proposal to be Designated as a	)	
Database Manager for the 70/80/90 GHz	)	
Link Registration System	)	

**ORDER AND NOTICE TO DATABASE MANAGERS  
FOR THE 70/80/90 GHZ LINK REGISTRATION SYSTEM UNDER SUBPART Q OF PART 101**

**Adopted: August 26, 2016**

**Released: August 26, 2016**

By the Deputy Chief, Broadband Division, Wireless Telecommunications Bureau:

**I. INTRODUCTION**

1. By this Order (*Order*), the Wireless Telecommunications Bureau (Bureau or WTB), acting under delegated authority, designates Key Bridge Global LLC (Key Bridge) as a database manager (Database Manager) to develop and manage a database of link registrations by FCC licensees in the 71-76 GHz, 81-86 GHz and 92-95 GHz bands (70/80/90 GHz bands), and to coordinate its database with those of other Database Managers that the Bureau has similarly designated. Collectively, these Database Managers operate a link registration system for the 70/80/90 GHz bands. Key Bridge may serve for a term expiring on December 9, 2019,<sup>1</sup> renewable by the Commission. As a condition of this designation, Key Bridge will be required to sign a Memorandum of Understanding setting forth its duties and the limits on its authority. We reserve the discretion to designate additional managers or change the current designations of Key Bridge and other Database Managers at a later date if circumstances indicate that such action is warranted.

**II. BACKGROUND**

2. In 2003 the Commission adopted a *Report and Order* establishing service rules to promote non-Federal development and use of the “millimeter wave” spectrum in the 71-76 GHz, 81-86 GHz and 92-95 GHz bands<sup>2</sup> on a shared basis with Federal Government operations.<sup>3</sup> It modified those

<sup>1</sup> For administrative efficiency, we are setting the expiration date of Key Bridge’s first term on the same day the current five-year terms of the incumbent Database Managers expire. *See, e.g.*, Wireless Telecommunications Bureau’s Broadband Division Announces Second Renewal of Database Managers for Management of the 71-76 GHz, 81-86 GHz and 92-95 GHz Bands, *Public Notice*, 29 FCC Rcd 14773 (WTB, BD 2014).

<sup>2</sup> Allocations and Service Rules for the 71-76 GHz, 81-86 GHz and 92-95 GHz Bands, WT Docket No. 02-146, *Report and Order*, 18 FCC Rcd 23318 (2003) (*Report and Order*), *recon.*, 20 FCC Rcd 4889 (2005) (*Reconsideration Order*). In the *Report and Order*, the Commission adopted rules for both unlicensed (Part 15) and licensed (Part 101) use of portions of these bands; this *Order* concerns licensed use of the bands, which involves all of the bands except for 100 megahertz of spectrum at 94.0-94.1 GHz. For convenience only, we refer to the licensed spectrum herein as “the bands” or “the 70/80/90 GHz bands”; such references do not include 94.0-94.1 GHz. *See infra* note 6.

<sup>3</sup> In the context of spectrum management, “Federal Government” refers to use by the Federal Government and “non-Federal Government” refers to use by private entities and state and local governments. *See Report and Order* at 23319 n.3.

rules on reconsideration in 2005.<sup>4</sup> The Commission adopted a flexible and innovative regulatory framework for the 70/80/90 GHz bands that allows for the issuance of an unlimited number of non-exclusive, nationwide licenses to non-Federal Government entities for a total of 12.9 gigahertz of spectrum allocated for commercial use. These licenses serve as a prerequisite for registering individual point-to-point links in a link registration system developed and managed by one or more third-party database managers.<sup>5</sup> A licensee is not authorized to operate a link under its nationwide license until the link is both (1) coordinated with the National Telecommunications and Information Administration (NTIA) with respect to Federal Government operations<sup>6</sup> and (2) registered as an approved link. The *Report and Order* noted that, in the past, the Commission had introduced market forces into the frequency coordination process wherever possible and appropriate because competition among coordinators promotes cost-based pricing and provides incentives for enhancing customer link management. Accordingly, the Commission directed the Bureau to select one or more database managers pursuant to its existing delegated authority and to consider the benefits of competition during the selection process.<sup>7</sup> On that basis, the Commission determined that there was no reason to set limits on the fees charged by a database manager.<sup>8</sup>

3. In March 2004 the Bureau issued a public notice seeking proposals from parties interested in developing and managing the link registration system, and four parties initially submitted proposals.<sup>9</sup> One party decided to remove its proposal from consideration,<sup>10</sup> and the remaining three ultimately submitted an amended joint proposal on September 9, 2004 (Joint Proposal).<sup>11</sup> Later in September 2004, the Bureau designated three companies to be Database Managers for the 70/80/90 GHz bands: Frequency Finder, Inc. (FFI), Micronet Communications, Inc. (Micronet), and Comsearch.<sup>12</sup> In doing so, the Bureau rejected Comsearch's original proposal to restrict frequency management in the

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<sup>4</sup> See *Reconsideration Order*, 20 FCC Rcd 4889, 4890 ¶ 2.

<sup>5</sup> The Commission stated that the ultimate decision of the number of database managers and the selection of such Managers would be made by WTB, and noted that the Bureau would announce its database manager selection procedures by public notice. *Report and Order* at 23341 ¶ 51.

<sup>6</sup> The 71-76 GHz, 81-86 GHz and 92-95 GHz bands are allocated to both Federal Government and non-Federal Government users on a co-primary basis, except the 94.0-94.1 GHz portion, which is allocated for Federal Government use on a primary basis. See generally *Report and Order*, 18 FCC Rcd at 23322-31. NTIA has implemented an automated coordination mechanism that enables non-Federal users and database managers selected by the FCC to use an Internet site to determine whether a given non-Federal link has any potential conflict with Federal Government users.

<sup>7</sup> *Report and Order*, 18 FCC Rcd 23318, 23340-23341 ¶ 51.

