

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

In the Matter of	)	
	)	
WORLD DATA PR INC.	)	File Nos., 0003959230, 0003959248,
	)	0003959251, 0003959254, 0003959257,
Applications for Base/Fixed Station Registrations	)	0003959259, 0003959260, 0003959262,
in the 3650-3700 MHz Band under Nationwide,	)	0003959264, 0003959267, 0004003606
Non-exclusive License Call Sign WQJI716	)	

**MEMORANDUM OPINION AND ORDER**

**Adopted: December 22, 2009**

**Released: December 22, 2009**

By the Chief, Broadband Division, Wireless Telecommunications Bureau:

**I. INTRODUCTION**

1. Between August 31 and October 23, 2009, World Data PR Inc. (“World Data”) filed the above-captioned applications to register base/fixed stations under its nationwide license, Call Sign WQJI716, at twelve locations in Puerto Rico.<sup>1</sup> On September 15, 2009, and November 12, 2009, Neptuno Networks (Neptuno) filed petitions to deny (PTDs) these applications.<sup>2</sup> For the reasons discussed below, we deny the PTDs.

**II. BACKGROUND**

2. World Data and Neptuno each holds a nationwide, non-exclusive license for the 3650-3700 MHz band (3650 MHz band).<sup>3</sup> Under the Commission’s Rules for the 3650 MHz band,<sup>4</sup> terrestrial operations in the band are licensed on a nationwide, non-exclusive, *i.e.*, shared, basis with other licensees of the band.<sup>5</sup> Given the shared, area-wide licensing regime, the Commission adopted several measures to

<sup>1</sup> See File Nos. 0003951644, 0003951793 (filed Aug. 31, 2009); File Nos. 0003959230, 0003959248, 0003959251, 0003959254, 0003959257, 0003959259, 0003959260, 0003959262, 0003959264, 0003959267 (filed Sep. 8, 2009). On October 21, 2009, World Data amended each application, *inter alia*, to file copies of an agreement reached with a grandfathered Fixed Satellite Service Earth Station (except that World Data so amended File No. 0003959262 on October 23, 2009). Also on October 21, 2009, Word Data filed application File No. 0004003606. On November 27, 2009, World Data withdrew File Nos. 0003951644 and 0003951793.

<sup>2</sup> Neptuno Networks, Petition to Deny File Nos. 0003951644, 0003951793, 0003959230, 0003959248, 0003959251, 0003959254, 0003959257, 0003959259, 0003959260, 0003959262, 0003959264, 0003959267 (filed Sep. 15, 2009) (PTD). Neptuno Networks, Petition to Deny File No. 0004003606 (filed Nov. 12, 2009) (Second PTD) (collectively, the PTDs).

<sup>3</sup> See note 36, *infra*.

<sup>4</sup> See subpart Z of Part 90 of the Commission’s Rules, 47 C.F.R. §§ 90.1301-1337 (Wireless Broadband Services in the 3650-3700 MHz Band).

<sup>5</sup> 47 C.F.R. § 90.1307 (Licensing). Non-exclusive nationwide licenses serve as a prerequisite for registering individual fixed and base stations. *Id.*

address the potential for interference between and among non-exclusive licensees. First, all equipment in the 3650 MHz band must use “contention-based protocols,” which “allow multiple users to share the same spectrum by defining the events that must occur when two or more devices attempt to simultaneously access the same channel and establishing rules by which each device is provided a reasonable opportunity to operate.”<sup>6</sup> Second, all applicants and licensees must cooperate in the selection and use of frequencies in the 3650 MHz band in order to minimize the potential for interference and make the most effective use of the authorized facilities.<sup>7</sup> In this regard, a licensee is not authorized to operate a fixed or base station under its nationwide license until registering that station in the Commission’s Universal Licensing System (ULS).<sup>8</sup> To facilitate the required cooperation and sharing, all registration data is available publicly, online, in ULS. Relative to license applications, the Commission’s review of submitted registrations is limited, *e.g.*, proximity of proposed stations to grandfathered satellite Earth stations, use of FCC-certified equipment, although registrations for some locations or facilities are subject to additional approvals such as international coordination, Federal coordination, Environmental Assessment, Quiet Zone, *etc.* Therefore, a registration is not complete until it is in “Accepted” status and the nationwide license is updated on ULS.<sup>9</sup>

