



# PUBLIC NOTICE



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**THE FEDERAL COMMUNICATIONS COMMISSION AND THE NATIONAL  
TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION:**

**COORDINATION PROCEDURES IN THE 3.45-3.55 GHZ BAND**

**WT Docket No. 19-348**

## **I. INTRODUCTION**

In March 2021, the Federal Communications Commission announced a planned auction of new flexible-use licenses in the 3.45-3.55 GHz band (Auction 110).<sup>1</sup> Auction 110 will offer 4,060 new licenses throughout the contiguous United States, subject to cooperative sharing requirements in certain, defined areas where and when federal incumbents<sup>2</sup> require continued access to the band. The Commission, the National Telecommunications and Information Administration (NTIA), and the Department of Defense (DoD) are working collaboratively towards these goals. By this *Public Notice*, the Commission, through its Wireless Telecommunications Bureau, and NTIA, provide (i) information for potential bidders in the 3.45 GHz Service auction and (ii) guidance to the ultimate 3.45 GHz Service licensees and the affected federal incumbents regarding coordination procedures for shared use of the 3.45 GHz band. The joint nature of this *Public Notice* reflects the intersecting jurisdictions of the Commission (which administers spectrum for non-federal uses) and NTIA (which administers spectrum for federal uses) in the radio spectrum, including in this band.<sup>3</sup>

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<sup>1</sup> See *Auction of Flexible-Use Service Licenses in the 3.45-3.55 GHz Band for Next-Generation Wireless Services; Comment Sought on Competitive Bidding Procedures for Auction 110*, AU Docket No. 21-62, Public Notice, 2021 WL 1086298 (2021); see also *Facilitating Shared Use in the 3100-3550 MHz Band*, WT Docket No. 19-348, Second Report and Order, Order on Reconsideration, and Order of Proposed Modification, 2021 WL 1086295 (2021) (3.45 GHz Band 2d R&O). In the 3.45 GHz Band 2d R&O, the Commission began implementing the Beat China by Harnessing Important, National Airwaves for 5G Act of 2020 (Beat CHINA for 5G Act of 2020), which requires the Commission to start an auction to grant new initial licenses subject to flexible use in the 3450-3550 MHz (3.45 GHz) band by December 31, 2021. Pub. L. 116-260, Division FF, Title IX, Sec. 905.

<sup>2</sup> References to federal incumbents in this *Public Notice* refer to the individual military departments with which 3.45 GHz Service licensees will negotiate coordination agreements.

The *Public Notice* proceeds as follows. In section II, we provide general background information about federal/non-federal coordination in the areas of the 3.45 GHz band in which federal incumbents have spectrum assignments. In section III, we provide information and guidance on the overall coordination process in areas subject to coordination, consistent with the requirements of the *3.45 GHz Band 2d R&O*, including informal pre-coordination discussions and the formal process of submitting coordination requests and receiving results from relevant federal incumbents.

## II. BACKGROUND

*3.45 GHz Band 2d R&O.* On March 17, 2021, the Commission adopted rules governing flexible use of spectrum in the 3.45-3.55 GHz band, thereby making 100 megahertz of mid-band spectrum available for flexible-use wireless services, including 5G.<sup>4</sup> Under the Commission's framework for the band, developed in collaboration with the Executive Branch, non-federal systems generally will have unencumbered use of the entire band across the contiguous United States and, with limited exceptions, federal systems operating in the band may not cause harmful interference to non-federal operations in the band. In limited circumstances and in locations where current incumbent federal systems will remain in the band, however, non-federal systems will not be entitled to protection against harmful interference from federal operations (and restrictions may be placed on non-federal operations).<sup>5</sup> These exceptions will occur only in geographic areas specifically identified as Cooperative Planning Areas and Periodic Use Areas.<sup>6</sup>

*Cooperative Planning Areas and Periodic Use Areas.* Cooperative Planning Areas and Periodic Use Areas are defined in US Footnote US431B to the U.S. Table of Frequency Allocations.<sup>7</sup> US431B also identifies the boundaries of each of the 33 Cooperative Planning Areas, as well as the 23 overlapping Periodic Use Areas, by reference to either a point and radius or a series of coordinates (which create a polygon).<sup>8</sup> 3.45 GHz Service licensees must successfully coordinate their operations with federal

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<sup>3</sup> Federal use of the radio spectrum is generally governed by NTIA, while non-federal use is governed by the Commission. See 47 U.S.C. §§ 305(a), 902(b)(2)(A); see also 47 U.S.C. § 151 *et seq.* As such, the Commission determined in the *3.45 GHz Band 2d R&O*, that any further guidance or details concerning federal/non-federal coordination, particularly federal aspects of such coordination, should be issued jointly by NTIA and the Commission. In this regard, the Commission authorized and delegated authority to its Wireless Telecommunications Bureau to work with NTIA staff, in collaboration with affected federal incumbents, to develop a joint FCC and NTIA public notice with additional information on notification and coordination procedures in the 3.45 GHz band as outlined in the *3.45 GHz Band 2d R&O*. See *3.45 GHz Band 2d R&O*, at \*19, para. 57. This *Public Notice* was developed under that direction.

<sup>4</sup> See *3.45 GHz Band 2d R&O*, at \*6, para. 17. The rules adopted in the *3.45 GHz Band 2d R&O* will become effective June 7, 2021, except for those rules which contain new or modified information collection requirements that require review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act, which will not become effective until the effective date for those information collections is announced in a document published in the Federal Register after the Commission receives OMB approval. See Federal Communications Commission, Facilitating Use in the 3100-3550 MHz Band, 86 Fed. Reg. 17920 (Apr. 7, 2021) (3.45 GHz Rules Federal Register Publication).

<sup>5</sup> *3.45 GHz Band 2d R&O*, at \*8, para. 21.

<sup>6</sup> See 47 CFR § 2.106 US431B. For convenience, we include a copy of US431B in Appendix A of this Public Notice. US431B will become effective on the date that is announced in a document published by the Commission in the Federal Register after the Commission receives OMB approval for this new information collection. See 3.45 GHz Rules Federal Register Publication.

<sup>7</sup> See 47 CFR § 2.106 US431B.

<sup>8</sup> See *id.*

incumbent(s) before commencing operation in any Cooperative Planning Area or Periodic Use Area.<sup>9</sup> Several statutory provisions encourage negotiation, coordination, and spectrum sharing between non-federal users and federal entities.<sup>10</sup> Beyond simply coordinating within those areas, federal and non-federal operators are encouraged to enter into mutually acceptable operator-to-operator agreements. Such agreements may permit more extensive flexible use within Cooperative Planning and Periodic Use Areas by adopting a technical approach that mitigates the interference risk to federal operations. The parameters of Cooperative Planning and Periodic Use Areas defined in US431B are the default, but in practice should be a starting point for negotiations between flexible-use licensees and federal incumbents; more expansive use by the flexible-use licensee can be agreed to in areas and under circumstances or parameters acceptable to the federal incumbent.