<sup>8</sup> *Id.*

<sup>9</sup> Wireless Telecommunications Bureau Opens Filing Window for Proposals to Develop and Manager Independent Database of Site Registrations by Licensees in the 71-76 GHz, 81-86 GHz and 92-95 GHz Bands, *Public Notice*, 19 FCC Rcd 4597 (WTB, BD 2004)(*Public Notice*). The Bureau accepted proposals until March 26, 2004, and accepted public comment on the proposals until April 2, 2004.

<sup>10</sup> NECA Services, Inc., filed but later withdrew its proposal from consideration. See Letter to Secretary of Commission from Melanie Proehl-Steinhart, NECA Services, Inc., dated June 28, 2004 (WT Docket No. 02-146).

<sup>11</sup> Comsearch, Micronet and FFI originally filed a Joint Proposal on September 9, 2004, in WT Docket 02-146, and on the same day filed the amended Joint Proposal because they "found it necessary to modify the [database] process." See letter addressed to the Secretary of the Commission from Christopher Hardy, Comsearch, dated September 9, 2004, attaching the amended Joint Proposal, in WT Docket No. 02-146.

<sup>12</sup> In the Matter of Allocations and Service Rules for the 71-76 GHz, 81-86 GHz and 92-95 GHz Bands, *Order*, 19 FCC Rcd 20524 (WTB, BD 2004) (*Designation Order*).

70/80/90 GHz bands to a single manager.<sup>13</sup> The Bureau also reserved the discretion to designate additional managers or change the current designations at a later date if circumstances indicated that such action was warranted.<sup>14</sup>

4. The *Designation Order* acknowledged that the Commission had envisioned a single, shared database if more than one database manager were selected, but the Bureau decided that it could accomplish the same purpose by accepting a joint proposal by the Database Managers to link their separate databases through coordinated communications to form a unified link registration system.<sup>15</sup> Accordingly, the Bureau required the Database Managers to build a cooperative environment to expedite link registrations through their combined efforts, sharing link information on a continuous basis to provide users, the public and the Commission with access to the most up-to-date link information.<sup>16</sup> Database Managers register links and maintain a record of the requested and approved links for each licensee. In the event of an interference dispute, interference protection rights with regard to affected links are established based on the date and time of link registration, i.e., as between two or more links experiencing or causing interference, the link with the earliest registration date would acquire the right to protection from the later registered link or links, and so on in order of priority based upon the earliest date registered. The *Designation Order* noted that the Commission had expressly stated that Database Managers would not have authority to recommend specific frequencies to users, but would be responsible for keeping current link registration information to aid in resolution of interference disputes.<sup>17</sup>

5. In 2005 the Commission revised its rules to (i) require licensees, for each link as part of the registration process, to submit a frequency interference analysis to a Database Manager, and (ii) direct the Database Managers to retain such analyses electronically for subsequent review by the public to aid in the resolution of any interference disputes that might subsequently arise.<sup>18</sup> The Commission foresaw little likelihood that any such disputes would develop after operations commenced in the 70/80/90 GHz bands, but it provided an avenue for interference complaints to be submitted to, and resolved by, the Commission.<sup>19</sup> The *Reconsideration Order* clarified that the Commission was neither requiring nor precluding Database Managers from providing additional services such as frequency coordination, link design or interference analyses.<sup>20</sup>

6. *Key Bridge Proposal*. On November 26, 2013, Key Bridge submitted a proposal in WT Docket No. 02-146 to develop and manage a database of site and link registrations by Commission licensees in the 70/80/90 GHz bands.<sup>21</sup> Recognizing the original 2004 deadline for DM proposals in response to the 2004 *Public Notice*, Key Bridge notes that WTB decided to designate more than one DM

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<sup>13</sup> See *Designation Order*, 19 FCC Rcd at 20526-27 ¶¶ 6-7 citing Comsearch Proposal to Develop and Manage a Database of Site Registrations in the 71-76 GHz, 81-86 GHz and 92-95 GHz Band, filed March 26, 2004 (Comsearch Proposal) at 7-9.

<sup>14</sup> *Designation Order*, 19 FCC Rcd 20524, ¶ 1.

<sup>15</sup> *Id.* at 20527, ¶ 9.

<sup>16</sup> *Id.*

<sup>17</sup> *Id.* at 20525-20526, ¶ 4, citing *Report and Order*, 18 FCC Rcd at 23340, 23343 ¶¶ 50 and 58.

<sup>18</sup> *Reconsideration Order*, 20 FCC Rcd 4889, 4895-4896, ¶¶ 12-14.

<sup>19</sup> *Id.* at 4896, ¶ 13.

<sup>20</sup> *Id.* at 4896, ¶ 14.

<sup>21</sup> Key Bridge Global LLC Proposal to Develop and Manage an Independent Database of Site Registrations by Licensees in the 71-76 GHz, 81-86 GHz and 92-95 GHz Bands, filed Nov. 26, 2013 in WT Docket No. 02-146 and accepted into newly opened WT Docket No. 13-291 on May 20, 2013 (Key Bridge Proposal).

and “reserve[d] the discretion to designate additional managers.”<sup>22</sup> Alternatively, Key Bridge requests a waiver of the 2004 deadline.<sup>23</sup>

7. Key Bridge describes itself as a trusted, neutral supplier of on-line information systems and services to commercial, government and U.S. military customers with a focus on wireless communications, providing open, secure, standards-based technologies to foster and support its customers and help them develop and promote their own products and services.<sup>24</sup> The company says that it already operates a spectrum database management system to support unlicensed radio devices that transmit on unused channels in the spectrum bands used by broadcast television (TV white spaces, or TVWS).<sup>25</sup> Key Bridge says that it also operates and maintains one of the largest private databases of wireless service licenses, frequency assignments and spectrum occupancy information in the world, and makes it accessible through web services and software technologies designed to facilitate interaction with third parties’ systems and solutions, enabling its clients to accelerate development and delivery of their own wireless products and services.<sup>26</sup>