3. *Neptuno’s PTDs.* Neptuno alleges that Word Data operated transmitters at some of the locations specified in the above-captioned registrations prior to obtaining FCC authority, and failed to coordinate any of these stations with Neptuno. Attachment A of the PTD is a copy of Neptuno’s complaint filed concurrently with the Commission’s Enforcement Bureau (EB) concerning the allegations of unauthorized operation.<sup>10</sup> Neptuno states that it suffered harmful interference to its 3650 MHz band operations in Puerto Rico beginning on July 29, 2009, and continuing until August 24, 2009, when it was able to track down the source of the interference to four unauthorized radios installed on the rooftop of a building in the general vicinity of Neptuno’s San Juan metropolitan area operations.<sup>11</sup> According to Neptuno, the building administrator at the location informed Neptuno’s engineers that the radios were installed by Konet Corporation (Konet), which operates as a systems integrator in the San Juan metropolitan area. Moreover, Neptuno states that Konet’s operations were on behalf of World Data.<sup>12</sup>

4. Neptuno avers that the Commission should be particularly concerned with Konet’s and World Data’s unauthorized activity because the 3650 MHz band regime, based on non-exclusive shared and cooperative use of the spectrum, only works if all operators follow the policies governing operations in this band. According to Neptuno, Konet’s and World Data’s disregard for the mandatory operational safeguards and their failure to “make every effort” to avoid harmful interference to Neptuno’s operations deprived Neptuno of its right to coordinate its operations to prevent interference and undermined the

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<sup>6</sup> See, *e.g.*, Wireless Operations in the 3650-3700 MHz Band, ET Docket No. 04-151, Rules for Wireless Broadband Services in the 3650-3700 MHz Band, WT Docket No. 05-96, *Report and Order*, 20 FCC Rcd 6502, 6523 ¶ 58 (2005) (*3650 MHz Order*), *recon. granted in part, Memorandum Opinion and Order*, 22 FCC Rcd 10421, 10431-10437 ¶¶ 27-39 (2007) (*3650 MHz MO&O*).

<sup>7</sup> See 47 C.F.R. § 90.1319(d).

<sup>8</sup> 47 C.F.R. § 90.1307.

<sup>9</sup> See Wireless Telecommunications Bureau Announces Start Date for Licensing and Registration Process for the 3650-3700 MHz Band, *Public Notice*, 22 FCC Rcd 19802, 19805, n. 17 (WTB 2007) (*Public Notice*).

<sup>10</sup> See Letter dated September 15, 2009, to Mr. Neil McNeil, Assistant Chief, Spectrum Enforcement Division, Enforcement Bureau, FCC, from Ari Q. Fitzgerald, Counsel to Neptuno Networks (Complaint Letter) (included as Attachment A of the PTD).

<sup>11</sup> See Complaint Letter at 2-3.

<sup>12</sup> Complaint Letter at 3.