*Fort Bragg and Little Rock.* As noted in the *3.45 GHz Band 2d R&O*, in all but two of the Cooperative Planning and Periodic Use Areas, 3.45 GHz Service licensees must coordinate with federal incumbents across all 100 megahertz of spectrum within the areas.<sup>11</sup> In the Fort Bragg, North Carolina, Cooperative Planning Area and Periodic Use Area, in contrast, licensees will only need to coordinate in the lower 40 megahertz of the band, i.e., 3450-3490 MHz, because the federal incumbent will only use the lower 40 megahertz of the band in this area, leaving the upper 60 megahertz unencumbered and available for full-power, flexible-use operations in accordance with the rules adopted herein. Thus, licensees in the upper portion of the band, i.e., 3490-3550 MHz, need not coordinate with the federal incumbent in the Fort Bragg areas. In the Little Rock, Arkansas Cooperative Planning Area, for approximately the first 12 months following the close of the auction for this band, licensees will have to coordinate with the federal incumbent across all 100 megahertz of the spectrum within the Little Rock area. After this time period, however, licensees will only need to coordinate in the lower 40 megahertz of the band in the Little Rock area, as the federal incumbent will vacate the upper 60 megahertz, i.e., 3490-3550 MHz, by that time.<sup>12</sup>

*Information on Incumbent Federal Operations.* Information about incumbent federal operations is generally available through the affected federal incumbents' Transition Plans. By way of background, federal incumbents in the 3.45 GHz band were required to develop and submit Transition Plans to implement relocation or sharing arrangements<sup>13</sup> and affected federal incumbents have done so. Transition Plans contain information on these federal systems, including the frequencies used, emission bandwidth, system use, geographic service area, authorized radius of operation, and estimated timelines and costs for relocation or sharing.<sup>14</sup> Affected federal incumbents are permitted to redact from the publicly released Transition Plans classified national security information and "other information for which there is a legal basis for nondisclosure and the public disclosure of which would be detrimental to national security, homeland security, or public safety or would jeopardize a law enforcement investigation."<sup>15</sup> NTIA

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<sup>9</sup> 47 CFR § 27.1603(a). Section 27.1603 will become effective on the date that is announced in a document published by the Commission in the Federal Register after the Commission receives OMB approval for this new information collection. See *3.45 GHz Rules Federal Register Publication*.

<sup>10</sup> See NTIA Manual, Annex O (Relocation or Sharing by Federal Government Stations in Support of Reallocation) § O.5.1 (Negotiation and Coordination with Non-Federal Users), citing, e.g., 47 U.S.C. §§ 923(g)(3)(A)(iv)(II) and (g)(3)(B)(i), 923(h)(2)(F); see also *id.* at § 928(d)(3)(B)(i)(II).

<sup>11</sup> *3.45 GHz Band 2d R&O*, at \*12, paras. 30-31.

<sup>12</sup> The DoD will provide notice to licensee(s) via their portal account(s) and will post a notice on its portal front page, and NTIA will post a similar notice on its 3450-3550 MHz webpage (<https://www.ntia.gov/category/3450-3550-mhz>).

<sup>13</sup> See 47 U.S.C. § 923(h).

<sup>14</sup> See *id.* § 923(h)(2).

expects to publish the publicly available Transition Plans on its website no later than June 7, 2021.<sup>16</sup> Other publicly available information from NTIA regarding the 3.45 GHz band is also available through the same website.

The 3.45 GHz band currently is used by the DoD for high- and low-powered radar systems on a variety of platforms in the 3 GHz band, including fixed, mobile, shipborne, and airborne operations, along with testing infrastructure and training operations. Generally, incumbent federal operations in 3.45 GHz band include the following categories of systems:

- High-powered shipborne radars
- Lower power airborne radars
- Lower power ground-based radars
- Testing infrastructure
- Training operations

For information on the incumbent federal operations, please see the Transition Plans and DoD's Workbook and associated file(s) once they are published on NTIA's website.<sup>17</sup>

Below, we describe the specific coordination requirements set forth in the *3.45 GHz Band 2d R&O* and we provide guidance regarding how such requirements might be addressed.

### III. COORDINATION PROCESS GUIDANCE

Before a 3.45 GHz Service licensee commences operations in a Cooperative Planning Area or Periodic Use Area, it must first successfully coordinate with the federal incumbent(s) associated with that area.<sup>18</sup> The purpose of coordination is to facilitate shared use of the band in these specified areas and during specified time periods.<sup>19</sup> The coordination procedures outlined here will apply to all 3.45 GHz Service licensees seeking to operate in a Cooperative Planning Area or Periodic Use Area, unless the 3.45 GHz Service licensee and the federal incumbent(s) have reached a mutually agreeable coordination arrangement that provides otherwise.<sup>20</sup> Such arrangements could, for example, document specific notification and activation procedures. Moreover, additional coordination requirements, procedures, and scenarios may be developed, consistent with any Administrative Procedure Act or other legal requirement that may apply, in future public notices, specific operator-to-operator agreements, or other mechanisms. We expect 3.45 GHz Service licensees and federal incumbents to negotiate in good faith throughout the coordination process (e.g., sharing information about their respective systems and communicating results to facilitate commercial use<sup>21</sup> of the band).<sup>22</sup>

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<sup>15</sup> See 47 U.S.C. §§ 923(h)(7). Each federal entity that requested pre-auction funds attested in its Transition Plan that it will, during the transition period, make available to a non-federal user with appropriate security clearances any classified information regarding the relocation process, on a need-to-know basis, to assist the non-federal user in the relocation process with the eligible federal entity or other eligible federal entities. *Accord* 47 U.S.C. § 928(d)(3)(B)(ii)(4); *see also* NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management (NTIA Manual), Annex O at §§ O.4.1 ¶ 3, O.6.1, and at Appendix: Common Format for Transition Plans, Tab B.

<sup>16</sup> See 47 U.S.C. § 923(h)(5) (requiring NTIA to publish approved plans on its website no later than 120 days before the start of the auction). *See* <https://www.ntia.gov/category/3450-3550-mhz>.

<sup>17</sup> <https://www.ntia.gov/category/3450-3550-mhz>.

<sup>18</sup> See 47 CFR § 27.1603(a).

<sup>19</sup> *3.45 GHz Band 2d R&O*, at \* 8, para. 21.

<sup>20</sup> *Id.* at \* 8, para. 22.

### **A. Contact**

The DoD will create an online portal through which any 3.45 GHz Service licensee that intends to commence operations within a Cooperative Planning Area or Periodic Use Area must initiate formal coordination requests for its relevant systems within the associated area.<sup>23</sup>

### **B. Informal Discussions**

Before a 3.45 GHz Service licensee submits a formal coordination request, it may share draft proposals or request that federal incumbent coordination staff discuss draft coordination proposals.<sup>24</sup> These discussions are voluntary, informal, and non-binding and can begin at any time after the conclusion of the auction. 3.45 GHz Service licensees may discuss their proposed deployments and seek guidance from the federal incumbent(s) on appropriate measures to ensure that electromagnetic compatibility (EMC) analyses undertaken by the federal incumbent(s) produce positive results.<sup>25</sup> 3.45 GHz Service licensees and federal representatives also may develop an analysis methodology that reflects the characteristics of licensees' proposed deployments and the federal incumbents' operation. These discussions also can involve developing a process for identification and resolution of harmful interference.

Informal discussions are intended to allow federal incumbents and 3.45 GHz Service licensees to share information about their respective system designs and to identify potential issues before a formal coordination request will be submitted through the DoD's online portal.<sup>26</sup> The federal incumbents involved, unless they specify otherwise in writing, would not be committing to any final determination regarding the outcome of the formal coordination. We strongly encourage parties to use informal, non-binding discussions to minimize or resolve basic methodological issues upfront, before having the 3.45 GHz Service licensees submit formal coordination requests. The DoD will provide a single point of contact on NTIA's website upon conclusion of the auction through which a licensee may initiate informal discussions.