8. Key Bridge says that its software team is highly skilled in object oriented design and many different computer languages, including SHELL scripting, PERL, Python, C, C++, Java and various Unix flavors and platforms. The company says that its staff have extensive knowledge of database design and maintenance, including relational systems such as MySQL, Oracle and PostgreSQL and big data platforms such as Hadoop.<sup>27</sup> Key Bridge says that its TV white spaces system dynamically allocates unused television broadcast spectrum in near-real time for unlicensed use, and that it was the first administrator to propose near-real time synchronization of database systems to ensure maximum availability of spectrum for new entrant technologies while protecting incumbent spectrum users from interference. That system, it says, is designed not just to support TVWS operations but also to accommodate a wide variety of wireless service configurations, including point-to-point, point-to-multipoint and mesh, with a variety of co-existence strategies that include dynamic scheduling and geographic intelligence. That extensive flexibility, says Key Bridge, will enable it to use many of its existing core services to implement rapidly a sophisticated, robust 70/80/90 GHz registration system and database.<sup>28</sup> Key Bridge further states that its mapping technology provides quick and detailed visual inspection of spectrum environments, allowing for informed choices and better deployment planning by spectrum users. Key Bridge says that it offers the public free web-based access to many of its databases, and that it offers programmatic access to its databases through a set of robust and well-documented open-source data models and sophisticated search, query and retrieval web services for analysis and data access from within third-party services and applications.<sup>29</sup>

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<sup>22</sup> Key Bridge Proposal at 15 (quoting *Designation Order*, 19 FCC Rcd at 20524 ¶ 1).

<sup>23</sup> Key Bridge Proposal at 16-17 (arguing that the March 26, 2004, deadline was not a policy determination and using a ministerial deadline set years ago to permanently preclude new DM proposals would be contrary to the public interest because competition and innovation promote advances in spectrum management and coordination services). *See also id.* at 17 citing *Unlicensed Operation in the TV Broadcast Bands*, ET Docket No. 04-186, *Order*, 26 FCC Rcd 10599, 10602 ¶ 1 (OET 2011) (asserting that the original filing deadline for TV bands database administrator proposals allowed the orderly processing of the initial prospective database administrators as a group and was not intended to preclude other parties from requesting designation at a later date).

<sup>24</sup> Key Bridge Proposal at 1-2.

<sup>25</sup> *See* Office of Engineering and Technology Announces the Approval of Key Bridge Global, LLC’s TV Bands Database System for Operation, ET Docket No. 04-186, *Public Notice*, 28 FCC Rcd 15838 (OET 2013).

<sup>26</sup> Key Bridge Proposal at 2.

<sup>27</sup> *Id.* at 2.

<sup>28</sup> *Id.* at 4.

<sup>29</sup> *Id.*

9. As a TV white spaces database administrator, Key Bridge states that it is already performing many of the duties that are required of database managers in the 70/80/90 GHz bands, including development and management of a link registration database and link registration portal.<sup>30</sup> According to Key Bridge, those same systems can easily be modified to support a new Key Bridge registration database for the 70/80/90 GHz bands.<sup>31</sup> Key Bridge recapitulates each of the duties and responsibilities that the Commission requires of database managers for the 70/80/90 GHz band and affirms that it will perform them if its application is approved.<sup>32</sup> Key Bridge also states that it will provide cutting-edge cyber-security protection, and that it will avoid conflicts of interest and any appearance of favoritism, by refraining from engaging in or operating commercial wireless systems, access networks, or other communications services, or developing, operating, promoting or selling transmitting hardware devices that use the same spectrum that it administers.<sup>33</sup> On November 27, 2013, the Bureau invited comment on the Key Bridge Proposal.<sup>34</sup>

10. Comsearch, the only commenter, filed comments opposing the designation of a new database manager for the 70/80/90 GHz bands, presenting six arguments. Three of them are procedural: that Key Bridge filed too late because it missed the original 2004 filing deadline for prospective database managers; that the Bureau lacks sufficient delegated authority to grant Key Bridge's request, and that, if the Bureau is determined to entertain Key Bridge's proposal, it should establish a filing window for all comers after the current MoUs with the three existing Database Managers expire at the end of 2019.<sup>35</sup> From a substantive standpoint, Comsearch urges the Bureau to refrain from "encourag[ing] 'free riders,'" by handing Key Bridge "blueprints to participate in a sophisticated and successful interoperable database system without having borne any of the significant startup costs."<sup>36</sup> Comsearch further argues that Key Bridge has not provided any showing that the public interest will be served better by adding a late entrant database manager, because so far there has been a complete absence of customer complaints or interference disputes requiring Commission intervention in the 70/80/90 GHz bands, the implication being that no prospective benefits could offset the costs and lost time that existing database managers will incur while integrating Key Bridge into their existing database system.<sup>37</sup> Finally, Comsearch argues that Key Bridge's proposal is deficient because the company failed to demonstrate that it has the requisite technical expertise to fulfill all the duties of a database manager and, in particular, has provided no evidence that it has the relevant expertise to manage interference disputes among point-to-point systems.<sup>38</sup>

11. In reply comments, Key Bridge rejects Comsearch's argument that Key Bridge's proposal is tardy because the 2004 filing window deadline was absolute and precludes consideration of any further proposals, noting that the *Designation Order* expressly reserved the discretion to designate additional managers.<sup>39</sup> Key Bridge states that, even though the Bureau designated three database managers in 2004, only two are active market participants: Comsearch with a 66 percent market share and

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<sup>30</sup> *Id.* at 5.

<sup>31</sup> *Id.* at 6.

<sup>32</sup> *Id.* at 6-11.

<sup>33</sup> *Id.* at 13.

<sup>34</sup> Wireless Telecommunications Bureau Seeks Comment on Key Bridge Global LLC Proposal to be Designated as a 71-76 GHz, 81-86 GHz and 92-95 GHz Bands Database Manager, *Public Notice*, 28 FCC Rcd 16096 (WTB 2013).

<sup>35</sup> Comsearch Comments at 1, 2, 4-7, and 12-14. *See also* Comsearch Jan. 7, 2014, *Ex Parte* letter; Comsearch Jul. 20, 2016 *Ex Parte* letter at 2.

<sup>36</sup> Comsearch Comments at 3; Comsearch Jul. 20, 2016 *Ex Parte* letter at 2.

<sup>37</sup> Comsearch Comments at 3 and 7-10.