Commission's goal of ensuring efficient spectrum use by multiple licensees in the 3650 MHz band. Specifically, Neptuno argues that Konet and World Data knowingly ignored their obligation to research existing use in the 3650 MHz band and register base stations with the Commission before beginning operations on the same channel as Neptuno. As a result, their actions left Neptuno without assistance in locating the source of harmful interference that overwhelmed its operations for approximately three weeks prior to discovering the unregistered base stations (and rendering all of Neptuno's troubleshooting efforts futile).<sup>13</sup> In the Second PTD, Neptuno states that World Data has failed to cooperate with Neptuno as required by Section 90.1319(d) because the definition of "cooperate" is "to act or work with another or others" or "act together"<sup>14</sup> and World Data did not communicate with Neptuno until after Neptuno complained of harmful interference from unauthorized World Data operations.<sup>15</sup> Moreover, after Neptuno contacted World Data, "no information regarding World Data's intentions for use of the 3.65 GHz band, network deployment . . . or plans for avoiding harmful interference to Neptuno's operations in the San Juan area was provided . . . ."<sup>16</sup> Neptuno also states that World Data and Konet are "habitual violators" of the Commission's rules because Neptuno believes that Konet, "in conducting wireless operations on behalf of World Data was, prior to receiving FCC approval of a license assignment application, operating several 18 GHz band microwave links."<sup>17</sup> Neptuno further alleges that, in 2006, Konet repeatedly caused harmful interference to Neptuno operations in the 5 GHz band, contrary to an agreement, which further demonstrates that Konet is a "habitual rule violator and a bad actor . . . ."<sup>18</sup>

5. For these reasons, in the PTDs, Neptuno seeks denial of the above-captioned registrations because "World Data cannot be trusted to comply with the Commission's [3650 MHz band] rules or [to] avoid causing harmful interference in the future."<sup>19</sup> Neptuno asks us to prohibit World Data (and Konet) from operating 3650 MHz base stations within six miles of registered Neptuno base stations in Puerto Rico.<sup>20</sup> More specifically, Neptuno asks the Commission to deny the pending applications with respect to nine of the base-station sites discussed in Attachment B of the PTD "that likely will pose problems to Neptuno's existing 3.65 GHz operations."<sup>21</sup>

6. *World Data's Responses.* World Data acknowledges that unauthorized operations at "very low power levels" by its contractor occurred on August 19 and 24, 2009, but avers that these "isolated transgressions" by a contractor without World Data's prior knowledge should not preclude

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<sup>13</sup> See PTD at 3-4.

<sup>14</sup> Second PTD at 2 quoting Webster Ninth New Collegiate Dictionary at 288 (1991).

<sup>15</sup> Second PTD at 2 citing Attach. 1, Declaration of Jose Muniz (Muniz Declaration) at 1-2 (stating that World Data has not "cooperated with Neptuno in the selection of frequencies . . . or provided Neptuno with the technical aspects of its plan for the operation of 3.65 GHz sites (and the avoidance of harmful interference to Neptuno's 3.65 GHz operations) in Puerto Rico.")

<sup>16</sup> Muniz Declaration at ¶ 6.

<sup>17</sup> Complaint Letter at 4.

<sup>18</sup> *Id.* at 5.

<sup>19</sup> PTD at 1.

<sup>20</sup> See Complaint Letter at 1. In the Complaint Letter, Neptuno also seeks to bar Konet Corporation, which allegedly engaged in unauthorized operation on behalf of World Data. See, e.g., *id.* at 1. We note that this request is far beyond the scope of the petitions to deny World Data's above-captioned registration applications.

<sup>21</sup> *Id.* See also Second PTD (seeking denial of File No. 0004003606).

World Data from competing in the Puerto Rico market using the 3650 MHz band.<sup>22</sup> Furthermore, World Data states that it reviewed the ULS database and took Neptune's operations into account in designing its system prior to filing the registrations.<sup>23</sup> Responding to the Second PTD, World Data states that Neptune has not provided any evidence that interference will result from the facilities proposed in File No. 0004003606.<sup>24</sup> Moreover, World Data counters that Neptune has failed to meet the 3650 MHz band rules by rebuffing attempts to resolve the matter, carrying on as if it is entitled to first-in-time priority, and refusing to adjust its system to avoid interference to or from World Data.<sup>25</sup> World Data also notes that the Commission's rules do not contemplate petitions to deny against 3650 MHz band registrations.<sup>26</sup>