### **C. Formal Coordination**

We provide guidance for the formal coordination process below. This description is general, and the process may differ between federal incumbents and is subject to modification by the federal incumbents and licensees as agreed to on an operator-to-operator basis. We expect and encourage federal incumbents and 3.45 GHz Service licensees to engage in good faith coordination.

#### **1. Initiation**

Coordination shall be initiated by the 3.45 GHz Service licensee by formally requesting access to operate within a Cooperative Planning Area or Periodic Use Area.<sup>27</sup> This request must be made directly (Continued from previous page) \_\_\_\_\_

<sup>21</sup> References to commercial use in this *Public Notice* refer to non-federal, primary, flexible use of the 3.45 GHz band and do not preclude use of the band for private mobile radio services. See 47 U.S.C. § 332(d)(3); 47 CFR § 20.3.

<sup>22</sup> *3.45 GHz Band 2d R&O*, at \*15, para. 40.

<sup>23</sup> *Id.* at \*15, para. 41. The portal will enable the 3.45 GHz Service licensee to set up a portal account for engaging in this coordination process.

<sup>24</sup> *Id.* at \*16, para. 42.

<sup>25</sup> An EMC analysis investigates potential interference resulting from the introduction of systems into a previously established electromagnetic environment.

<sup>26</sup> *3.45 GHz Band 2d R&O*, at \*16, para. 43.

through the DoD's online portal.<sup>28</sup> The 3.45 GHz Service licensee must set up its portal account and, once established, the 3.45 GHz Service licensee will receive a user guide and training on the use of the portal.

## 2. Timing

*No formal coordination for nine (9) months.* As set forth in the *3.45 GHz Band 2d R&O*, unless a 3.45 GHz Service licensee and the relevant federal incumbent otherwise agree, no formal coordination requests may be submitted until nine (9) months after the date of the auction closing Public Notice.<sup>29</sup> 3.45 GHz Service licensees may request informal discussions during this nine-month time period as described above in section B.

*Timing Generally and Affirmative Concurrence.* Nine (9) months after the close of the auction, federal incumbents are expected to timely review and respond to formal coordination requests.<sup>30</sup> We encourage licensees and incumbents, through informal discussions, to serialize formal coordination requests as appropriate to avoid an overwhelming influx of coordination requests at the conclusion of the nine (9) month quiet period. For example, a licensee holding licenses in multiple Cooperative Planning or Periodic Use Areas could provide a prioritized list of coordination requests to be acted upon by the federal incumbent(s). This informal information exchange may aid the licensee in creating its prioritized list of deployments, which is required as part of its formal coordination request. We also encourage licensees and federal incumbents to discuss, as appropriate, extended review timelines to the extent that the incumbents' coordination resources are exhausted due to a large number of requests within a short time period after the quiet period. This will help maximize the quick and efficient review of coordination requests.

When a licensee submits a formal request, the federal point of contact will affirmatively acknowledge receipt of the request within five (5) calendar days after the date of submission. Within ten (10) calendar days after the submission date, federal incumbent staff will notify the 3.45 GHz Service licensee that the request is complete or incomplete. Unless the federal incumbent finds the request incomplete or the federal incumbent and 3.45 GHz Service licensee agree to a different timeline, the federal response (the results letter discussed below) is due within sixty (60) calendar days after the deadline for the notice of completeness.

Unless otherwise agreed to in writing, the requirement to reach a coordination arrangement is satisfied only by obtaining the affirmative concurrence of the relevant federal incumbent(s) via the portal.<sup>31</sup> This requirement is not satisfied by omission.

## 3. Submission Information

To submit a formal coordination request, the 3.45 GHz Service licensee must include information about the technical characteristics for its base stations and associated mobile units relevant to operation within the Cooperative Planning Area or Periodic Use Area.<sup>32</sup> This information should be provided in accordance with the instructions provided in the DoD's online portal user's guide. The types of specific

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<sup>27</sup> *Id.* at \*16, para. 44; 47 CFR § 1603(a).

<sup>28</sup> 47 CFR § 1603(d).

<sup>29</sup> *3.45 GHz Band 2d R&O*, at \*16, para. 45.

<sup>30</sup> *Id.* at \*16, para. 46.

<sup>31</sup> *Id.* at \*17, para. 47.

<sup>32</sup> *Id.* at \*17, para. 48.

information, including the likely data fields in the portal, include basic technical operating parameters (e.g., system technology, mobile EIRP, frequency block, channel bandwidth, site name, latitude, and longitude). The portal will accept uploaded attachments that include narratives that explain area-wide deployments.

3.45 GHz Service licensees must prioritize their deployments in the Cooperative Planning Area or Periodic Use Area for each federal incumbent when submitting a formal coordination request.<sup>33</sup> If a licensee seeks to coordinate with multiple systems or multiple locations of operation controlled by one federal incumbent, it must specify the order in which it prefers the federal incumbent process the request (i.e., the order of systems or geographic locations).

#### **4. Notice of Complete or Incomplete Request**

Once a licensee submits a formal coordination request, the relevant federal incumbent's coordination staff will review the data to ensure that it is in the proper format and contains the proper content. Federal incumbent coordination staff will notify the 3.45 GHz Service licensee within ten (10) calendar days through the portal that its formal coordination request is complete or incomplete. If the federal incumbent coordination staff finds a request to be incomplete, it must identify the information that the licensee must provide in as much specificity as possible. We expect that parties will work collaboratively to achieve completeness in a timely manner.

#### **5. Coordination Analysis**

As noted above, unless a timely notice of incomplete application is sent to the 3.45 GHz Service licensee (or the parties agree to different a timeline), the clock for the federal response begins to run on the deadline for the notice of completeness. The federal response is due within sixty (60) calendar days thereafter, unless the 3.45 GHz Service licensee agrees otherwise. During these sixty (60) days, the federal incumbent will coordinate with appropriate internal units, complete EMC analysis, and post the 3.45 GHz Service concurrence, partial concurrence with operating conditions, or denial. Each federal incumbent is responsible for ensuring that it completes its internal, multi-level review in a timely manner. Federal incumbents are encouraged, through their designated internal coordination point of contact or through other means, to ask any questions and discuss any issues that arise with the 3.45 GHz Service licensee.

Once the designated federal incumbent coordinator completes its analysis pursuant to the formal coordination request, the 3.45 GHz Service licensee and the relevant federal incumbent field offices will be notified automatically when a results letter is posted by the federal user in the portal. The result of a coordination request will be concurrence, partial concurrence with operating conditions that specify the terms in which the licensee may begin operations, or denial of the request. Because of the sensitive nature of the data involved in much of the EMC analysis, the results letter may not present details of the analysis, the federal frequency assignments affected, or timelines. If a federal incumbent does not provide a results letter within the sixty (60) day-deadline, or within the timeline otherwise agreed to by the 3.45 GHz Service licensee, the 3.45 GHz Service licensee may contact NTIA for assistance.

Once a results letter is posted by the federal incumbent coordinator in the portal, we strongly encourage the 3.45 GHz Service licensee to acknowledge receipt of the letter via the portal. If no affirmative acknowledgement is made via the portal, the 3.45 GHz Service licensee should be aware that the federal incumbent coordinator may close out the coordination request in the portal 60 days after posting the results letter. Notwithstanding the 3.45 GHz Service licensee's acknowledgement of receipt, if a 3.45 GHz Service licensee has questions about the result, it may contact the federal incumbent coordinator to propose network design modifications to help address EMC issues raised in the results

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<sup>33</sup> *Id.* at \*17, para. 49.

letter.<sup>34</sup> The federal incumbent coordinator may, where feasible, review technical proposals from the 3.45 GHz Service licensee to relieve or resolve a denial, partial concurrence or any operating condition contained in the results letter. Once the 3.45 GHz Service licensee has revised its network design, it must resubmit a new formal coordination request, and the 3.45 GHz Service formal coordination process will begin again.