<sup>38</sup> *Id.* at 4 and 9.

<sup>39</sup> Key Bridge Reply Comments at 2-3. *See also* Key Bridge Apr. 18, 2016, *Ex Parte* letter.

Micronet with 34 percent.<sup>40</sup> Key Bridge says that, to the best of its knowledge, none of the original Database Managers has introduced any major upgrades or feature enhancements since their systems were launched almost a decade ago.<sup>41</sup> Key Bridge further contends that Comsearch has grossly overstated the trouble and expense of accommodating a new Database Manager, explaining that existing Database Managers should already have documented their data structures, transfer protocols, business rules and general processes if they follow industry best practices.<sup>42</sup> In addition, Key Bridge says that existing Database Managers should already have developed, established and implemented mature testing environments long ago for the testing and validation of inter-administrator synchronization between and among themselves, and that any absence of such a capability would call into question an administrator's operational readiness and would not be Key Bridge's fault.<sup>43</sup> Key Bridge recommends that the Bureau set a reasonable limit on how long the existing administrators may take to establish database connectivity and synchronization with Key Bridge, and suggests that 30 calendar days should more than suffice.<sup>44</sup>

### III. DISCUSSION

12. Based on our review of the record in this proceeding, we find that Key Bridge has established that it is qualified to serve as a database manager for the 70/80/90 GHz bands and that the public interest is well served by designating Key Bridge to be a database manager for the 70/80/90 GHz bands. We do so after giving careful consideration to Comsearch's arguments. Comsearch appears to be the most successful of the three incumbent database managers<sup>45</sup> and we note that the record reflects no other comments, e.g., neither of the other two companies that the Bureau initially authorized to serve as database managers opposes the Key Bridge proposal. As noted above, Comsearch presents six arguments in opposition to the Key Bridge Proposal, three procedural and three substantive.

#### A. Procedural Objections

13. *Untimely.* Comsearch's first argument, that Key Bridge filed too late because it missed the original 2004 filing deadline for prospective database managers,<sup>46</sup> is unpersuasive. In the *Report and Order*, the Commission explained that "in order to minimize the administrative burden of coordination on Commission resources, we reserve the discretion to designate one or more third-party database managers. . . ."<sup>47</sup> In the *Designation Order*, the Bureau similarly reserved the discretion to designate additional managers at a later date when it approved the first set of managers and the Memorandum of Understanding that each Database Manager signed recites this point.<sup>48</sup> Accordingly, we reject Comsearch's theory that additional proposals were forever barred after the 2004 deadline.

14. *Delegated Authority.* Next, Comsearch claims that the Commission did not delegate authority to the Bureau to designate one or more database managers—either for the initial round of

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<sup>40</sup> Key Bridge Reply Comments at 4.

<sup>41</sup> *Id.*

<sup>42</sup> *Id.* at 7.

<sup>43</sup> *Id.* at 8.

<sup>44</sup> *Id.* at 9.

<sup>45</sup> *See id.* at 4.

<sup>46</sup> Comsearch Comments at 1, 2, 4-7, and 12-14.

<sup>47</sup> *Report and Order*, 18 FCC Rcd at 23339-40 ¶ 49.

<sup>48</sup> *Designation Order*, 19 FCC Rcd 20524, ¶ 1; Memorandum of Understanding between The United States Government Federal Communications Commission and Comsearch (Dec. 9, 2004) at § 5(n) ("DATABASE MANAGER is aware that the FCC has certified other entities to be database managers and that the FCC may at any time certify other entities as database managers.").

applicants in 2004 or for subsequent proposals like Key Bridge's.<sup>49</sup> More specifically, Comsearch claims that "[t]he entirety of the Commission's 2003 delegation of authority was for WTB to issue a public notice soliciting proposals from prospective database managers, and not to make decisions determining how many database managers should be designated and when . . . ."<sup>50</sup> Alternatively, Comsearch contends that we cannot rule on the Key Bridge Proposal because it presents novel questions of law or policy (whether to designate additional database managers 10 years after the initial designations) that are beyond our delegated authority.<sup>51</sup> We disagree with both contentions.

15. Given the Bureau's existing delegated authority in matters pertaining to licensing and certifying frequency coordinators, the Commission's specific directive to the staff to solicit proposals by public notice before selecting one or more database managers confirms, rather than defines, the Bureau's delegated authority in this area. The Commission delegates functions of a continuing or recurring nature by rules included in Subpart B of Part 0 of the Commission's rules,<sup>52</sup> and Section 0.331 delegates authority to the Chief, Wireless Telecommunications Bureau, subject to certain limitations and exceptions, to perform all of the functions of the Bureau described in Section 0.131.<sup>53</sup> These functions include certifying frequency coordinators, considering petitions seeking review of coordinator actions, and engaging in oversight of coordinator actions and practices.<sup>54</sup> Comsearch contends that this delegation rule is inapplicable because it was adopted prior to the *Report and Order* and because the Commission and Bureau have distinguished between frequency coordinators and database managers, thereby implying, according to Comsearch, that database managers fall outside the scope of language delegating authority to certify frequency coordinators.<sup>55</sup> Comsearch is highly selective in the language that it chooses to parse, however, because the *Report and Order* is otherwise replete with language making clear the Commission's intention to adopt the third-party database registration process as a streamlined

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<sup>49</sup> Comsearch Comments at 4 and 12-14 citing *Report and Order*, 18 FCC Rcd 23318, 23340-23341. Comsearch adds that "[t]he fact that WTB . . . was unchallenged when it designated database managers in the past . . . does not immunize it from timely challenges to its delegated authority to designate new database managers." Letter from Charles R. Hardy, Vice President, Comsearch, to Marlene H. Dortch, Secretary, FCC, at 2-3 (filed Jan. 7, 2014) at 3, n.15.

<sup>50</sup> Comsearch Comments at 12-13 quoting *Report and Order* at 23340-41 ¶ 51.

<sup>51</sup> Comsearch Comments at 12-14. See also 47 C.F.R. § 0.331(a)(2) (precludes the Bureau from exercising delegated power to act on any complaints, petitions or requests, whether or not accompanied by an application, when they present novel questions of law or policy that cannot be resolved under outstanding Commission precedents and guidelines).