7. *Neptuno Reply to Response.* Neptuno avers that World Data's efforts in designing its system did not comply with Section 90.1319(d) because these alleged actions, *e.g.*, reviewing the ULS database, selecting the same TDD technology as Neptune, employing horizontal polarization and directional antennas, were unilateral whereas World Data was required to cooperate with Neptune in the selection of frequencies and to coordinate its proposed operations with Neptune.<sup>27</sup> Neptuno also argues that World Data's unauthorized operation was not at very low power given the three-mile distance between Konet's office World Data's Network Operations Center (NOC).<sup>28</sup> World Data responds that this allegation is based on the erroneous assumption that the CPE located at the Konet offices was involved in the testing of World Data's antennas at the NOC.<sup>29</sup>

8. *FCC staff meeting with parties and counsel.* World Data and Neptune each suggested that FCC staff should hold a meeting to assist in resolving the ongoing dispute.<sup>30</sup> On December 15, 2009, FCC staff held a meeting with counsel and senior representatives of each licensee.

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<sup>22</sup> See World Data PR, Inc., Response to Neptune Network's Request to Deny Pending Registrations (filed Oct. 23, 2009) (Response) at 2.

<sup>23</sup> See Response at 4-6 and Attach. A, Declaration of Fred Mercado (Mercado Declaration), Attach. B, Declaration of Bahram Khoei (Khoei Declaration).

<sup>24</sup> See World Data PR, Inc., Response to Neptune Network's Second Request to Deny Pending Registration (filed Nov. 19, 2009) (Second Response) at 2.

<sup>25</sup> See, *e.g.*, Response at 7-8. World Data contends that aspects of Neptune's system design (*e.g.*, 360 degree coverage, high-site base station locations, using both horizontal and vertical polarizations) makes Neptune's base stations more likely to cause and suffer interference. *Id.*

<sup>26</sup> Response at 1, n1 citing *Public Notice*, 22 FCC Rcd at 19808.

<sup>27</sup> See Neptune Networks Reply to Response of World Data (filed Nov. 20, 2009) (Neptune Reply to Response of World Data) at 3 citing Attach. A, Declaration of Jose Muniz dated Nov. 20, 2009 (Second Muniz Declaration) at 1-2.

<sup>28</sup> See Neptune Reply to Response of World Data at 6-8. Neptune also submits a screenshot of WiMax Modem Management software for CPE used by a Neptune customer, *see id.* at 7, which Neptune contends indicates that World Data was not operating at very low power because the Neptune customer "would not have been surreptitiously connected to a World Data base station" at World Data's Network Operations Center (NOC) located approximately one half mile from the Neptune customer. *Id.* at 6-7. Given that the screenshot is undated, not supported by affidavit, and does not establish that the base station was World Data's, we find this screenshot to be of little evidentiary value.

<sup>29</sup> See Response of World Data PR Inc. to Reply of Neptune (filed Nov. 25, 2009) (World Data Response to Reply) at 1-2 noting Declaration of Bahram Khoei (dated Nov. 24, 2009, stating that the CPE was installed and used at the Konet offices for passive frequency scanning to determine what channels were being used by other operators in the area).

<sup>30</sup> See Second Response at 1, 4; Neptune Reply to Response of World Data at 9, n.35.

### III. DISCUSSION

9. As a preliminary matter, we agree with World Data that the Commission's rules do not contemplate petitions to deny against applications for database registrations that do not appear on public notice as accepted for filing.<sup>31</sup> To the contrary, the Commission intended the 3650 MHz band rules as involving minimal regulatory burdens to encourage multiple entrants and to stimulate the rapid expansion of broadband services.<sup>32</sup> Under this streamlined approach, sometimes referred to as "license-lite," the Commission reviews a license applicant's basic qualifications and determines whether the public interest, convenience, and necessity, would be served by granting a nationwide, non-exclusive license for the 3650-3700 MHz band.<sup>33</sup> An application for a nationwide, non-exclusive license is subject to petitions to deny and the 30-day notice and wait provisions of Section 309(d) of the Communications Act of 1934, as amended, only if the applicant seeks common carrier regulatory status.<sup>34</sup> By granting a nationwide, non-exclusive license, the Commission has determined that the applicant is qualified to be a licensee and that the public interest, convenience, and necessity is served by granting the applicant a nationwide, non-exclusive license for the 3650-3700 MHz band. Thus, once granted, the nationwide, non-exclusive license is an area-wide license for the 3650-3700 MHz band, albeit subject to the base/fixed station registration condition prior to operation and the continuing obligation to comply with the service rules.<sup>35</sup> In this case, the Commission granted non-exclusive, nationwide licenses to Neptuno Media and World Data in 2007 and 2008, respectively.<sup>36</sup>