We stress again the benefits of informal discussions among 3.45 GHz Service licensees and federal incumbents, including during the formal coordination process.<sup>35</sup> While in many cases, federal incumbent staff may be unable to provide specific information about the protected federal operations<sup>36</sup> and are not responsible for designing the 3.45 GHz Service system, they may offer some suggestions on how to address or mitigate the issue, given the limited information that can be made available on some federal systems. If the parties agree that informal discussions would be helpful, the sixty (60)-day clock will be paused so the federal incumbents are not forced to formally decline or condition the pending, formal coordination request within the sixty (60)-day deadline.

## **6. Streamlined Coordination Process for High-Power Radar Sites**

An optional streamlined framework is available to meet the coordination requirement associated with some of the high-power radar facilities identified with an asterisk (\*) in footnote US431B of 47 CFR § 2.106.<sup>37</sup> The list of sites for which streamlined coordination applies will be posted on NTIA's website at the same time as the Transition Plans. 3.45 GHz Service licensees requesting coordination for a Cooperative Planning Area have a streamlined option set forth in Appendix B of this *Public Notice* in the form of a template coordination agreement. Once a 3.45 GHz Service licensee completes<sup>38</sup> and delivers (via the DoD portal) a signed copy of the template agreement set forth in Appendix B, and the federal incumbent countersigns, the Commission and NTIA will deem the coordination requirement satisfied for the 3.45 GHz Service licenses and Cooperative Planning Areas listed in Table A of the agreement. Federal incumbents will complete and countersign a template agreement within thirty (30) calendar days of receiving one signed by the 3.45 GHz Service licensee. Exchange of information during execution of these coordination agreements may be facilitated by use of the DoD portal described in section C.1 above.

## **7. Periodic Use Areas Operator-to-Operator Agreements**

In accordance with the *3.45 GHz Band 2d R&O*, 3.45 GHz Service licensees and federal incumbents are expected to develop operator-to-operator agreements to define notification processes and timelines before commencement of federal operations within a Periodic Use Area.<sup>39</sup> The operator-to-operator agreement could, for example, specify the notification process, content, and timelines (i.e., the

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<sup>34</sup> *Id.* at \*17, para. 50.

<sup>35</sup> *Id.* at \*17, para. 51.

<sup>36</sup> The Freedom of Information Act exempts disclosure to the public of detailed characteristics of military systems, where specifically authorized by Executive Order to be kept secret in the interest of national defense or foreign policy. 5 U.S.C. § 552(b)(1). The characterization of the interference interactions of systems that conflict with a 3.45-3.55 GHz Service licensee's desired deployment plan could run the risk of disclosing information, either directly or by inference, that has been classified and subject to substantial restrictions on access under Executive Orders and applicable regulations. *See, e.g.*, Executive Order 13526 at part 4, 75 Fed. Reg. 707 (2009).

<sup>37</sup> *See* 47 CFR § 2.106 US431B.

<sup>38</sup> Section 2, Table A of the template agreement calls for a description of license(s) to be subject to the agreement by State, Site, Call Sign, and Cooperative Planning Area. Section 3 of the template agreement calls for the 3.45 GHz Service licensee (and the federal incumbent) to provide Point-of-Contact information. Sections 2 and 4 of the template agreement contemplate 3.45 GHz Service licensee notifications to the federal incumbent.

<sup>39</sup> *See 3.45 GHz Band 2d R&O*, at \*18, para 54.



starting and ending dates and times of such use). The agreements also may specify that the 3.45 GHz Service licensee and the federal incumbent may use a scheduling tool to complete the notification process or agree to technical limitations to commercial operations (e.g., reduced power levels and antenna pointing angles) in lieu of a notification process.

Upon receipt of a coordination request that includes a Periodic Use Area, the DoD will contact the licensee via the portal to schedule a time to discuss establishing an operator-to-operator agreement. Due to the complexities of the negotiations, operator-to-operator agreements may not be finalized during the 60-day coordination analysis process. Both parties are expected to negotiate in good faith.

In addition, an Incumbent Informing Capability (IIC) could be developed to facilitate coordination within the Periodic Use Areas.<sup>40</sup> The IIC concept is a time- and location-based spectrum sharing uniform approach that would enable federal agencies to submit information, reliably and securely, about when and where they would be employing certain frequencies. This scheduling information would inform a licensee, allowing commercial network providers to adjust operations in near real time and avoid harmful interference. The goal is to enable efficient, secure, and reliable spectrum sharing between new commercial networks and the incumbent federal systems. As part of the DoD's funded Transition Plan, the DoD will develop an Automated Sharing Coordination System (ASCS) which could be used to provide notification of the activation of Periodic Use Areas by DoD incumbents. All use of these capabilities is dependent upon the operator-to-operator agreements.

#### **D. Dispute Resolution**

*Disputes generally—during coordination or regarding a sharing agreement.* If disputes arise during the coordination process, we strongly encourage parties to negotiate in good faith to resolve them.<sup>41</sup> If a 3.45 GHz Service licensee believes that a federal incumbent is not negotiating in good faith, the licensee may seek the assistance of NTIA or it can inform the Commission. If a federal incumbent believes that a 3.45 GHz Service licensee is not negotiating in good faith, it must nonetheless timely respond to a formal request and would have the option to seek assistance from NTIA or the Commission. We encourage parties to enter into operator-to-operator agreements that have dispute resolution provisions for any or all possible disputes. If a dispute arises between an incumbent federal incumbent and a 3.45 GHz Service licensee over an operator-to-operator agreement, provisions calling for informal negotiation, mediation, or non-binding arbitration between the parties will help to clearly define and narrow the issues for formal agency resolution by NTIA, the Commission, or both agencies acting jointly, as applicable.

*Certain disputes for which the law and NTIA rules allow parties to request a dispute resolution board.* If a dispute arises between a federal entity<sup>42</sup> and a 3.45 GHz Service licensee regarding the execution, timing, or cost of the approved Transition Plan, the law provides that either the federal entity or the non-federal user may request that NTIA establish a dispute resolution board to resolve the dispute.<sup>43</sup> NTIA has adopted regulations that govern the working of any dispute resolution boards

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<sup>40</sup> NTIA 2021 *Ex Parte* Letter at 3 (citing Charles Cooper, Assoc. Admin., Off. of Spect. Mgt., *NTIA Pursues Innovative Spectrum Sharing Plan That Could Deliver Boost to 5G*, (Dec. 15, 2020), <https://www.ntia.gov/blog/2020/ntia-pursues-innovative-spectrum-sharing-plan-could-deliver-boost-5g>). We note that several commenters support using an IIC as part of the coordination process. *See, e.g.*, 5G Americas Comments at 14; CommScope Comments at 12; Federated Wireless Comments at 11; Google Comments at 11; Nokia Comments at 6; Sony Electronics Inc. Comments at 23; WISPA Comments at 23.

<sup>41</sup> *3.45 GHz Band 2d R&O*, at \*17, para. 52.