<sup>52</sup> 47 C.F.R. § 0.201(d)(1). See generally 47 C.F.R. Part 0, Subpart B (§§ 0.201-0.392).

<sup>53</sup> See introductory paragraph of 47 C.F.R. § 0.331. See also 47 C.F.R. § 0.331(e). The exceptions and limitations are in 47 C.F.R. § 0.331(a)-(d) and we address below Comsearch's claim that § 0.331(a)(2) bars the Bureau from acting on the Key Bridge Proposal.

<sup>54</sup> 47 C.F.R. § 0.131(m). The Bureau also administering the programs and policies for the regulation of the terms and conditions under which communications entities offer domestic wireless telecommunications services. These functions include all wireless telecommunications service providers' and licensees' activities. See 47 C.F.R. § 0.131, introductory text. More specifically, the Bureau acts for the Commission under delegated authority in all matters pertaining to the licensing and regulation of wireless telecommunications. These activities include: policy development and coordination; conducting rulemaking and adjudicatory proceedings, including licensing and complaint proceedings. See *id.* § 0.131(a). The Bureau also develops programs and rules to ensure interference-free operation of wireless telecommunications equipment and networks, see *id.* § 0.131(h), and exercises such authority as may be assigned, delegated or referred to it by the Commission, see *id.*, § 0.131(l).

<sup>55</sup> Comsearch Comments at 13-14 (arguing that the Bureau has stated that Database Managers are not frequency coordinators (but are allowed to offer optional services including frequency coordination) and that, given this distinction, designating Database Managers is not within the Bureau's authority to certify frequency coordinators).

coordination process for the 70/80/90 GHz Service.<sup>56</sup> Even Comsearch acknowledges that the Commission has referred to the database manager for another radio service, the Wireless Medical Telemetry Service (WMTS), as a frequency coordinator.<sup>57</sup> Comsearch claims that this precedent is inapplicable to 70/80/90 GHz.<sup>58</sup> But the Commission specifically cited this WMTS precedent in the *Report and Order*,<sup>59</sup> which among other things clarified that the Bureau's authority under Section 0.131(m) to certify frequency coordinators includes authority to designate database managers in the services it administers.<sup>60</sup>

16. The Bureau cannot exercise delegated power to act on any complaints, petitions or requests, whether or not accompanied by an application, when they present novel questions of law or policy that cannot be resolved under outstanding Commission precedents and guidelines.<sup>61</sup> Comsearch claims that the Key Bridge Proposal presents a novel issue regarding the financial effect on the incumbent database managers of designating an additional database manager some ten years after the initial designations.<sup>62</sup> The Commission made its policy clear in the *Report and Order*, however: where appropriate, the Commission has tried to introduce market forces into the frequency coordination process, because competition among coordinators promotes cost-based pricing and provides incentives for enhancing customer service—and it expected the benefits of competition to be considered.<sup>63</sup> Comsearch suggests that the Commission had in mind only the benefits of competition among a limited number of initial, concurrent market entrants and did not envisage the prospect of sequential entry by a potentially unlimited number of competitors.<sup>64</sup> But nothing in the *Report and Order* suggests that the benefits of competition can be generated only by a limited number of one-time early entrants to a market.<sup>65</sup> To the contrary, the Commission cited precedent that opened frequency coordination services in the Private Land Mobile Radio (PLMR) Services to competition approximately ten years after the Commission had certified one frequency coordinator for each PLMR radio service.<sup>66</sup> Consistent with this analysis, the

<sup>56</sup> See *Report and Order* at Section III.D.2 b. (Coordination and Registration). Comsearch ignores the Commission's multiple references in the *Report and Order* to the notion of coordination through a third party entity that would serve as a clearinghouse and repository of site path information. See, e.g., *Report and Order*, 18 FCC Rcd at 23339-23340 ¶ 49, which the Commission adopted after noting that commenters overwhelmingly favored nationwide licensing conditioned upon site (path) specific coordination, *id.*, *Report and Order* at 23337 ¶ 44.

<sup>57</sup> Comsearch Comments at 14 n.25, citing Amendment of Parts 2 and 95 of the Commission's Rules to Create a Wireless Medical Telemetry Service, *Report and Order*, 15 FCC Rcd 11206, 11218-11219 (2000) ("*WMTS Report and Order*").

<sup>58</sup> *Id.*, *WMTS Report and Order*.

<sup>59</sup> *Report and Order*, 18 FCC Rcd at 23340-41 ¶ 51 n.156 citing *WMTS R&O*, 15 FCC Rcd at 11,218-19 ¶ 36.

<sup>60</sup> *Id.* See also *Report and Order* at 23340-41 ¶ 51 n.155 citing Amendment of Parts 2 and 95 of the Commission's Rules to Create a Wireless Medical Telemetry Service, *Order*, ET Docket 99-255, 16 FCC Rcd 4543, 4551 ¶ 48 (WTB, PSPWD 2001) (*WMTS Order*) (acting on delegated authority WTB designated a WMTS frequency coordinator to manage a database effective upon the execution of a written agreement). See also note 67, *infra*.

<sup>61</sup> See 47 C.F.R. §0.331(a)(2).

<sup>62</sup> See, e.g., Comsearch Comments at 13-14.

<sup>63</sup> *Report and Order* at ¶ 51.

<sup>64</sup> *Report and Order*, 18 FCC Rcd 23318, 23340-23341.

<sup>65</sup> See *Report and Order*, 18 FCC Rcd 23318, 23340-23341.

<sup>66</sup> *Report and Order* at ¶ 51 citing Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them, *Second Report and Order*, PR Docket No. 92-235, 12 FCC Rcd 14307, 14328-29 ¶ 40, 14,332-333 ¶¶ 45-47 (1997) (*Refarming Second R&O*). Under the exclusive certifications that existed from 1986 to 1997, there was little need for frequency coordinators to share detailed information about applicants' systems with other coordinators. *Id.* at ¶ 45. The Commission recognized that existing databases would have to be shared to ensure fair competition among frequency coordinators under the newly competitive process and

(continued...)