10. Section 309 of the Communications Act of 1934, as amended, provides that any party in interest may oppose grant of a license application in the broadcasting and common carrier services, as well as in certain other specified services not relevant here, if that grant would be inconsistent with the public interest, convenience and necessity standard set forth in Section 309(a) of the Act.<sup>37</sup> Because this

<sup>31</sup> See 47 C.F.R. § 1.939(a) (any party in interest may file with the Commission a petition to deny any application listed in a Public Notice as accepted for filing). "Station registrations will not be placed on Public Notice as a matter of routine unless they raise a matter of public significance (e.g., environmental concerns)." *Public Notice*, 22 FCC Rcd at 19808 *citing* 47 C.F.R. § 1.933(a)(3) (categories of information of public significance include special environmental considerations as required by Part 1, FCC Rules).

<sup>32</sup> *3650 MHz Order*, 20 FCC Rcd at 6508, 6512 ¶¶ 15-16, 28 ("[w]e wish to emphasize that the licensing requirements that we are adopting here for wireless operations in the 3650 MHz band are minimal in nature.").

<sup>33</sup> See, e.g., *3650 R&O*, 20 FCC Rcd at 6513-14 ¶ 32 (Applicant qualification for non-exclusive nationwide wireless licenses in the 3650 MHz band will be assessed in accordance with FCC Form 601 and Commission rules).

<sup>34</sup> 47 U.S.C. § 309(d) cross-referencing to applications listed in subsection (b).

<sup>35</sup> For example, under the service rules, licensees that use equipment that is FCC-certified as "restricted" are limited to operating on the lower 25 megahertz, i.e., 3650-3675 MHz.

<sup>36</sup> World Data is licensed under Call Sign WQJI716. See File No. 0003541157 (filed Aug. 11, 2008). Because World Data sought common carrier regulatory status, the Commission gave public notice of the acceptance for filing of this application, on August 20, 2008, and afforded interested persons 30 days to file petitions to deny. No such petitions were filed and the Commission granted World Data's license application on September 23, 2008, and gave public notice of this action on Oct. 1, 2008. No petitions for reconsideration were filed. Neptuno Media is licensed under Call Sign WQHW752, see File No. 0003240650 (filed Nov. 26, 2007), and we are assuming *arguendo* that Neptuno Networks (as well as Neptuno Solutions referenced in the Muniz Declaration and Second Muniz Declaration), and Neptuno Media (FRN 0012841458) are the same entity. Because Neptuno did not seek common-carrier regulatory status, the "notice and wait" provisions of 47 U.S.C. § 309 were inapplicable and the Commission granted Neptuno's license application on Nov. 27, 2007, and gave public notice of this action on Dec. 5, 2007. No petitions for reconsideration were filed.

<sup>37</sup> See 47 U.S.C. § 309(a), (b), (d).

statutory framework for opposing applications does not cover the application at issue here—a base/fixed registration under a non-exclusive, nationwide license—the filing of a petition to deny is not a matter of right, but rather a matter within the Commission's discretion. Although the Communications Act and Commission rules do not provide a right for opposing parties to file petitions to deny 3650 MHz band registrations that do not appear on public notice as accepted for filing, we have discretion to treat such pleadings as informal requests for Commission action pursuant to Section 1.41 of the Commission's Rules.<sup>38</sup> We do so here.