<sup>42</sup> We note that the dispute resolution process detailed in 47 U.S.C. § 923(i) references certain disputes that may arise between a “Federal entity” and a non-federal user. For purposes of this *Public Notice*, such a “Federal entity” is the same as a federal incumbent.

established by NTIA.<sup>44</sup> Those regulations cover matters related to the workings of a board, including the content of any request to establish a board, the associated procedures for convening it, and the dispute resolution process itself.<sup>45</sup>

The Middle Class Tax Relief and Job Creation Act of 2012 requires a board to rule on the dispute within thirty (30) days after a party has requested NTIA to convene the board.<sup>46</sup> As stated in Annex O, “[t]he statute’s 30-day deadline for responding to formal dispute resolution requests could possibly impact a board’s ability to convene, meet with the parties, and adequately address complex cases.”<sup>47</sup> At the same time, however, the statute and Annex O encourage cooperation to assure timely transitions between federal and non-federal use of the spectrum. If and when differences surface among federal and non-federal parties, NTIA’s rules require the parties to make good faith efforts to solve these problems on an informal basis before submitting a formal request to establish a dispute resolution board.<sup>48</sup> Informal negotiation, mediation, or non-binding arbitration between the parties will help to clearly define and narrow the issues needed to be brought into the formal dispute resolution process.

The scope of a dispute resolution request and, consequently, a board’s decision, are limited by law and NTIA’s regulations to matters “regarding the execution, timing, or cost of the transition plan submitted by the Federal entity.”<sup>49</sup> The statute authorizes a dispute resolution board to make binding decisions on such matters that can be appealed to the United States Court of Appeals for the District of Columbia Circuit.<sup>50</sup> Under NTIA’s rules, the dispute resolution board must also ensure that its decision does not have a detrimental impact on any national security, law enforcement, or public safety function made known to the board by an agency.<sup>51</sup> To fulfill that obligation, the board may request additional written submissions from an agency regarding the impact of such a decision on the agency’s operations, services, or functions.<sup>52</sup>

#### **E. Other Coordination Issues**

*Sharing of Sensitive and Classified Information.* The DoD is establishing a mechanism for the sharing of sensitive and classified information. NTIA expects that further details regarding this process will be posted on NTIA’s website soon.

*Interference Resolution Process.* The introduction of non-federal, flexible-use licenses increases the possibility that harmful interference will occur between new entrants and incumbent federal users.<sup>53</sup>  
(Continued from previous page)

<sup>43</sup> See Section 113(i) of the NTIA Organization Act, as amended (47 U.S.C. § 923(i)).

<sup>44</sup> See 47 CFR Part 301.

<sup>45</sup> Membership of a dispute resolution board shall be composed of a representative of OMB, NTIA, and the FCC, each appointed by the head of his or her respective agency. The OMB representative serves as the Chair of any board. With respect to the resolution of any disputes that may arise, the law and NTIA’s rules require a board to meet simultaneously with representatives of the federal entity and the non-federal user to discuss the dispute.

<sup>46</sup> 47 U.S.C. § 923(i)(4).

<sup>47</sup> NTIA Manual, Annex O at § O.5.2 ¶ 3. See 47 C.F.R. § 301.200(a)(2).

<sup>48</sup> NTIA Manual, Annex O.

<sup>49</sup> 47 U.S.C. § 923(i)(1).

<sup>50</sup> *Id.* § 923(i)(7).

<sup>51</sup> See 47 C.F.R. § 301.220(b). See also NTIA Manual, Annex O at § O.5.2 ¶ 4.

<sup>52</sup> See 47 C.F.R. § 301.220(b). See also NTIA Manual, Annex O at § O.5.2 ¶ 4.

<sup>53</sup> 3.45 GHz Band 2d R&O at \*18, para. 55.

As reflected in the new footnote US431B to the Table of Frequency Allocations, 3.45 GHz Service licensees in both types of coordination areas (Cooperative Planning Areas and Periodic Use Areas) must not cause harmful interference to federal users, and federal users should minimize the operational effect that they have on non-federal users.<sup>54</sup> Furthermore, footnote US431B also provides that 3.45 GHz Service licensees cannot claim interference protection within the coordination areas, absent an operator-to-operator agreement that specifies otherwise.<sup>55</sup> In addition, 3.45 GHz Service licensees may be required to “avoid, where possible, interference and potential damage to the non-Federal operators’ systems.”<sup>56</sup> In instances of identified harmful interference occurring between a federal user and a 3.45 GHz Service licensee not addressed by the coordination procedures or operator agreements, the 3.45 GHz Service licensee shall first attempt to resolve the interference directly. If that effort is unsuccessful, the 3.45 GHz Service licensee, if adversely affected, may escalate the matter to the Commission.

*Future Workshops and Workbooks.* The DoD Transition Plans to be published on NTIA’s website will provide important information to prospective auction participants. They will be redacted to remove sensitive information as guided by statute. To supplement its Transition Plans, the DoD will be providing a “Workbook” that will offer additional publicly releasable information about its operations and coordination expectations and will be posted on NTIA’s website in conjunction with the redacted Transition Plans. The Workbook will be in the form of an Excel spreadsheet containing additional information about where the DoD anticipates its operations will encumber census tracts inside of the Cooperative Planning Areas and Periodic Use Areas based on frequency block and commercial tower height. Its structure will be similar to the AWS-3 DoD Workbook. As noted in both the NTIA letter to the FCC and the *3.45 GHz Band 2d R&O*, the Cooperative Planning Areas and Periodic Use Areas are based on 100-meter commercial towers.<sup>57</sup> The DoD will be providing information on anticipated encumbered census tracts based on both 100-meter and 100-foot commercial towers on a frequency block basis. Additionally, the DoD will be providing anticipated power density level curves for the high-power radar locations via the mechanism for sharing sensitive information described in Section E of this *Public Notice*.

The DoD is also planning to host a public workshop in the July 2021 timeframe to discuss its Transition Plans and the Workbook and answer questions. Further details regarding the exact date, location, and registration information will be made available on NTIA’s website in the near future.

#### **IV. FURTHER INFORMATION**

For further information, contact: Joyce Jones at (202) 418-1327 or [joyce.jones@fcc.gov](mailto:joyce.jones@fcc.gov), Mobility Division, Wireless Telecommunications Bureau, FCC, or Strategic Planning Division, Office of Spectrum Management, NTIA, at [TransitionPlanS@ntia.gov](mailto:TransitionPlanS@ntia.gov).

By the Acting Chief, Wireless Telecommunications Bureau, Federal Communications Commission, and the Acting Assistant Secretary for Communications and Information, National Telecommunications and Information Administration, U.S. Department of Commerce.

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<sup>54</sup> See 47 CFR § 2.106 US431B.

<sup>55</sup> See *id.* § 2.106 US431B(a) (noting that in Cooperative Planning Areas, “non-Federal operations may not claim interference protection from Federal systems”); US431B(b) (noting that in Periodic Use Areas, “non-Federal operations may not claim interference protection from Federal systems” during the federal incumbent’s episodic use). See also *3.45 GHz Band 2d R&O*, at \*11, para. 28 (“Flexible-use licensees must accept interference from these high-powered DoD radars within the Cooperative Planning and Periodic Use Areas, ‘unless the operators are able to reach an agreement that provides additional assurances or protections to each operator.’”).

<sup>56</sup> 47 CFR § 2.106 US431B(a).

<sup>57</sup> See *3.45 GHz Band 2d R&O*, at \*12, para. 29.