Commission confirmed that “the authority already delegated to the Bureau to certify frequency coordinators for the services it administers allows it to introduce competitive coordination into a service with an exclusive coordinator.”<sup>67</sup>

17. Moreover, as noted above, the Commission and Bureau specifically reserved the discretion to designate one or more third-party database managers, and Comsearch has acknowledged that the Commission can designate additional database managers.<sup>68</sup> As such, we agree with Key Bridge<sup>69</sup> that the Bureau can resolve the Key Bridge Proposal under outstanding Commission precedents and guidelines.

18. *Ad hoc vs. filing window.* Comsearch’s third procedural argument is that the Commission should not designate new database managers on an *ad hoc* basis by initiating a proceeding each time a new applicant files a proposal.<sup>70</sup> To engender a more orderly process, Comsearch states that the Commission should open a new filing window for all comers—making clear that the term for new entrants would begin on a date that would coincide with the expiration dates of the current database managers’ terms in 2019.<sup>71</sup> Such a window, says Comsearch, would protect incumbent database managers from being forced to react whenever a new entity decides to submit a proposal, and would protect incumbents from incurring late entrant transition and interoperability costs multiple times.<sup>72</sup> This approach would also allow the incumbents, prior to renewing MOUs for an additional five-year term, the opportunity to assess the market.<sup>73</sup>

19. As noted above, during the pendency of the instant proceeding, we renewed the incumbent Database Managers terms through December 2019.<sup>74</sup> Based on these renewals, Comsearch claims that the Key Bridge Proposal should not be considered until 2019.<sup>75</sup> We reject this claim for the reasons discussed in paragraphs 20-21, below. The Bureau’s sole experience with a filing window for database manager proposals for the 70/80/90 GHz bands produced three applicants<sup>76</sup> and we received no additional proposals after seeking public comment on the Key Bridge Proposal, the first formal application since 2004. Based on this experience and the record before us, which does not reflect any concern over this issue by any other incumbent database manager, we do not believe that establishing a filing window for additional proposals is necessary prior to acting on the Key Bridge Proposal.

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required the newly competitive frequency coordinators to exchange data at least once per business day. *Id.*, ¶¶ 44-48.

<sup>67</sup> Amendment of the Commission’s Rules to Provide Spectrum for the Operation of Medical Body Area Networks, *Order on Reconsideration and Second Report and Order*, ET Docket No. 08-59, 29 FCC Rcd 10662, 10681-82 ¶¶ 59-60 (2014) (Commission decided that only one MBAN coordinator should be selected initially but recognized potential drawbacks of no competition and noted that “the authority already delegated to the Bureau to certify frequency coordinators for the services it administers [citing 47 C.F.R. § 0.131(m)] allows it to introduce competitive coordination into a service with an exclusive coordinator.” *Id.* at 10681 ¶ 60 [notes omitted]. The MBAN coordinator serves as a database manager for MBAN devices in the 2390-2400 MHz band and as a coordinator for MBAN devices proposed in the 2360-2390 MHz band.

<sup>68</sup> *Report and Order* at ¶ 49.

<sup>69</sup> See Key Bridge Reply Comments at 11-12.

<sup>70</sup> Comsearch Jul. 20, 2016 *Ex Parte* letter at 2.

<sup>71</sup> Comsearch Comments at 10-12; Comsearch Jul. 20, 2016 *Ex Parte* letter at 2.

<sup>72</sup> Comsearch Comments at 11.

<sup>73</sup> Comsearch Jul. 20, 2016 *Ex Parte* letter at 2.

<sup>74</sup> See note 1, *supra*.

<sup>75</sup> Comsearch Jul. 20, 2016 *Ex Parte* letter at 2.

<sup>76</sup> A fourth company filed a proposal but later withdrew it. See note 10, *supra*.

Nonetheless, we acknowledge Comsearch's points regarding efficiency and will consider establishing a filing window if we receive another formal proposal(s).

## B. Substantive Objections

20. Comsearch also raises three substantive objections: that approving Key Bridge's application would provide an unfair competitive advantage to "free riders" that did not bear any of the significant startup costs,<sup>77</sup> that there is no evidence that the public interest would be served by another database manager,<sup>78</sup> and that Key Bridge lacks the requisite qualifications.<sup>79</sup> With regard to the first concern, we are obliged to note that the existing database managers undertook their efforts voluntarily and after the Bureau stated, in unequivocal terms, that it reserved the discretion to designate additional managers at a later date.<sup>80</sup> Given these unequivocal terms, Comsearch cannot claim with any credibility that the arrival of another competitor unfairly disturbs settled expectations. Moreover, as Key Bridge notes, "[t]o launch its own Millimeter Bands system Key Bridge will incur the same start-up costs, engineering expenses and infrastructure costs as the existing administrators."<sup>81</sup>

21. The Commission has already addressed the relevant public interest issues in the *Report and Order*, where it found that the introduction of competition into the frequency coordination process had brought significant benefits in terms of cost-based pricing for coordination and the incentive to enhance customer services.<sup>82</sup> The Commission said one of its longstanding goals had been to introduce market forces into the frequency coordination process, and it concluded that a similar approach could facilitate administration of the link registration process in the 70/80/90 GHz bands.<sup>83</sup> The Commission rejected Comsearch's recommendation to issue site-based licenses using the existing Part 101 coordination process<sup>84</sup> in favor of nonexclusive, nationwide licenses and link registrations in a third-party database—with the Bureau directed to choose one or more database managers pursuant to its existing delegated authority.<sup>85</sup> The Bureau also has addressed the public's interest in this issue. In the *Designation Order*, the Bureau said it was unlikely that designating a single manager would achieve the efficiencies that multiple competing managers had achieved in other bands, or that designating a single

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<sup>77</sup> Comsearch Comments at 3 and 6-7.

<sup>78</sup> Comsearch Comments at 3 and 7-10. "[B]efore considering any application to become a database manager, the Commission should . . . conduct an analysis of the state of the market for [70/80/90 GHz] bands database management services and of the costs or operational impact that a late entrant will impose upon incumbent database managers . . . ." Comsearch Jul. 20, 2016 *Ex Parte* letter at 2.

<sup>79</sup> Comsearch Comments at 4 and 9.

<sup>80</sup> See *Designation Order*, 19 FCC Rcd 20524, ¶1. See also Memorandum of Understanding Between The United States Government Federal Communications Commission and Comsearch (Dec. 9, 2004) at section 5.n. ("Database Manager is aware that the FCC has certified other entities to be database managers and that the FCC may at any time certify other entities as database managers."). See also Second Memorandum of Understanding Between The United States Government Federal Communications Commission and Andrew LLC d/b/a Comsearch (Dec. 9, 2014) second renewal of the 2004 MOU until December 8, 2019).

<sup>81</sup> Key Bridge Reply Comments at 5.

<sup>82</sup> See *Report and Order*, 18 FCC Rcd at 23340 ¶ 51, citing Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Radio Services, PR Docket No. 92-235, *Second Report and Order*, 12 FCC Rcd 14307 (1997).

<sup>83</sup> *Report and Order*, 18 FCC Rcd at 23340 ¶ 51.

<sup>84</sup> See Comsearch Comments in WT Docket No. 02-146, filed Dec. 18, 2002, at 8.

<sup>85</sup> See *Report and Order*, 18 FCC Rcd at 23340 ¶ 51; Comsearch Comments in WT Docket No. 02-146, filed Dec. 18, 2002, at 9.

manager would significantly simplify the link registration process.<sup>86</sup> After accepting the *Joint Proposal*,<sup>87</sup> the Bureau specified that the link registration databases of all database managers in the 70/80/90 GHz bands must contain the same up-to-date information and provide readily available access to that information, without introducing any notable lag time occurring into the registration process. On that basis, the Bureau concluded that increasing the number of managers with requisite expertise should enhance the industry's ability to successfully resolve any technical disputes that might arise.<sup>88</sup>

22. Regarding Key Bridge's qualifications, we disagree with Comsearch's contention that Key Bridge lacks sufficient expertise to operate a reliably updated database of frequency registrations. The record reflects that Key Bridge already operates a spectrum database management system in an environment that is arguably more challenging than the 70/80/90 GHz bands, where the Commission has authorized unlicensed radio devices to transmit on unused channels in the spectrum bands used by broadcast television stations, known as TV white spaces.<sup>89</sup> Implementation of a successful TV white spaces database system required consideration of its own unique inputs, variables and interference analysis, and the likely number of operators in the TV white spaces surpasses those in the 70/80/90 GHz bands. Based on our review of the record in this proceeding, we find that Key Bridge is well qualified to serve as a Database Manager, possessing valuable expertise in database design, frequency coordination and spectrum management.<sup>90</sup> Key Bridge has provided the requisite information and has otherwise demonstrated the ability to fulfill the database manager requirements specified in the *Report and Order* and recounted in the *Designation Order*. We believe that Key Bridge has demonstrated the ability to work with the relevant user communities to address link registration issues, and we therefore designate it as a Database Manager for the 70/80/90 GHz bands.

23. As the *Designation Order* stated, WTB favors letting the Database Managers work out their database needs and function as a unified system. We therefore require that Key Bridge and the incumbent Database Managers continue to maintain a cooperative environment that expedites link registrations through their combined efforts. Specifically, we require that the link registration process be uniformly administered and that communications among all of the Database Managers be completed without undue delay. In addition, all of the Database Managers must share link information on a continuous basis to permit access to the most up-to-date link information by users, the public and the Commission from all sources.

24. As the *Designation Order* required for FFI, Comsearch and Micronet, we define Key Bridge's duties and responsibilities as follows:

- A. Develop, manage and use link registration databases in coordination with all Database Managers, which together serve as the clearinghouse and repository of current and historical link information for all registered non-Federal Government links. Database Managers are not responsible for assigning frequencies, but are responsible for establishing and maintaining their individual databases as described in detail in the *Report and Order*, *Reconsideration Order*, and the *Designation Order*. A Database Manager may offer additional services, such as frequency coordination and other services to assist a licensee in designing a link and resolving any interference disputes;<sup>91</sup>

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<sup>86</sup> *Designation Order*, 19 FCC Rcd 20524, 20526, ¶ 6. Comsearch had originally proposed that only one database manager be designated. See note 13 and accompanying text, *supra*.

<sup>87</sup> See paras. 3-4, *supra*.

<sup>88</sup> *Designation Order*, 19 FCC Rcd 20524, 20526-20527, ¶ 6-7.

<sup>89</sup> See Key Bridge Proposal at 2.

<sup>90</sup> See discussion of Key Bridge's experience and technical capabilities in paras. 6-9, *supra*.

<sup>91</sup> *Id.* Database Managers may set fee structures associated with such services as necessary to recoup costs. *Id.* at 23341 ¶ 51.

- B. Make all Database Manager services available to all parties on a first-come, first-served and non-discriminatory basis, and provide public access to the link registration database at no charge;<sup>92</sup>
- C. Ensure that non-Federal Government links are coordinated with Federal Government operations through NTIA's automated coordination mechanism, and promptly notify the licensee when a link submission receives a green- or yellow-light response from NTIA;<sup>93</sup>
- D. Verify whether individual link registrations are subject to Commission filing requirements, and are otherwise compliant with Part 17 of our rules, including where required, registration in the Commission's Antenna Structure Registration Database;<sup>94</sup>
- E. Update its link registration database based on FCC actions affecting licenses and links in these bands, such as registration deletion, or license expiration, renewal, transfer or assignment;<sup>95</sup>
- F. Add or delete link information to its database based upon review and processing of link submissions from licensees on a non-discriminatory, first-come, first-served basis, and maintain a complete and accurate history of all links;<sup>96</sup>
- G. Modify its database when it is determined that a licensee has not met construction and loading requirements, and maintain documentation of such actions (with notice to WTB for any links also registered in ULS);<sup>97</sup>
- H. Administer the formal interference protection procedures, based upon "first-in-time" information recorded in the link registration system;<sup>98</sup>
- I. Provide all interested parties access to the link registration system at all times, except where maintenance and system upgrades require short periods of down time to complete;<sup>99</sup>
- J. Provide the Commission and NTIA access to the link registration system at all times, and establish, at a minimum, the following report capabilities/utilities for NTIA and FCC:
  - ability to query on basic link elements such as licensee name, FCC call sign, registration number, transmit coordinates and transmit frequency or frequency band;
  - ability to query and retrieve all link registrations associated with a specific licensee or FCC call sign;
  - ability to retrieve all link registrations within a specified geographic area;
  - ability to retrieve all link registrations filed or accepted within a specified time period;
  - ability to retrieve or request a report of all links removed from its database within a specified time period;

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<sup>92</sup> *Id.* at 23340 ¶ 50.

<sup>93</sup> A "green light" response indicates that the link is coordinated with the Federal Government; a "yellow light" response indicates a potential for interference to Federal Government or certain other operations. *See generally* 47 C.F.R. § 2.106. In the case of a "yellow light," the licensee must file an application for the requested link with the Commission, which in turn will submit the application to the Interdepartment Radio Advisory Committee for individual coordination. *See id.* at 23341-43 ¶¶ 52, 54, 58.

<sup>94</sup> *See id.* at 23342, 23348 ¶¶ 55, 57; *see also id.* at 23343 ¶ 60.

<sup>95</sup> *See generally Report and Order*, 18 FCC Rcd at 23337, 23339, 23341, 23343 ¶¶ 42, 46, 56, 58.

<sup>96</sup> *Id.* at 23337, 23341 ¶¶ 54, 58.

<sup>97</sup> *Id.* at 23350 ¶¶ 80-81.

<sup>98</sup> *Id.* at 23343 ¶ 58 (once notified of an interference complaint, the Database Manager must identify the problem link and notify the later-registered licensee that it must accept or resolve [as applicable] any identified interference immediately).

<sup>99</sup> *Id.* at 23340 ¶ 50.

- provide automated interface or reports as required by NTIA to allow them to maintain an accurate and complete database;
  - upon request, provide a complete download of the registration database in a format specified by FCC; and
  - ability to provide other reports to NTIA and FCC and respond to information requests as necessary;<sup>100</sup>
- K. Implement procedures and execute related documents required by NTIA to access its automated system;<sup>101</sup>
- L. Monitor and implement Commission rules and policies, including any changes thereto, pertaining to these frequency bands, including but not limited to those contained in or referenced by the Commission under WT Docket No. 02-146, including the *Report and Order, Interim Public Notice*, and any subsequent notices implementing the link registration process.
- M. Enter into a Memorandum of Understanding (MOU) with the FCC memorializing the duties and responsibilities as a database manager.<sup>102</sup>

In addition, as required by the *Reconsideration Order*, we include the following among Key Bridge's duties and responsibilities:

- N. Require each registrant, as part of the link registration process, to submit a frequency interference analysis to the Database Manager, the Database Manager to retain such analyses electronically for subsequent review by the public to aid in the resolution of any interference disputes that might subsequently arise.<sup>103</sup>

#### IV. NOTICES TO DATABASE MANAGERS

25. Without modifying or otherwise waiving each Database Manager's responsibility, as noted above, to monitor the Commission rules and policies, including any changes thereto, pertaining to these frequency bands, or creating any obligation or expectation of similar notices in the future, each incumbent Database Manager is hereby notified that Key Bridge Global, LLC, is being designated to serve as a Database Manager.

26. Each Database Manager is further notified that on July 14, 2016, the Commission issued a proposal to authorize the provision of Mobile Service in the 71-76 GHz and the 81-86 GHz bands and to require database managers for those bands to be certified as spectrum access system (SAS) administrators capable of providing real-time frequency coordination among Mobile as well as Fixed Service operators.<sup>104</sup> If adopted, any such SAS requirements would probably supersede existing database management requirements for the 71-76 and 81-86 GHz bands, invite new applications from prospective SAS administrators, and require existing database managers either to cease operation or to upgrade their capabilities to act as SAS administrators.

#### V. CONCLUSION AND ORDERING CLAUSES

27. Key Bridge Global LLC ACCORDINGLY IS DESIGNATED to serve as a Database Manager as set forth in this Order. Together with the incumbent Database Managers, it is responsible for the creation and maintenance of its individual link registration database for the 70/80/90 GHz bands, the

<sup>100</sup> *Id.*

<sup>101</sup> *Id.* at 23340-42 ¶¶ 50, 52-55.

<sup>102</sup> *Id.* at 23340 ¶ 51.

<sup>103</sup> See *Reconsideration Order*, 20 FCC Rcd 4889, 4895-4896, ¶¶ 12-14.

<sup>104</sup> See Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, *Report and Order and Further Notice of Proposed Rulemaking*, \_\_ FCC Rcd \_\_ (FCC No. 16-89, released July 14, 2016) at ¶¶ 440-441.

data collected and maintained by each being jointly shared, and together which shall comprise the link registration system for the bands.

28. Each of the three incumbent Database Managers and Key Bridge shall coordinate as described in paragraph 23 above as necessary to maintain the link registration system. The designation will take effect upon the execution of a Memorandum of Understanding between Key Bridge and the Wireless Telecommunications Bureau regarding the Database Manager's duties and responsibilities.<sup>105</sup> Following completion of the MOU process, the Bureau will provide contact information for the Database Manager via public notice.

29. The Broadband Division will e-mail the instant Order and Notice to each incumbent Database Manager's designated contact person in accordance with its Memorandum of Understanding with WTB.<sup>106</sup>

30. This action is taken under the delegated authority contained in Sections 0.131 and 0.331, of the Commission's Rules, 47 C.F.R. §§ 0.131, 0.331.

FEDERAL COMMUNICATIONS COMMISSION

Peter J. Daronco  
Deputy Chief, Broadband Division  
Wireless Telecommunications Bureau

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<sup>105</sup> As noted above, Key Bridge must also implement procedures and execute related documents required by NTIA to access its automated system. *See* para. 24.K., *supra*.

<sup>106</sup> We are also serving Comsearch's counsel for this proceeding.