11. *PTDs' allegations concerning unauthorized operation.* Having reviewed the PTDs and World Data's Responses, we find no basis for denying the above-referenced registration applications. We note that the Enforcement Bureau conducted an investigation regarding the unauthorized operation alleged in the Complaint Letter and issued a *Notice of Violation*.<sup>39</sup> While we believe that rule violations involving unauthorized operation are serious, such violations in and of themselves are insufficient for us to conclude that World Data will not comply with our rules in the future.<sup>40</sup>

12. *PTDs allegations regarding "Konet's and World Data's Other Apparent Violations."* Neptuno's allegations regarding Konet—a separate company<sup>41</sup>—operating 18 GHz links without authority and interfering with Neptuno's 5 GHz operations in 2006, are unsupported and in any event irrelevant to our consideration of the above-captioned applications.

13. *Allegations concerning violations of the 3650-MHz band sharing rules.* Based on the record before us, we find the PTDs' allegations unpersuasive. Neptuno suggests that World Data intends to "simply turn up their transmitters and overwhelm others in the area."<sup>42</sup> However, the record before us reflects that World Data consulted ULS prior to filing the registrations and took steps towards sharing the band. For example, by selecting the same time division duplex ("TDD") WiMAX technology used by Neptuno, World Data facilitated the opportunity for both licensees to use synchronization to substantially mitigate interference between the two systems.<sup>43</sup> World Data is also deploying directional antennas and using horizontal polarization in light of Neptuno's then-registered use of vertical polarization.<sup>44</sup>

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<sup>38</sup> 47 C.F.R. § 1.41. See, e.g., Michael McDermott d/b/a McDermott Communications Co., *Memorandum Opinion and Order*, 11 FCC Rcd 5750, 5751 ¶ 6 (1996).

<sup>39</sup> See World Data, PR, Inc., Licensee of Radio Station WQJI716, San Juan, PR, *Notice of Violation*, NOV No. V201032680002 (rel. Nov. 20, 2009) (available at: <http://www.fcc.gov/eb/FieldNotices/2003/DOC-294807A1.html>) (*Violation Notice*). On October 19, 2009, an agent of the Commission's San Juan Office issued a Letter of Inquiry (File No. EB-09-SJ-0033). *Id.* at 1. World Data submitted a satisfactory response dated November 25, 2009 to the Violation Notice, and the investigation is now closed.

<sup>40</sup> *Accord*, Neptuno Media, *Memorandum Opinion and Order*, 22 FCC Rcd 7516, 7518-19 ¶ 8 (WTB BD 2007) (noted, in response to petition deny filed as a matter of right, that applicant's unauthorized operation was serious but found that the violations in and of themselves were not sufficient to conclude that the applicant will not comply with the Commission's rules in the future).

<sup>41</sup> See Response at 12 citing Mercado Declaration at ¶ 10.

<sup>42</sup> PTD at 4 citing *3650 MHz MO&O*, 22 FCC Rcd at 10429 ¶ 22.

<sup>43</sup> See Response at 4-5, Second Response at 2, n.2. See also Mercado Declaration at ¶ 2, Khoe Declaration at ¶ 2.

<sup>44</sup> See, e.g., Response at 5 citing Mercado Declaration at ¶ 3 (stating that World Data took into consideration Neptuno's existing registered facilities and made design decisions, such as cross polarization, directional antennas, and low-to ground-level base stations, that were intended to reduce the likelihood of potential interference to Neptuno); Khoe Declaration at ¶ 3 (stating, *inter alia*, that Nortel reviewed ULS to identify other users of the 3650 MHz band within Puerto Rico. See also Khoe Declaration at ¶ 2 (stating that Word Data retained Nortel to (continued....)