## APPENDIX A

### 47 CFR 2.106 US431B

US431B The band 3450-3550 MHz is allocated on a primary basis to the Federal radiolocation service and to the non-Federal fixed and mobile, except aeronautical mobile, services on a nationwide basis. Federal operations in the band 3450-3550 MHz shall not cause harmful interference to non-Federal operations, except under the following circumstances.

(a) *Cooperative Planning Areas.* Cooperative Planning Areas (CPAs) are geographic locations in which non-Federal operations shall coordinate with Federal systems in the band to deploy non-Federal operations in a manner that shall not cause harmful interference to Federal systems operating in the band. In addition, operators of non-Federal stations may be required to modify their operations (*e.g.*, reduce power, filtering, adjust antenna pointing angles, shielding, *etc.*) to protect Federal operations against harmful interference and to avoid, where possible, interference and potential damage to the non-Federal operators' systems. In these areas, non-Federal operations may not claim interference protection from Federal systems. Federal and non-Federal operators may reach mutually acceptable operator-to-operator agreements to permit more extensive non-Federal use by identifying and mutually agreeing upon a technical approach that mitigates the interference risk to Federal operations. To the extent possible, Federal use in CPAs will be chosen to minimize operational impact on non-Federal users. The table in paragraph (d) identifies the locations of CPAs, including, for information, those with high powered Federal operations. CPAs may also be Periodic Use Areas as described below. Coordination between Federal users and non-Federal licensees in CPAs shall be consistent with rules and procedures established by the FCC and NTIA.

(b) *Periodic Use Areas.* Periodic Use Areas (PUAs) are geographic locations in which non-Federal operations in the band shall not cause harmful interference to Federal systems operating in the band for episodic periods. During these times and in these areas, Federal users will require interference protection from non-Federal operations. Operators of non-Federal stations may be required to temporarily modify their operations (*e.g.*, reduce power, filtering, adjust antenna pointing angles, shielding, *etc.*) to protect Federal operations from harmful interference, which may include restrictions on non-Federal stations' ability to radiate at certain locations during specific periods of time. During such episodic use, non-Federal users in PUAs must alter their operations to avoid harmful interference to Federal systems' temporary use of the band, and during such times, non-Federal operations may not claim interference protection from Federal systems. Federal and non-Federal operators may reach mutually acceptable operator-to-operator agreements such that a Federal operator may not need to activate a PUA if a mutually agreeable technical approach mitigates the interference risk to Federal operations. To the extent possible, Federal use in PUAs will be chosen to minimize operational impact on non-Federal users. Coordination between Federal users and non-Federal licensees in PUAs shall be consistent with rules and procedures established by the FCC and NTIA. While all PUAs are co-located with CPAs, the exact geographic area used during periodic use may differ from the co-located CPA. The geographic locations of PUAs are identified in the table in paragraph (d). Restrictions and authorizations for the CPAs remain in effect during periodic use unless specifically relieved in the coordination process.

(c) For the CPA at Little Rock, AR, after approximately 12 months from the close of the auction, non-Federal operations shall coordinate with Federal systems in only the 3450-3490 MHz band segment and the 3490-3550 MHz band segment will be available for non-federal use without coordination. At Fort Bragg, NC, non-Federal operations shall coordinate with Federal systems in only the 3450-3490 MHz band segment.

(d) The following table identifies the coordinates for the location of each CPA and PUA. An area may be represented as either a polygon made up of several corresponding coordinates or a circle represented by a center point and a radius. If a CPA has a corresponding PUA, the PUA coordinates are provided. A location marked with an asterisk (\*) indicates a high-power federal radiolocation facility. If

a location includes a Shipboard Electronic Systems Evaluation Facility (SESEF) attached to a homeport, it specifies the associated SESEF.

**Table: Department of Defense Cooperative Planning Areas and Periodic Use Areas**

Location name	State	CPA	PUA	Latitude	Longitude	Radius (km)
Little Rock	AR	Yes	-	37° 28' 34" 37° 42' 55" 36° 38' 29" 34° 57' 57" 32° 09' 36" 31° 51' 52" 32° 12' 11" 33° 42' 22" 35° 17' 35" 36° 12' 18"	94° 28' 24" 88° 54' 36" 87° 52' 34" 88° 09' 26" 92° 06' 54" 93° 10' 35" 94° 37' 07" 95° 49' 52" 96° 23' 06" 96° 08' 46"	N/A
Yuma Complex (includes Yuma Proving Grounds and MCAS Yuma)	AZ	Yes	Yes	33° 36' 44" 34° 03' 08" 34° 03' 56" 33° 26' 54" 32° 51' 17" 32° 16' 54" 32° 14' 39" 32° 20' 06" 32° 28' 30" 32° 53' 20"	115° 10' 44" 114° 41' 08" 114° 05' 56" 113° 03' 54" 113° 02' 17" 113° 45' 54" 114° 40' 39" 114° 55' 06" 115° 02' 30" 115° 09' 20"	N/A
Camp Pendleton	CA	Yes	-	33° 21' 46"	117° 25' 25"	50
Edwards Air Force Base	CA	Yes	Yes	35° 19' 16" 35° 17' 54" 35° 11' 43" 35° 00' 52" 34° 44' 17" 34° 34' 16" 34° 26' 55" 34° 28' 59" 34° 41' 36" 35° 07' 32"	118° 03' 16" 117° 26' 54" 117° 15' 43" 117° 10' 52" 117° 10' 17" 117° 19' 16" 117° 47' 55" 118° 16' 59" 118° 28' 36" 118° 25' 32"	N/A
National Training Center	CA	Yes	Yes	36° 03' 31" 36° 03' 09" 35° 41' 46" 35° 07' 24" 34° 42' 43" 34° 44' 22" 35° 02' 28" 35° 34' 49"	117° 00' 45" 116° 20' 43" 115° 44' 31" 115° 44' 09" 116° 17' 58" 117° 05' 19" 117° 35' 18" 117° 27' 37"	N/A

Location name	State	CPA	PUA	Latitude	Longitude	Radius (km)
Naval Air Weapons Station, China Lake*	CA	Yes	Yes	36° 36' 42" 35° 54' 45" 35° 00' 01" 34° 54' 34" 35° 44' 22" 36° 30' 18"	117° 20' 42" 116° 31' 45" 116° 39' 01" 117° 26' 34" 118° 17' 22" 118° 07' 18"	N/A
Point Mugu	CA	Yes	Yes	34° 06' 44"	119° 06' 36"	38
San Diego* (includes Point Loma SESEF range)	CA	Yes	-	33° 4' 10" 32° 27' 19" 32° 33' 29" 32° 47' 16" 33° 1' 20" 33° 20' 36" 33° 24' 36" 32° 52' 54" 33° 04' 10"	117° 35' 40" 118° 0' 37" 116° 51' 8" 116° 28' 5" 116° 31' 5" 116° 47' 10" 117° 0' 51" 117° 9' 35" 117° 35' 40"	N/A
Twentynine Palms	CA	Yes	-	34° 06' 44"	116° 06' 36"	75
Eglin Air Force Base (includes Santa Rosa Island & Cape San Blas site)	FL	Yes	Yes	Eglin and Santa Rosa Island: 30° 29' 28.5" Cape San Blas: 29° 40' 37"	Eglin and Santa Rosa Island: 86° 45' 00" Cape San Blas: 85° 20' 50"	35
Mayport* (includes Mayport SESEF range)	FL	Yes	-	30° 23' 42"	81° 24' 41"	64
Pensacola*	FL	Yes	Yes	30° 20' 50"	87° 18' 40"	93
Joint Readiness Training Center	LA	Yes	Yes	31° 54' 23" 31° 50' 54" 31° 18' 13" 30° 46' 33" 30° 29' 14" 30° 46' 22" 31° 25' 16"	93° 20' 53" 92° 52' 46" 92° 26' 31" 92° 28' 32" 93° 4' 1" 93° 41' 26" 94° 3' 19"	N/A
Chesapeake Beach*	MD	Yes	Yes	38° 39' 24"	76° 31' 41"	95
Naval Air Station, Patuxent River  CPA	MD	Yes	Yes	38° 26' 22" 38° 51' 51" 38° 28' 11" 38° 03' 40" 37° 45' 33" 37° 34' 34" 37° 38' 10" 38° 09' 32" 38° 18' 46" 38° 26' 59"	76° 14' 12" 75° 48' 34" 75° 28' 53" 75° 30' 31" 75° 45' 50" 76° 20' 09" 76° 44' 37" 76° 29' 28" 76° 34' 36" 76° 26' 27"	N/A

