

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

In the Matter of)	
)	
Connect America Fund—Alaska Plan)	WC Docket No. 16-271
)	
GCI Communication Corp. Petition for Limited)	
Waiver in the Alaska Plan to Permit use of)	
Unmanned Aircraft Systems for Drive-Test Data)	
Collection)	
)	
GCI Communication Corp. Request for Limited)	
Waiver of 47 CFR § 22.925)	

ORDER

Adopted: September 1, 2022

Released: September 1, 2022

By the Chiefs, Competition and Infrastructure Policy Division; Mobility Division, Wireless Telecommunications Bureau:

I. INTRODUCTION

1. By this Order, the Competition and Infrastructure Policy Division and the Mobility Division of the Wireless Telecommunications Bureau (Bureau) grant a narrow waiver in response to GCI Communication Corp.’s (GCI) requests to collect drive-test data via unmanned aircraft systems (UAS) in particular rural Alaska grid cells where there are no accessible roads.¹ With respect to these grid cells, this Order waives the Commission’s requirements that GCI conduct drive tests under the Alaska Plan with on-the-ground testing for grid cells with no roads and a population of one or greater for five grid cells.² This Order also waives the Commission’s requirement that 800 MHz cellular telephones may not be operated while aircraft are airborne for 24 grid cells,³ only for the duration of GCI’s drive tests and subject to GCI conducting its drive tests in accordance with the conditions set forth in the *Alaska Drive Test Order* and as specified in its petition.

II. BACKGROUND

2. Due to the unique challenges of providing communications services in remote Alaska, the Commission adopted the *Alaska Plan Order*, which is a ten-year plan to ensure that eligible remote areas

¹ GCI Communication Corp. Petition for Limited, Expedited Waiver, WC Docket No. 16-271 (filed Aug. 25, 2022) (GCI Waiver Petition of Drive Test Requirement); The Alaska Wireless Network, LLC, Narrative Statement in Support of Waiver – Expedited Action, (filed Aug. 25, 2022) (GCI Section 22.925 Waiver Request). *See* Universal Licensing System, FCC Form 601, Application File Nos. 0010180344, 0010180409, 0010180489, 0010180502, 0010180521, 0010180526, and 0010180537 (filed Aug. 25, 2022); File No. 0010186243 (filed Aug. 29, 2022). The Alaska Wireless Network, LLC, is GCI’s subsidiary.

² *See Connect America Fund—Alaska Plan*, WC Docket No. 16-271, Order and Request for Comment, DA 22-484, at 16, para. 29 n.124 (WTB May 5, 2022) (*Alaska Drive Test Order*).

³ 47 CFR § 22.925.

are able to receive advanced communications services.⁴ The *Alaska Plan Order* required the eight mobile-service provider participants of the Alaska Plan to submit performance plans committing to cover a specific number of Alaskans by specified last-mile mobile technology, subject to middle-mile technology available.⁵ The *Alaska Plan Order* also required each mobile-service provider participant to certify that it met the obligations contained in its performance plan by the end of year five (ending December 31, 2021) and the end of year ten (ending December 31, 2026).⁶ For mobile-provider participants of the Alaska Plan receiving \$5 million or more in annual support—which consists of two of the eight mobile-provider participants, GCI and Copper Valley Wireless (CVW)—the *Alaska Plan Order* additionally required the submission of drive-test data that show mobile transmissions to and from the network that meet or exceed the minimum speeds set out in the performance plans in support of their five-year and ten-year milestone certifications.⁷

3. To satisfy the Alaska drive-test requirement, the *Alaska Plan Order* specifies that the participants subject to the drive-test requirement “may demonstrate coverage of an area with a statistically significant number of tests in the vicinity of residences being covered.”⁸ Given the unique terrain and lack of road networks in remote Alaska, providers may conduct drive tests by means other than automobiles (such as snow-mobiles or other vehicles appropriate to local conditions).⁹ Drive-test data must be submitted by September 30, 2022.¹⁰

4. On May 5, 2022, the Bureau adopted the *Alaska Drive Test Order*,¹¹ which provided the Alaska Drive-Test Model, allowing GCI and CVW to submit drive-test data consistent with the requirements of the *Alaska Plan Order*.¹² As part of the Alaska Drive-Test Model, the Bureau issued to CVW and GCI the sample 1 km x 1 km grid cells selected for drive testing.¹³ Because drive-test data provide the Commission with a better understanding of the real-world user experience, including where there are no roads, the Bureau required on-the-ground testing for grid cells that had no roads with a population of one or greater (on-the-ground testing requirement).¹⁴ The *Alaska Drive Test Order* provided that mobile provider participants may seek a waiver from the Bureau to use a UAS to test grid cells with no roads and a population of one or greater, if the participant claims it cannot use on-the-ground, off-road vehicles to test such a grid cell.¹⁵ However, the Bureau also stated that if “a mobile-provider participant claims that it cannot use on-the-ground, off-road vehicles to test such a grid cell, it

⁴ *Connect America Fund et al.*, WC Docket No. 16-271, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 10139, 10140, 10159-60, 10162-63, 10164-65, paras. 1, 66-68, 72-73, 78 (2016) (*Alaska Plan Order*).

⁵ *Alaska Plan Order*, 31 FCC Rcd at 10166, 10172-73, paras. 85, 102.

⁶ *Alaska Plan Order*, 31 FCC Rcd at 10160, 10166, 10173, paras. 67, 85, 103.

⁷ 47 CFR § 54.321; see *Alaska Plan Order*, 31 FCC Rcd at 10173, para. 103 (requiring providers that receive more than \$5 million in annual support to conduct drive tests); *Alaska Drive Test Order* at 4, para. 5.

⁸ *Alaska Plan Order*, 31 FCC Rcd at 10173, para. 103.

⁹ See *Alaska Plan Order*, 31 FCC Rcd at 10173, para. 103.

¹⁰ Originally, the drive test data were required at the time of the certification that the five-year requirement was met: March 1, 2022. See 47 CFR § 54.321(a). The Bureau extended the drive test deadline to September 30, 2022. *Connect America Fund—Alaska Plan*, WC Docket No. 16-271, Order, DA 21-1394, at 1, para. 1 (WTB Nov. 8, 2021) (*Alaska Drive Test Extension Order*).

¹¹ *Alaska Drive Test Order*.

¹² *Alaska Plan Order*, 31 FCC Rcd at 10173, para. 103.

¹³ See *Alaska Drive Test Order* at 45, 47, Appx. B, nn.9,16.

¹⁴ See *Alaska Drive Test Order* at 16, para. 29 n.124.

¹⁵ See *Alaska Drive Test Order* at 16, para. 29.

may seek a waiver . . . to use a UAS to test that particular grid cell.”¹⁶ Where a grid cell with no roads has less than one person, the Bureau allows UAS testing, as those grid cells are more likely to have uninhabitable or untraversable terrain.¹⁷ The *Alaska Drive Test Order* provided that regardless of the nature of the terrain, if GCI or CVW sought to test its service with UAS, it would need to request a separate waiver of any airborne restrictions for the spectrum used for the testing.¹⁸ The *Alaska Drive Test Order* further required that, where a UAS is used for drive testing, the UAS must: (1) at all times operate at less than 200 feet above ground in remote areas of Alaska where road-based testing is impractical/impossible; (2) limit power to the minimum necessary to accomplish testing; and (3) upon receipt of a complaint of interference from a co-channel licensee, notify the Commission and either remedy the interference or cease operations.¹⁹

5. On August 25, 2022, GCI filed a petition requesting a waiver to conduct UAS testing in five grid cells that are subject to the on-the-ground testing requirement.²⁰ GCI also filed a petition requesting a waiver of section 22.925 of the Commission’s rules for 24 grid cells where it seeks to conduct UAS testing, 20 of which have less than one person per grid cell and are not subject to the on-the-ground testing requirement pursuant to the *Alaska Drive Test Order*.²¹

III. DISCUSSION

6. We grant both of GCI’s waiver petitions. The Commission may waive any provision of the rules on its own motion or on petition “for good cause shown.”²² In order to meet the “good cause shown” standard, the Commission must find that: (1) “special circumstances warrant a deviation from the general rule”; and (2) “such deviation will serve the public interest.”²³ A rule waiver may serve the public interest when the relief would not undermine the policy objectives of the rule.²⁴ We find good cause is shown for granting a limited waiver of the respective requirements for the specified grid cells.

A. Waiver of On-the-Ground Testing Requirement

7. We find good cause to grant GCI’s request to waive the requirement to conduct on-the-ground testing for the five grid cells GCI specifies. In the *Alaska Drive Test Order*, the Bureau recognized that the on-the-ground requirement may not be practicable in all circumstances, as some grid cells may have untraversable terrain.²⁵ For this reason, the Bureau permitted testing via UAS for grid

¹⁶ *Alaska Drive Test Order* at 16, para. 29. The Bureau further stated that “[t]his waiver request should provide a statement regarding why good cause exists to waive the on-the-ground testing requirement for that grid cell, contain evidence supporting that claim, and be filed in WC Docket No. 16-271.” *Id.*

¹⁷ *See Alaska Drive Test Order* at 17, para. 31.

¹⁸ *Alaska Drive Test Order* at 16-17, paras. 30 & n.127, 31. The Bureau stated that “the waiver would necessarily need to specify the spectrum bands where UAS testing would occur and for which the waiver is sought, provide the grid cell at issue, and give a point of contact available at all times during testing.” *Id.* at 17, para. 30 n.127.

¹⁹ *Alaska Drive Test Order* at 16, 17, paras. 29, 31.

²⁰ GCI Waiver Petition of Drive Test Requirement at 2-4.

²¹ *See generally* GCI Section 22.925 Waiver Request.

²² 47 CFR §§ 1.3, 1.925. The waiver standards applicable under these two rule provisions have been found to be substantially the same. *See Delta Radio, Inc.*, Memorandum Opinion and Order, 18 FCC Rcd 16889, 16891, para. 7 & n.19 (2003) (citing *Bellsouth Corporation v. FCC*, 162 F.3d 1215, 1225 n.10 (D.C. Cir. 1999)).

²³ *See, e.g., Ne. Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990); *see WAIT Radio v. FCC*, 418 F.2d 1153, 1157-59 (D.C. Cir. 1969) (*WAIT Radio*).

²⁴ *See WAIT Radio*, 418 F.2d at 1155, 1157.

²⁵ *Alaska Drive Test Order* at 16-17, paras. 29, 31 & n.130.

cells with no roads and a population of less than one without a waiver.²⁶ Where grid cells have no roads and a population of one or more, the Bureau required on-the-ground testing, but provided that a participant may seek a waiver from the Bureau to use a UAS if the participant claims it cannot use on-the-ground, off-road vehicles to test such grid cells.²⁷ The grid cells at issue in GCI's waiver petition raise concerns that warrant deviation from the on-the-ground testing requirement. Testing these five grid cells with on-the-ground equipment would be highly impracticable or even dangerous, and the limited allowance of UAS testing for these grid cells strikes the appropriate balance of providing the Commission with useful data about GCI's service while easing undue logistical burdens and promoting safety.

8. GCI provides the following justifications for waiving the on-the-ground testing requirement for the following grid cells, which have a population of one or greater and no roads:²⁸

Grid G31930511 has no passable roads and contains extremely rugged terrain, including rocky shoreline, dense trees, and many ravines. There is no clear access for off-road vehicles, which would likely have to be brought in by helicopter. Navigating this terrain on an off-road vehicle would be extremely challenging and pose a significant safety risk.

Grid G31960634 is located in the center of a lake. The grid cell is comprised almost entirely of water but also includes a small, roadless island that is heavily forested. A UAS is required to ensure that GCI is able to effectively test the grid.

Grid G15521392 has no roads leading to or within the grid cell. This area is a rugged mountainside with no clear access for off-road vehicles. Navigating this terrain on an off-road vehicle would be extremely challenging and pose a significant safety risk.

Grid G24531774 is located in an area with no roads. This grid cell is comprised mostly of a shallow, man-made lake that is used by an oil company for drilling purposes. Access to the lake is highly restricted, as the lake contains toxic chemicals and it is located on the oil company's land. GCI attempted to synchronize potential drive testing with the oil company's periodic use of a spill containment boat but was not successful.

Grid G24881774 presents significant challenges to on-the-ground testing. The water surrounding the land is very shallow, which makes operating a float plane unsafe. An airboat is the only vehicle capable of moving through this terrain, and that equipment is not readily available. The land itself is very marshy. Due to recent heavy rainfall in this area, the ground may not even be firm enough for a helicopter transporting an off-road vehicle to safely land.²⁹

9. We agree with GCI's assessment and grant GCI's petition to waive the on-the-ground testing requirement for these five grid cells. Each of these grid cells are either impractical to reach via a land-based vehicle, untraversable, and/or unsafe in a manned vehicle.³⁰ Grid G31930511 has little

²⁶ *Alaska Drive Test Order* at 17, para. 31.

²⁷ *Alaska Drive Test Order* at 16, para. 29; *see id.* at 17, para. 31 (indicating that UAS testing is appropriate "where road-based testing is impractical/impossible"); *id.* at 17, para. 31 n.130 ("[G]rid cells with no roads but at least one person are more likely to be inhabitable and traversable, *unless the provider demonstrates otherwise through its waiver request.*" (emphasis added)).

²⁸ GCI Waiver Petition of Drive Test Requirement at 1.

²⁹ GCI Waiver Petition of Drive Test Requirement at 3-4 (citations omitted); *see also* GCI Waiver Petition of Drive Test Requirement, Attachs. 1 (providing a declaration under penalty of perjury as to the veracity of these claims), 2 (providing pictures of the grid cells at issue).

³⁰ GCI notes in its request for waiver of the airborne cellular prohibition that portions of G24531774, G31930511, and G31960634 are potentially reachable by watercraft or ATV. *See* GCI Section 22.925 Waiver Request at 3; Appendix, *infra*. GCI is free to test with these on-the-ground methods and are encouraged to do so in these grid

(continued....)

navigable water within the boundaries of the grid cell and is dominated by untraversable landscape that could be unsafe even for an all-terrain vehicle (ATV). For Grid G31960634—given the general difficulty of transporting a boat to a remote area or shipping an ATV to the island, as well as the fact that this grid cell is in stratum 2 due to its low population³¹ and would thus have very little effect on the overall drive test results—we find that testing this grid cell with a UAS would be sufficient for understanding the user experience in this limited circumstance. Grid G15521392³² appears to be infeasible to traverse with a land-based vehicle and could be unsafe even for ATVs. Given that Grid G24531774 is near the local oil facility, UAS testing is appropriate for that grid cell as testing via manned vehicles could be unsafe. Grid G24881774 is marsh land that would require a specialized flat boat to be brought to the location, which is an undue burden that can be addressed by allowing UAS testing. For these reasons, we find that special circumstances exist to warrant deviation from the on-the-ground testing requirement for these five grid cells. Given the difficulty or dangers in testing these grid cells with on-the-ground testing, the upcoming deadline, and the fact that these grid cells make up less than 1% of the grid cells that GCI has to test, we also find that the public interest is served by granting a waiver for these grid cells. Consistent with public interest, UAS testing will (1) produce results in these grid cells that are at least consistent with the requirements of the *Alaska Plan Order* and the *Alaska Drive Test Order*; (2) allow testing to occur without significant delays; and (3) enable the Bureau to determine whether GCI has met its commitments.

B. Waiver of Section 22.925's Airborne Use Restriction

10. We also find that GCI's request for a limited waiver of section 22.925 for the 24 requested grid cells will serve the public interest.³³ In allowing a mobile-provider participant the ability to use UAS for drive testing in certain circumstances, the *Alaska Drive Test Order* required the provider to seek a waiver if it sought to use any spectrum band having an airborne use restriction.³⁴ Section 22.925, which prohibits the use of 800 MHz Cellular Radiotelephone Service (cellular) devices on aircraft, was adopted to prevent the increased risk of interference to cellular systems posed by airborne operation.³⁵ In adopting the prohibition, the Commission noted that a cellular telephone onboard an airborne aircraft has greater range than a land-based device, and its signal would be received by multiple terrestrial cell sites, thereby increasing the risk of harmful interference.³⁶

11. GCI states that granting its request for waiver of section 22.925 “is highly unlikely to result in harmful interference.”³⁷ It notes that the tests “will use commercial off-the-shelf equipment that typically transmit at power levels well below one watt, and GCI will use no more than two handsets

cells where it deems that it can do so safely. However, given safety concerns and/or undue burden of testing any part of these grid cells with a boat or ATV, we waive the on-the-ground requirement for the entire grid cell.

³¹ This grid cell is in a frame with eight strata.

³² GCI did not seek a waiver of the section 22.925 airborne cellular prohibition for this grid cell, though it did seek a waiver of section 22.925 for the other four grid cells that are subject to the on-the-ground requirement.

³³ See Appendix, *infra*, for a list of grid cells subject to the airborne cellular waiver. GCI Section 22.925 Waiver Request at 3.

³⁴ See *Alaska Drive Test Order* at 17, paras. 30-31.

³⁵ 47 CFR § 22.925; *Amendment of Sections of Part 22 of the Commission's Rules in the Matter of Airborne Use of Cellular Telephones and the Use of Cell Enhancers in the Domestic Public Cellular Radio Service*, CC Docket No. 88-411, Report and Order, 7 FCC Rcd 23 (1991) (*800 MHz Cellular Airborne Prohibition Order*).

³⁶ *800 MHz Cellular Airborne Prohibition Order*, 7 FCC Rcd at 23, para. 5.

³⁷ GCI Section 22.925 Waiver Request at 3.

concurrently during testing.”³⁸ It further states that “the UASs will operate at a maximum altitude that is below the height at which cell phones operate in many buildings in urban areas.”³⁹

12. We conclude that GCI’s test parameters, along with conditions set forth in the *Alaska Drive Test Order* regarding operation of UAS, should minimize the risk of harmful interference to neighboring systems. The combination of low altitude operation, use of the lowest power level required for testing, and the very small number of airborne devices in use at the same time make it unlikely that GCI’s UAS drive testing will result in the increased risk of harmful interference that occurs with high-altitude operation and that section 22.925 seeks to prevent. Indeed, the UAS use in this circumstance is more akin to land-based cellular operation. The *Alaska Drive Test Order* specified that any drive testing using unmanned aircraft should be conducted in a way that best reflects usage on the ground.⁴⁰ The UAS use being permitted for drive testing is meant to mimic conventional terrestrial operation as much as possible. Moreover, as specified in the *Alaska Drive Test Order*, GCI is required to notify all other co-channel 800 MHz cellular licensees authorized within 50 miles of the dates and location of testing.⁴¹ In the event that GCI receives an interference complaint from a co-channel licensee, GCI is obligated to remedy the interference or cease operation.⁴² We find that these factors, along with the public interest served in providing GCI a means to verify coverage where road-based testing is impossible or impractical, support granting relief. Accordingly, we grant GCI’s request for limited waiver of section 22.925 for the duration of its drive testing, subject to GCI conducting its drive tests in accordance with the conditions set forth in the *Alaska Drive Test Order* and as specified in its petition, and only for grid cells or portions of grid cells where non-UAS testing is impractical or infeasible.⁴³

IV. ORDERING CLAUSES

13. ACCORDINGLY, IT IS ORDERED, pursuant to the authority contained in sections 1-4, 201, 254, 301, 303, 308, 309, and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151-154, 201, 254, 301, 303, 308, 309, 332 and sections 0.131, 0.311, 1.3, 1.925, 22.925, 54.317, 54.320, and 54.321 of the Commission’s rules, 47 CFR §§ 0.131, 0.311, 1.3, 1.925, 22.925, 54.317, 54.320, 54.321, and the delegated authority contained in the *Alaska Plan Order*, 31 FCC Rcd 10139, 10160, 10166-67, paras. 67, 85, that these Waivers ARE ADOPTED.

³⁸ GCI Section 22.925 Waiver Request at 3.

³⁹ GCI Section 22.925 Waiver Request at 3.

⁴⁰ See *Alaska Drive Test Order* at 16, para. 29 (stating that “UASs should mirror on-the-ground vehicles to the extent possible, matching on-the-ground vehicle speed (for example, matching nearby speed limits) and flying at the lowest, safest possible elevation, to best reflect on-the-ground usage”).

⁴¹ See *Alaska Drive Test Order* at 17, para. 30 n. 127, para. 31.

⁴² See *Alaska Drive Test Order* at 16, para. 29, 17, para. 31.

⁴³ See Appendix. We also reiterate that GCI must use UASs consistent with all federal and state laws, including all applicable FAA rules. See *Alaska Plan Drive Test Order* at 17, para. 31 n.131.

14. IT IS FURTHER ORDERED, that pursuant to section 1.102(b)(1) of the Commission's rules, 47 CFR § 1.102(b)(1), this Order SHALL BE EFFECTIVE upon release.

FEDERAL COMMUNICATIONS COMMISSION

Garnet Hanly
Chief, Competition and Infrastructure Policy Division
Wireless Telecommunications Bureau

Roger S. Noel
Chief, Mobility Division
Wireless Telecommunications Bureau

APPENDIX

Grid Cells Subject to Section 22.925 Waiver Request⁴⁴

Service	Uplink	Downlink	Market	Call Sign	Grid Cells
Cellular (A Block)	824-835 and 845- 846.5 MHz	869-880 and 890- 891.5 MHz	CMA316 Alaska 2 - Bethel	WPWF379	G13780092
				WPON879	G21730608†, G21720609†
Cellular (B Block)	835-845 and 846.5- 849 MHz	880-890 and 891.5- 894 MHz	CMA315 Alaska 1 - Wade Hampton	KNKN204	G24531774*†, G24881774*, G26321101, G26331100†, G26351102†, G26371104†
				WQJL936	G19801392, G19791393, G19801393
			CMA316 Alaska 2 - Bethel	WPOJ849	G15860782
				KNKR275	G19040813
				KNKQ398	G23350578†, G23340578
			CMA317 Alaska 3 - Haines	KNKN261	G31930511*†, G31960634*†, G32230540†, G33350520, G32750549, G34280396, G34270400, G33220424†

* Grid cell has a modeled population of one or greater. GCI is filing a separate waiver request in WC Docket No. 16-271 to permit the submission of UAS testing results for these grid cells.

† Portions of grid cell potentially accessible via watercraft or ATV. GCI requests a waiver of Section 22.295 for these grid cells only to the extent non-UAS testing is impractical/infeasible.

⁴⁴ GCI Section 22.925 Waiver Request at 3.