14. On the other hand, we agree with Word Data that portions of the PTDs seem to suggest that Neptuno has or should have first-in-time priority over later-filed base/fixed registrations.<sup>45</sup> At this juncture, we take Neptuno at its word when it acknowledges that “the 3.65 GHz band regime, based on non-exclusive-shared and cooperative use of the spectrum, only works if all operators follow the policies governing operations in this band.”<sup>46</sup> Nonetheless, we emphasize that any such suggestion of a first-in-time priority among terrestrial licensees in the 3650 MHz band would be incorrect. In this connection, we also reject any suggestion that World Data is required to “coordinate,” *i.e.*, show to Neptuno’s satisfaction that World Data’s proposed operation will not interfere with Neptuno’s earlier registered stations.<sup>47</sup> In placing the 3650 MHz Service under Part 90, the Commission stated that “this means that multiple licensees in these shared use bands operate on the same frequencies in the same geographic area without exclusive spectrum usage rights and interference protections.”<sup>48</sup> The Commission also specifically declined to adopt a coordination proposal that would have afforded earlier registered stations interference protection from later registered stations.<sup>49</sup> In declining this and other proposals that would have “altered the band’s cooperation requirement to approximate more clearly the rights available under an exclusive licensing model,” the Commission noted that “creating the type of first-in-time rights [suggested by some parties] would give initial market entrants ability to structure their operations in a manner that could impede subsequent providers’ ability to offer viable service and diminish any incentive that such initial market entrants might have in negotiating interference avoidance measures to accommodate new entrants.”<sup>50</sup>

15. Thus, once the licensing staff accepts the above-captioned registrations and updates ULS, World Data will have authority to operate the above-captioned stations. Accordingly, we remind both licensees that “[a]ll wireless licensees in the 3650 MHz band will have equal rights to the use of this spectrum (*i.e.*, no priority for first-in users), but all these licensees will have a mutual obligation to cooperate and avoid harmful interference to each another.”<sup>51</sup> In contrast to an exclusive licensing model in which a licensee may exclude others from a particular license area, the non-exclusive licensing model adopted in the *3650 MHz Order* requires a potential entrant to consider that the presence of other licensees will require cooperative use and may, at times, restrict the amount of spectrum and/or time that spectrum is available to any particular licensee.<sup>52</sup> While terrestrial licensees in this band do not have

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design and supervise the deployment of World Data’s 3650 MHz band network in Puerto Rico). *See also* Second Response at 2.

<sup>45</sup> *See* Response at 9 *citing* PTD, Attach. B at 1 (“Neptuno cell sites that are situated within a six mile radius of World Data cell sites are susceptible to harmful interference from World Data operations.”). *See also* PTD, Attach. B at 3 (“Neptuno already has a registered cell site located at Quintavalle, which means that any source of transmission in the same band, including World Data’s operations, could cause harmful interference.”).

<sup>46</sup> *See* PTD, Attach. A, Complaint Letter at 4 (note omitted).

<sup>47</sup> *See, e.g.*, Second Response at 3-4. *See also* Second Muniz Declaration at ¶ 11 (“coordination can occur only if World Data shares with Neptuno its network operating parameters (and plan for avoiding harmful interference to Neptuno’s metropolitan San Juan operations) and Neptuno is afforded an opportunity to assess whether, given those parameters and plan, the operations of both companies can be synchronized to avoid harmful interference. If these steps are not taken prior to the authorization of the proposed World Data sites, operation by World Data from the proposed sites could cause harmful interference to Neptuno’s authorized and existing 3.65 GHz operations.”).

<sup>48</sup> *3650 MHz Order*, 20 FCC Rcd at 6514 ¶ 35.

<sup>49</sup> *See 3650 MO&O*, 22 FCC Rcd at 6509-10 ¶¶ 20, 23.

<sup>50</sup> *3650 MO&O*, 22 FCC Rcd at 6510 ¶ 23.

<sup>51</sup> *3650 MHz R&O*, 20 FCC Rcd at 6513 ¶ 31.

<sup>52</sup> *3650 MHz MO&O*, 22 FCC Rcd at 10430 ¶ 25.

interference protection rights of primary, exclusive use licensees, the licensing scheme imposes on all licensees the mutual obligation to cooperate and avoid harmful interference to one another. Should a licensee become aware of harmful interference, even if not intentionally caused, it must act in good faith to help eliminate the interference.<sup>53</sup> Thus, licensees are not permitted simply to turn up their transmitters and overwhelm others in the area.<sup>54</sup> Licensees must make every effort to ensure that their fixed and base stations operate at a location, and with technical parameters, that will minimize the potential to cause and receive interference.<sup>55</sup> Licensees of stations suffering or causing harmful interference are expected to cooperate and resolve this problem by mutually satisfactory arrangements. That is, all licensees have the mutual obligation to cooperate and avoid harmful interference to one another and there is no first-in-time priority.<sup>56</sup>

#### IV. CONCLUSION ORDERING CLAUSES

16. Based on the record before us, we conclude that Neptuno's PTDs do not justify a conclusion that Word Data lacks the requisite character to hold Commission licenses<sup>57</sup> or that declining to accept the instant registration applications would serve the public interest. We therefore deny the PTDs.<sup>58</sup>

17. ACCORDINGLY, IT IS ORDERED, pursuant to Sections 4(i) and 309 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 309, and Section 1.41 of the Commission's Rules, 47 C.F.R. § 1.41, that the Petition to Deny filed by Neptuno Networks on September 15, 2009, and the Petition to Deny filed by Neptuno Networks on November 12, 2009, ARE DENIED.

18. IT IS FURTHER ORDERED that, pursuant to Sections 4(i) and 309 of the Communications Act of 1934, as amended, 47 U.S.C. § 154(i), and Section 90.1307 of the Commission's Rules, 47 C.F.R. § 90.1307, that the licensing staff of the Broadband Division SHALL PROCESS the

<sup>53</sup> 3650 R&O, 20 FCC Rcd 6512 ¶ 29.

<sup>54</sup> 3650 MHz MO&O, 22 FCC Rcd at 10429 ¶ 22. The Commission noted that, to the extent that contention technology does not alone facilitate spectrum sharing, the registration database will substantially assist providers in locating the source of interference that they may be experiencing and facilitate cooperative operating agreement among the parties. *Id.*

<sup>55</sup> 47 C.F.R. § 90.1319(d). Generally, factors that affect interference include antennas ("[t]he directive radiation patterns of microwave antennas are one of the most significant factors in preventing one system from interfering with another"), polarization ("[a]n antenna's response to (or isolation from) signals radiated in a differently polarized electrical field is another characteristic of antennas that is significant in frequency planning"), frequency separation, and distance differential. *See* National Spectrum Managers Association, Report WG 5.92.008, *Report and Tutorial Carrier-to-Interference Objectives* (Jan. 1992) at § 1.1 (Factors Affecting Interference). In this case, and based on the record before us, we also note that the equipment that World Data PR, Inc. proposes to employ (Airspan, FCCID O2J-365T) has recently been certified for use as an unrestricted device, meaning that it employs a protocol that includes interference mitigation mechanisms such as monitoring and dynamic frequency assignment that are designed to avoid interference to equipment using different protocols. We note that World Data and/or Neptuno (who has registered the same Airspan equipment), could upgrade the equipment (and modify their registrations accordingly) to operate in unrestricted mode through a software upgrade.

<sup>56</sup> *Id.*, § 90.1319(d). *See also* 3650 MHz Order, 20 FCC Rcd at 6513 ¶ 31 ("[a]ll wireless licensees in the 3650 MHz band will have equal rights to the use of this spectrum (*i.e.*, no priority for first-in users), but all these licensees will have a mutual obligation to cooperate and avoid harmful interference to each another.").

<sup>57</sup> We reserve the right to revisit this conclusion in the future in the appropriate context if additional evidence of rule violations comes to our attention.

<sup>58</sup> *See* 47 C.F.R. § 1.41.



above-captioned registration applications filed by Word Data PR Inc., in accordance with this *Memorandum Opinion and Order* and the Commission's Rules. Any acceptance of the above-captioned registrations shall be conditional, as discussed in paragraph 11 above.

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

FEDERAL COMMUNICATIONS COMMISSION

Blaise A. Scinto  
Chief, Broadband Division  
Wireless Telecommunications Bureau