Location name	State	CPA	PUA	Latitude	Longitude	Radius (km)
PUA				38° 33' 38" 39° 11' 10" 38° 38' 51" 37° 52' 13" 37° 29' 44" 37° 10' 24" 37° 20' 05" 38° 01' 11" 38° 20' 54" 38° 35' 47"	76° 07' 29" 75° 29' 28" 75° 00' 40" 75° 03' 24" 75° 22' 25" 76° 16' 42" 77° 06' 52" 76° 36' 06" 76° 46' 41" 76° 30' 02"	
St. Inigoes*	MD	Yes	Yes	38° 08' 41"	76° 26' 03"	87
Bath*	ME	Yes	Yes	44° 02' 29" 43° 52' 27" 43° 48' 53" 43° 32' 50" 43° 27' 16" 43° 44' 26" 43° 54' 57" 44° 06' 56" 44° 17' 2" 44° 26' 54" 44° 36' 16" 44° 33' 45" 44° 57' 05" 44° 56' 27" 44° 32' 13" 44° 24' 08" 44° 02' 29"	70° 10' 41" 70° 10' 29" 70° 01' 6" 69° 57' 30" 69° 42' 52" 69° 13' 52" 69° 24' 50" 69° 25' 13" 69° 16' 56" 69° 45' 13" 69° 56' 50" 70° 04' 01" 70° 14' 55" 70° 19' 38" 70° 08' 17" 70° 36' 36" 70° 10' 41"	N/A
Pascagoula*	MS	Yes	Yes	30° 20' 42"	88° 34' 17"	80
Camp Lejeune	NC	Yes	-	34° 37' 51"	77° 24' 28"	54
Cherry Point	NC	Yes	-	34° 54' 57"	76° 53' 24"	38
Fort Bragg	NC	Yes	-	37° 35' 01" 37° 45' 56" 37° 22' 33" 36° 38' 56" 34° 43' 13" 33° 29' 44" 33° 24' 04" 34° 01' 05" 35° 27' 24" 36° 27' 46"	79° 31' 19" 77° 14' 14" 76° 18' 30" 75° 51' 26" 76° 15' 37" 78° 29' 53" 80° 29' 07" 81° 23' 49" 81° 37' 00" 81° 22' 49"	N/A

Location name	State	CPA	PUA	Latitude	Longitude	Radius (km)
Portsmouth*	NH	Yes	Yes	42° 23' 06"	71° 10' 23"	N/A
				42° 25' 05"	71° 05' 43"	
				42° 21' 36"	71° 00' 54"	
				42° 18' 28"	70° 54' 35"	
				42° 13' 01"	70° 44' 53"	
				42° 06' 30"	70° 41' 11"	
				42° 02' 54"	70° 37' 44"	
				42° 08' 03"	70° 33' 35"	
				42° 10' 25"	70° 20' 54"	
				42° 15' 39"	70° 02' 39"	
				42° 22' 44"	69° 48' 42"	
				42° 34' 56"	69° 36' 01"	
				42° 52' 26"	69° 26' 24"	
				43° 13' 48"	69° 28' 18"	
				43° 31' 21"	69° 40' 13"	
				43° 45' 21"	70° 01' 31"	
				43° 59' 20"	70° 30' 21"	
				43° 36' 10"	70° 52' 5"	
				43° 49' 27"	71° 15' 22"	
				43° 27' 40"	71° 24' 47"	
				43° 00' 57"	71° 53' 01"	
42° 44' 40"	71° 56' 37"					
42° 51' 47"	71° 27' 07"					
42° 33' 46"	71° 27' 12"					
42° 24' 24"	71° 21' 10"					
42° 23' 06"	71° 10' 23"					
Moorestown*	NJ	Yes	Yes	40° 27' 26"	75° 42' 60"	N/A
				40° 02' 54"	75° 55' 12"	
				39° 48' 19"	75° 55' 55"	
				39° 38' 27"	75° 51' 48"	
				39° 24' 59"	75° 21' 41"	
				39° 17' 18"	74° 54' 09"	
				39° 22' 16"	74° 27' 56"	
				39° 29' 35"	74° 12' 59"	
				39° 54' 43"	74° 00' 05"	
				40° 15' 03"	74° 06' 20"	
				40° 23' 29"	74° 08' 28"	
				40° 42' 46"	74° 21' 54"	
				40° 50' 59"	74° 31' 36"	
				40° 52' 49"	74° 42' 53"	
				40° 47' 42"	75° 03' 00"	
				40° 33' 25"	75° 28' 15"	
40° 27' 26"	75° 42' 60"					



Location name	State	CPA	PUA	Latitude	Longitude	Radius (km)
White Sands Missile Range	NM	Yes	Yes	34° 35' 05" 34° 43' 50" 34° 43' 17" 34° 26' 28" 32° 36' 02" 31° 45' 47" 31° 18' 18" 31° 27' 23" 32° 38' 49" 33° 32' 40"	107° 06' 05" 106° 46' 50" 106° 03' 17" 105° 26' 28" 104° 55' 02" 105° 22' 47" 106° 06' 18" 106° 54' 23" 107° 25' 49" 107° 27' 40"	N/A
Nevada Test and Training Range	NV	Yes	Yes	35° 58' 48" 36° 38' 22" 36° 22' 37" 36° 54' 03" 37° 58' 01" 38° 59' 48" 38° 58' 35" 37° 52' 34" 36° 20' 30" 36° 21' 15"	115° 31' 55" 116° 23' 51" 117° 41' 35" 117° 59' 18" 118° 01' 17" 116° 46' 01" 114° 49' 25" 113° 35' 46" 113° 39' 51" 115° 14' 23"	N/A
Fort Sill	OK	Yes	Yes	35° 03' 39" 35° 10' 31" 34° 42' 54" 34° 13' 49" 34° 13' 46" 34° 38' 26"	99° 02' 38" 98° 05' 47" 97° 45' 20" 98° 05' 49" 98° 56' 09" 99° 16' 57"	N/A
Tobyhanna Army Depot	PA	Yes	-	41° 30' 25" 41° 38' 51" 41° 31' 41" 41° 11' 31" 40° 52' 07" 40° 44' 53" 40° 51' 43" 41° 07' 40"	75° 51' 60" 75° 26' 33" 75° 1' 39" 74° 50' 07" 75° 1' 2" 75° 23' 50" 75° 48' 52" 76° 00' 38"	N/A

Location name	State	CPA	PUA	Latitude	Longitude	Radius (km)
Dahlgren*	VA	Yes	Yes	38° 23' 10" 38° 41' 25" 38° 46' 14" 38° 49' 37" 38° 50' 16" 38° 46' 30" 38° 49' 42" 38° 54' 42" 38° 55' 37" 38° 56' 05" 38° 44' 45" 38° 44' 22" 38° 35' 14" 38° 51' 04" 38° 26' 52" 38° 22' 59" 37° 59' 27" 37° 47' 08" 37° 54' 01" 38° 23' 10"	76° 23' 21" 76° 35' 56" 76° 44' 44" 76° 54' 57" 76° 58' 18" 77° 01' 57" 77° 04' 08" 77° 7' 35" 77° 12' 04" 77° 23' 5" 77° 25' 23" 77° 28' 48" 77° 36' 11" 78° 12' 06" 78° 29' 02" 77° 42' 19" 77° 28' 26" 76° 53' 47" 76° 06' 14" 76° 23' 21"	N/A
Newport News*	VA	Yes	Yes	36° 58' 24"	76° 26' 07"	93
Norfolk* (includes Fort Story SESEF range)	VA	Yes	-	36° 56' 24"	76° 19' 55"	74
Wallops Island*	VA	Yes	Yes	37° 51' 25"	75° 27' 59"	76
Bremerton*	WA	Yes	Yes	47° 28' 40" 47° 31' 16" 47° 31' 13" 47° 34' 12" 47° 45' 36" 47° 59' 07" 48° 12' 20" 47° 39' 46" 47° 39' 12" 47° 45' 23" 47° 44' 48" 47° 57' 40" 47° 31' 15" 47° 35' 53" 47° 27' 33" 47° 27' 07" 47° 24' 25" 47° 23' 07" 47° 28' 33" 46° 50' 25" 46° 53' 09" 47° 28' 40"	122° 31' 22" 122° 31' 26" 122° 32' 37" 122° 31' 52" 121° 32' 28" 121° 34' 09" 121° 44' 51" 122° 29' 60" 122° 34' 35" 122° 38' 09" 122° 45' 18" 122° 59' 06" 123° 16' 23" 122° 49' 28" 122° 55' 25" 122° 46' 16" 122° 42' 48" 122° 39' 18" 122° 33' 44" 121° 49' 24" 121° 44' 01" 122° 31' 22"	N/A

Location name	State	CPA	PUA	Latitude	Longitude	Radius (km)
Everett* (includes Ediz Hook SESEF range)	WA	Yes	-	47° 51' 11"	122° 57' 47"	N/A
				47° 25' 13"	123° 18' 6"	
				47° 54' 45"	122° 10' 13"	
				47° 36' 60"	121° 37' 60"	
				47° 51' 57"	121° 22' 57"	
				48° 35' 49"	122° 08' 13"	
				48° 00' 8"	123° 29' 33"	
				47° 51' 10"	122° 57' 47"	

**APPENDIX B**

**Streamlined Coordination Option—Template Agreement  
Coordination Agreement  
Between  
[3.45 GHz Service Licensee] (“3.45 GHz Service Licensee”)  
And  
[Federal Incumbent] (“Federal Incumbent”)**

**1. Introduction**

This Coordination Agreement is between [Insert name of 3.45 GHz Service Licensee](hereinafter referred to as the “3.45 GHz Service Licensee”), and [Insert name of Federal Incumbent] (hereinafter referred to as the “Federal Incumbent”), and sets forth the terms and conditions for their operations in the 3.45-3.55 GHz band.

**2. Acknowledgement of regulations**

All 3.45 GHz Service licensees must accept interference caused by the operation of Federal Incumbent’s [high-powered radar] site(s) and shall protect Federal Agency’s high-powered radar operations, as required by 47 CFR § 27.1602 and 47 CFR § 2.106, footnote US431B. The parties agree that within the Cooperative Planning Areas listed in Table A below, the 3.45 GHz Service Licensee will coordinate with the Federal Incumbent by notifying the Federal Incumbent of the 3.45 GHz Service Licensee’s intent to commence flexible-use service within the Cooperative Planning Area and submitting the additional information as listed in Section 4 below, prior to use of the spectrum. In cases where interference from high-powered radar site(s) results in 3.45 GHz Service Licensee customer complaints, the 3.45 GHz Service Licensee will take actions to address those complaints and employ mitigation methods to reduce the likelihood of them reoccurring.

Table A: Description of license(s) subject to this agreement

<b>State</b>	<b>Site</b>	<b>3.45 GHz Service License Call Sign(s)</b>	<b>Cooperative Planning Area</b>
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**3. Point-of-contact**

The Federal Incumbent and the 3.45 GHz Service Licensee hereby authorize the individuals listed in Table B below to serve as their Points of Contact (POC) for purposes of compliance with the notification and communication requirements of this Coordination Agreement.

Table B: Points of Contact

<b>[Federal Agency]</b>	<b>[3.45 GHz Service Licensee]</b>
Name:	Name:
Address:	Address:
Phone:	Phone:
E-mail:	E-mail:

#### **4. 3.45 GHz Service Licensee Notification to Federal Incumbent**

As required by Section 2 above, the 3.45 GHz Service Licensee will provide to the Federal Incumbent the following information:

- 3.45 GHz Service Licensee's deployment plans in the Cooperative Planning Area;
- Methods the 3.45 GHz Service Licensee plans to use to mitigate interference into its base station receivers, and an explanation of how the methods will mitigate interference from high-powered radar(s) and prevent any impaired consumer experience;
- Contact information for the 3.45 GHz Service Licensee's network operation center and local engineering staff; and
- Assurance that the 3.45 GHz Service Licensee will satisfy its obligations to provide safety of life services (i.e., 911) on bands other than the 3.45 GHz band in the Cooperative Planning Area as needed.

#### **5. Continuing communications between 3.45 GHz Service Licensee and Federal Incumbent**

The parties shall:

- Address with each other, when the need first arises, any consumer complaints associated with the 3.45 GHz Service Licensee's operations near Federal high-powered radar(s). This may include the 3.45 GHz Service Licensee's development of external communication regarding reports of interference or interruption of service using the 3.45 GHz band. This external communication should reflect the acknowledgement of regulations in Section 2 above; and
- Meet annually to discuss network deployments, current and future technologies, interference mitigation techniques, consumer experiences, and other relevant topics necessary to help the Federal Incumbent understand the evolving use of the band, and its impact upon 3.45 GHz Service operations;
- The above additional interactions can be initiated by either POC listed above.

#### **6. Substantial changes to high-powered radar operations or 3.45 GHz Service deployments**

If either party plans operations that are substantially different from the [original] concept of operations, the differences must be discussed during the annual meeting required by Section 5 above unless an immediate meeting is required to mitigate new and/or unexpected interference.

#### **7. Sensitive/Proprietary Information**

All information exchanged under this Coordination Agreement is considered sensitive/proprietary. Any exchange of information associated with this Coordination Agreement should be marked as sensitive/proprietary.

#### **8. Successful Coordination**

Execution of and compliance with all terms of this Coordination Agreement meets the regulatory requirement for successful coordination in 47 CFR §27.1603.

**Signatories:**

\_\_\_\_\_  
[Federal Incumbent]

\_\_\_\_\_  
[3.45 GHz Service Licensee]

Date: