



Federal Communications Commission  
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## **FCC Comments – Submitted July 5, 2018**

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The United Retailers Association or *Centro Unido de Detallistas* (CUD) is the oldest most diverse private sector organization in Puerto Rico representing local businesses with an almost 150-year heritage of supporting economic growth on the island.

We are pleased to respond to the Federal Communications Commission's request for comment on how best to structure the second stage of the *Uniendo a Puerto Rico* and Connect USVI Funds to speed longer-term efforts to rebuild fixed and mobile voice and broadband networks in the territories and harden them against future natural disasters that was published on June 13, 2018 in the Federal Register identified by WC Docket Nos. 18-143, 10-90 and 14-58.

A May 29, 2018 Harvard Study in the New England Journal of Medicine titled "Mortality in Puerto Rico after Hurricane Maria" accounts for a death toll in Puerto Rico as a result of Hurricane Maria of almost 70 times more than the official estimate. The study shows that the average household surveyed went approximately 41 days without cell phone service, and that more than 30 percent of surveyed households reported interruptions to medical care, with trouble accessing medications, partially due to a lack of communications.<sup>1</sup>

The FEMA emergency response plan expected the private sector to restore communications quickly. The plan states, "There are minimal expectations that federal assistance would be required to restore the infrastructure during the response and recovery of a storm,"<sup>2</sup> and that it is typically up to the private sector.

As a result, we have built a coalition of stakeholders that include government, the healthcare industry, and private enterprises to identify a communications solution that will support public safety by securing the distribution of essential products and services to public safety institutions (e.g. hospitals, clinics, pharmacies, etc.) and communities in need. At the same time, the solution must support economic resiliency as the island suffers unemployment, dwindling tax revenue, and large debts.

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<sup>1</sup> <https://www.nejm.org/doi/full/10.1056/NEJMsa1803972>

<sup>2</sup> <https://www.politico.com/story/2018/04/15/puerto-rico-hurricane-fema-disaster-523033>

After careful planning, we seek to deliver a cost effective, secure, island wide emergency response Digital Mobil Radio (DMR) communications network that is capable of interoperating with Analog and P25 as utilized by the US local, state and federal government. The network will be based on a dedicated frequency with no reliance on the local power authority. The plan is well beyond concept. It can be deployed within 90 days and would have an immediate impact on more than three million U.S. citizens on the island.

To date, we have provided comments addressing the lack of a robust communications network to several entities involved in the reconstruction of Puerto Rico including: 1) Financial Oversight and Management Board for Puerto Rico; 2) FEMA; and 3) The Bipartisan Congressional Task Force on Economic Growth in PR. In response, our project has received attention from leading news outlets both on the island and nationally, as well as congressional attention. We have included a package with the relevant documents for your review and consideration. Please find our response to the FCC's request for comments below:

5.. As background, the USF currently directs approximately \$36 million each year to fixed services in Puerto Rico and \$16 million each year to fixed services in the U.S. Virgin Islands, along with \$79.2 million each year to mobile services in Puerto Rico and only \$67,000 each year to mobile services in the U.S. Virgin Islands. However, none of this funding is tied to specific, accountable build-out targets. We now seek comment on revisiting that spending to ensure there is sufficient support for the long-term rebuilding of the territories and that such support is distributed in a cost-efficient manner.

**CUD Response:**

- The FCC providing \$36M per year to fixed services in Puerto Rico (\$360M over the last 10 years) and \$79.2M to Mobile services (\$792M over the last 10 years) with no specific targeted use of funds to address the weaknesses plaguing the infrastructure is a contributing factor to the state of the Puerto Rico telecommunications infrastructure.
- The infrastructure on the island of Puerto Rico desperately needs attention to improve upon the resiliency of the infrastructure (the connectivity continues to be aerial rather than trenched fiber/copper, there is limited improvement to the resiliency of the backup power network and it is common knowledge that the grid upon which communications depends is still in a critical state).
- The funding needs to be tied to specific projects that specifically address the weaknesses in the infrastructure with clearly defined milestones, benefits to the local community and Key Performance Indicators (KPI's). The entities approved for funding should be monitored, and their execution performance (against their plan) measured. Failure to execute should result in defined recourse.

6. Based on the Commission's analysis, it proposes to spend up to an additional \$126 million through the second stages of the Uniendo a Puerto Rico Fund and the Connect USVI Fund. Specifically, the Commission would increase funding for fixed services by \$10.5 million per year over ten years and for mobile services by \$7 million per year over three years to ensure that carriers have sufficient funds to rebuild and improve the voice and broadband-capable networks,

both where the hurricanes destroyed existing infrastructure and in rural areas that have not yet been served.<sup>3</sup> As result, the Uniendo a Puerto Rico Fund would make available about \$444.5 million over a decade for fixed broadband (an \$84 million increase over current funding levels) and about \$254 million over 3 years for 4G LTE mobile broadband (a \$16.8 million increase). And the Connect USVI Fund would make available about \$186.5 million over a decade for fixed broadband (a \$21 million increase) and about \$4.4 million over a 3-year term for 4G LTE mobile broadband (a \$4.2 million increase).

#### **CUD Response:**

- The infrastructure of Puerto Rico needs to be rebuilt immediately, and spreading the funding increase out over 10 years is too long if the intent is to help support the communities, residents and businesses of Puerto Rico. There are immediate and pressing needs that require a minimal upfront investment to ensure that the FCC and the island have the capacity for long-term planning.
- Funds should be prioritized for immediate infrastructure projects that resolve unmet needs within the next 12 months (maximum). As noted above in response to paragraph 29, the projects should be submitted for approval and the FCC should send a resource to Puerto Rico to visually inspect the areas where the funds will be deployed.

9. More generally, the Commission seeks comment on how to ensure that service is rebuilt quickly and efficiently, while improving networks where feasible and protecting critical communications networks against future natural disasters. Recognizing that access to reliable communications services is essential, particularly in times of emergency, the Commission also explore options to expand service to areas that were unserved prior to the hurricanes. The Commission invites comment on how to balance our competing objectives of rebuilding and improving service, ensuring network resiliency, and expanding coverage. At the same time, the Commission is mindful of its responsibility as stewards of the USF to ensure that support is spent efficiently and seek comment on appropriate safeguards to ensure accountability. Similar to Stage 1 funding, the Commission reminds Puerto Rico and the U.S. Virgin Islands that the Act prohibits the territories from adopting regulations related to Stage 2 funding that are “inconsistent with the Commission’s rules to preserve and advance universal service

#### **CUD Response:**

- The 2018 hurricane season portends a difficult situation for Puerto Rico. Hurricane researchers at Colorado State University forecast a slightly above-average hurricane season, with the probability of a major hurricane making landfall in the Caribbean at 52 percent, compared with an average of 42 percent over the past century. For Puerto Rico, the

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<sup>3</sup> We use the same ratio of fixed to mobile for this additional annual support as we used in the Order above for additional support in 2018. This split reflects the greater costs of restoring fixed services.

researchers calculate a 15 percent chance of a hurricane tracking within 50 miles of the Island during the 2018 season.

- A portion of USF funds should be set aside by the FCC as discretionary funding to expedite priority infrastructure projects that cover underserved areas and resolve immediate unmet public safety needs.
- The carriers servicing Puerto Rico (both fixed and mobile) are providing the bare minimum in order to comply with the FCC requirements. The networks have two fundamental critical points of failure: backhaul and power. The fixed line network continues to be mostly aerial fiber/copper (rather than trenching) using wooden poles and the mobility networks are fundamentally connecting BTS's/eNodeB's using that same aerial fiber as backhaul for the cell sites. In addition, both the fixed and mobile networks depend on the power grid for AC power, and the power grid is still on life support despite hundreds of millions of dollars being spent to recover the network. Generators have been installed on sites, but there is limited monitoring capability installed permitting carriers to monitor in real time the status of the energy platforms servicing the sites. In addition, maintenance of the generators (to insure uptime) is subpar at best due to the carriers not wanting to pay reasonable rates to maintain the generators that are powering the network given the low ARPU of Puerto Rico.
- The public sector (e.g. government, police, fire, EMT's, etc.), public safety (e.g. hospitals, clinics, pharmacies, dialysis centers, etc.) and the private sector (e.g. retailers, logistics, fuel stations, distributors, supermarkets, etc.) that serve both the government and public safety institutions make up the first responders supporting the island after a storm, and they are completely dependent upon the fixed and mobility providers in order to support recovery. Thus, the institutions that are in place to support a recovery are dependent upon an infrastructure that is already set to fail.
- When the next storm hits Puerto Rico, the island will once again go dark either from losing the aerial fiber transmission networks or losing AC power and having an inadequate backup power strategy. The public sector, public safety and private sector (that supports government and public safety) will once again find themselves incapable of supporting a recovery due to a lack of communications.
- If funds are going to be allocated for restoration and recovery, the funds should be focused entirely on:
  - Improving the resiliency of the telecommunications transmission network (e.g. fiber and copper) moving it from aerial to trenching based solutions.
  - Improving the resiliency of the backup power network to insure uptime after the power grid goes down (solar + battery backup + diesel generators + AC power) and implementation of site monitoring to permit real time monitoring of the power source

at sites. Waiting until the diesel generator runs out of diesel in order to deploy a supplier to refuel is not a solution.

- Supporting the implementation of resilient, standalone, energy independent disaster recovery network solely focused on servicing the needs of the public safety and private sector institutions (that support government and public safety) before, during and after a storm.

11. The Commission first notes that present circumstances require us to revisit the Commission's past treatment of high-cost support for fixed networks in Puerto Rico and the U.S. Virgin islands. In the *December 2014 Connect America Fund Order*, [80 FR 4446](#), January 27, 2015 the Commission decided to allow price-cap carriers in insular areas to elect to continue receiving frozen high-cost support amounts in exchange for accepting tailored service obligations to be adopted at a later date.<sup>4</sup> Although PRTC (in Puerto Rico) and Viya (in the U.S. Virgin islands) elected to receive frozen support, the Commission has yet to establish specific service obligations for either carrier. Moreover, the hurricanes and their aftermath wrought havoc upon these existing networks—so much so that each of these carriers has claimed that multiples of their current annual support amounts are necessary for restoration and rebuilding.<sup>5</sup> The Commission seeks comment on the view that changed circumstances require us to revisit funding for fixed networks in these territories. How does the fact that the Commission has not adopted specific CAF Phase II obligations for PRTC and Viya impact the reliance interests, if any, these carriers could reasonably have had in the status quo continuing through 2020? How should the need for extensive rebuilding factor into our decision? How should the fact that the Commission is considering the addition of \$10.5 million in high-cost funding per year for rebuilding fixed networks in these territories affect our decision? And how should the Commission weigh the efficiency of more competitive approaches that could extend improved service more widely to consumers in Puerto Rico and the U.S. Virgin islands against any reliance interests in continuing to administer frozen support as before?<sup>6</sup>

#### **CUD Response:**

- The rural and low-income areas that the CAF Phase II funding will be applied against cannot accommodate multiple service providers, and the areas will simply continue unaddressed by the second carrier as well. The cost of extending service to areas with low population densities or low income residents provide negative ROI after accounting for the costs of deployment, routine operations and maintenance costs and the cost of capital.
- Low income, low population density areas should be served using mobility solutions rather than expensive fixed line solutions such as fiber and copper. The FCC should

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<sup>4</sup> *Connect America Fund*, Report and Order, 29 FCC Rcd 15664, 15661-63, paras. 45-49 (2014) (*December 2014 Connect America Fund Order*).

<sup>5</sup> See PRTC Emergency USF Petition at 8-9; Viya Emergency Wireline Petition at 1.

<sup>6</sup> *USF/ICC Transformation FNPRM*, 26 FCC Rcd at 17727, paras. 165; *id.* at 17732-33, para. 179.

commission to have an independent radio frequency drive test done of the entire island of Puerto Rico in order to determine coverage of each of the carriers on the island and utilize the gathered data to create a competitive bid situation between the carriers for a grant to cover the cost of expanding service in to the low cost areas with residents that are currently without wireless coverage.

- In exchange for being granted the funds to add the extra BTS's/eNodeB's to cover those areas, the winning carrier must provide service to the users in the area and extend regulated roaming rates to all the other carriers on the island specifically for those BTS's/eNodeB's subsidized by US taxpayers.
- Post deployment, the FCC should drive test the areas where BTS's/eNodeB's were deployed to confirm that the winning carrier delivered on its commitment in providing the necessary coverage, capacity and data throughput for the LTE carrier.

13. The Commission seeks comment on this proposal. In the concurrently adopted Order, the Commission used the same 80-20 ratio to balance the difference in population between Puerto Rico and the U.S. Virgin Islands, the significant financial challenges faced by carriers in both areas, the current level of high-cost support available to providers, and other relevant factors. Should the Commission maintain that ratio for the purpose of allocating additional support? Are the total funding amounts appropriate for each territory given the rebuilding required and the improvements need to harden networks against future natural disasters and the expansion needed in rural areas? Is a ten-year term of support, which the Commission has repeatedly used in other high-cost programs to ensure those building out had sufficient time to amortize and recover their costs, appropriate here? How should the Commission address differences in the geographic or competitive landscape in evaluating our long-term plans? For example, Viya is currently the only fixed provider in the U.S. Virgin islands. Does that argue for requiring inter-area competition as the Commission does in the Connect America Fund Phase II reverse auction? Or is a quasi-competitive process on the U.S. Virgin Islands nonetheless feasible? Or should the Commission pursue some alternative option?

#### **CUD Response:**

- Puerto Rico does not need additional fixed line carriers in the immediate term to address unmet public safety communications infrastructure needs. The cost of deploying fixed line broadband networks is very high and cost prohibitive, and anyone that elects to enter the market will focus their efforts on the largest population centers only. In addition, the trend within the industry is that more and more residents (especially younger and low income demographics) are cord cutting and solely utilizing mobility solutions. <http://fortune.com/2018/03/01/cord-cutting-record-internet-tv/>
- The residents of Puerto Rico would be better served focusing government subsidies to carriers on deploying high data rate, high capacity wireless solutions that can expand service across the islands faster and more cost effectively. Those platforms need to be

resilient with multi-faceted power solutions to insure that the network is energy independent in order to guarantee network uptime.

14. The Commission also invites comment on how to best promote its aim of providing support quickly and efficiently to speed the rebuilding, improvement, and expansion of service. How can the Commission ensure that people living in the territories have access to reasonably comparable, affordable fixed voice services and broadband-capable networks? And as stewards of the USF, the Commission seeks comment on how best to fulfill our commitment to fiscal responsibility to ensure that funds are targeted efficiently.

**CUD Response:**

- The FCC should focus on two fronts:
  - Accountability – All fund requests should be submitted together with a detailed plan explaining how they will be used, where they will be deployed (cities, etc.), why it is important to the island of Puerto Rico (justification), how their progress will be measured (e.g. milestones, KPI's, reporting, etc.) and when it will all be done (set deadlines with penalties for failure in execution). The recipients of the funds should be regularly audited to insure compliance, and there should be consequences for failing to deliver upon commitments.
  - Disaster Recovery – Despite having received hundreds of millions of dollars in subsidies over many decades, the carriers were not able to deliver networks that were resilient, and they failed during a time when it was most gravely required.
    - The public sector, public safety and private sector cannot place all their dependence on the existing carriers. The FCC should actively support and promote projects from the private sector that implement stand-alone solutions that provide redundancy and service the needs of the private sector and public safety.
    - The FCC should consider discretionary funding that supports private sector solutions that are designed to complement existing carrier solutions.

17. The Commission proposes that accepted proposals will receive support for 10 years, beginning in January 2019 and running through December 2028.<sup>7</sup> The Commission seeks comment on whether to transition support, through a phase-down process, in any geographic area where the incumbent carrier, i.e., PRTC or Viya, did not win support based on its proposal. The Commission provides additional details and seeks comment on them in the following.

**CUD Response:**

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<sup>7</sup> Cf. *Connect America Fund et al.*, Report and Order et al., 29 FCC Rcd. 7051, 7061-62, para. 35 (2014) (*April 2014 Connect America Fund Order*).

10 years is too long. The infrastructure of Puerto Rico needs reconstruction immediately, and the technologies being deployed will have gone through at least two more iterations over the next 10 years. We recommend an initial spike in funding for immediate needs, particularly for priority infrastructure projects that cover underserved areas and resolve immediate unmet public safety needs, and then some funds allocated to support the maintenance and expansion of those same networks on an on-going basis with metrics in place to hold recipients accountable.

- The FCC and US taxpayer funds should not focus on the largest population centers where the carriers are profitable and making money (e.g. San Juan metro, Ponce, Mayaguez, etc.). Rather, they should be focused on repairing those areas that are underserved or have no service at all. Ongoing maintenance funds should cover those areas so they continue receiving upgrades, maintenance, expansions, etc.

18. *Eligible Providers* – The Commission proposes that only a provider that, according to June 2017 FCC Form 477 data, had an existing fixed network and provided broadband service in Puerto Rico or the U.S. Virgin Islands prior to the hurricanes would be eligible to apply to participate. The Commission seeks comment on whether participation should be limited to fixed providers who served at least some residential locations or whether providers that served only business locations should also be permitted to participate. The Commission proposes to limit participation to providers who had provided services before the hurricane because the Commission believes they would be better equipped to rebuild and expand service as quickly as possible. Relatedly, the Commission also believes that existing providers with established track records present a smaller risk of defaulting on their service obligations. However, the Commission seeks comment on whether new entrants should also be eligible. If so, what particular qualifications if any should the Commission impose on them?

**CUD Response:**

- Existing providers are the same providers that failed the island in having their networks ready to weather and recover from a storm. Those same providers have been receiving funding from the FCC for decades, and the result were networks that were unable to weather hurricanes Irma and Maria.
  - The carriers should be held accountable for the funds that they are requesting, and carriers should be delivering plans that detail out the use of proceeds, how it will address the core issues (e.g. energy independence and backhaul), metrics for measuring execution and deadlines for when the work will be completed.
- The funding should be opened to other private sector solutions that provide additional services in support of public safety. As Representatives Sean Duffy, Tom MacArthur, and Jennifer Gonzales-Colon stated in their June 20, 2018 letter to Secretary Ben Carson in support of private sector solutions like the CUD's, "Our work in Puerto Rico has



convinced us that government needs help from the private sector to boost the Islands economy and that we must listen to what local businesses need.” The CUD represents local business, and cannot be reliant on the status quo based on recent experience. Puerto Rico does not need additional carriers for providing service to consumers.

- Five mobile carriers (ATT, Claro, Sprint, TMO and OpenMobile) and two fixed line carriers (PRTC/Claro and ATT) is more than enough to service the needs of consumers on Puerto Rico.
- Private Sector and Public Safety need the ability to explore solutions for deploying networks that are designed specifically to meet their requirements, and the FCC should be supporting their proactive solutions as a means of implementing additional redundancy and infrastructure resiliency on the island.
- The proposals should have the same requirements for consideration: what will be deployed, how will it be deployed, who will run it, when will it be ready, how will the funds be utilized, contribution to public safety, metrics for measuring execution success, penalties for failure to deliver, etc.
- New entrants should be qualified by heritage of the organization, capacity to deliver projects, strength of stakeholder base, participation in the funding and disaster recovery process, speed in deployment, cost, and demonstration of how the solution resolves an unmet public safety infrastructure need.

21. *Eligible Areas* — Given the unique circumstances presented by the widespread destruction of critical infrastructure, the Commission proposes to make eligible all of Puerto Rico. By making the entire territory eligible, the Commission would eliminate the need to establish a challenge process and thus enable a more expeditious completion of the process. Doing so would also encourage applicants to expand service to areas that were previously unserved, in addition to restoring service to areas that had service before the hurricanes. Further, the Commission anticipates that making all of Puerto Rico eligible for support will increase competition, driving down the support amounts proposed in lower-cost areas. The Commission seeks comment on this approach. Similarly, the Commission proposes to make eligible all of the U.S. Virgin Islands and seek comment on that approach.

#### **CUD Response:**

- Puerto Rico first implemented telecommunications in 1914, and the island has undergone changes and expansions ever since. After 104 years of deploying and expanding service across Puerto Rico, no area of Puerto Rico should be without service and all carriers should be held accountable for the fact that areas continue to be under or unserved. The entire island must be eligible, particularly for emergency response communications.

23. *Minimum Geographic Area* – The Commission proposes to accept proposals for support to satisfy specific service obligations within each of Puerto Rico’s 78 municipios. Using municipios as the basic geographic area for support may allow providers to achieve economies of scale that would not be available if the Commission used smaller areas, such as Puerto Rico’s over 900 barrios. On the other hand, there may be some risk that municipios are too large to target funding in a competitively neutral manner—incumbent providers with large existing service territories are likely more amenable to providing service over a wider area. The Commission seeks comment on whether using municipios makes sense or whether the Commission should instead provide support on a more granular basis, such as by barrios, census block groups, or some other geographic unit.

**CUD Response:**

- As explained in the response to paragraphs 33 and 35, carriers should not receive funding for expanding service to existing coverage areas. Any and all funding should be focused on addressing the weaknesses plaguing Puerto Rico’s communications network:
  - Resiliency – trenched rather than aerial fiber and energy independence.
  - Coverage – coverage expansion to areas with no coverage and/or broadband data service.
- Carrier coverage maps should be evaluated at the level of Municipios in order to determine where the carriers have weaknesses or lack coverage. The funds should then be allocated to address those problem areas specifically, and the use of proceeds should include a detailed plan laying out how the funds will be used, deadlines for execution and metrics for measuring and maintaining accountability.

29. The Commission seeks comment on this proposal, and particularly on the key second step. We note that the extremely high-cost threshold here would be used to establish a per-location funding cap, similar to how the Commission offered rate-of-return carriers model-based support.<sup>8</sup> How should the Commission establish the appropriate thresholds? The CAM established a high-cost threshold of \$52.50 based on assumed take rates and potential average revenues per subscriber.<sup>9</sup> Do those assumptions still hold in the context of Puerto Rico and the U.S. Virgin islands after the hurricanes? If not, should the Commission lower the high-cost threshold and if so, by how much? By 25 percent? By more? The CAM established a high-cost threshold of \$198.60. Is that appropriate here? The Puerto Rico Telecommunications Regulatory Board has stated that more support needs to be directed to the rural parts of the island.<sup>10</sup> Would that suggest setting a higher extremely high-cost threshold? The Commission

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<sup>8</sup> See *Connect America Fund et al.*, WC Docket No. et al., Report and Order, Order and Order on Reconsideration, and Further Notice of Proposed Rulemaking, 31 FCC Rcd 3087, 3107, para. 52 (2016).

<sup>9</sup> *Connect America Fund et al.*, WC Docket No. 10-90 et al., Report and Order, 29 FCC Rcd 3964, 4035-40, paras. 171-80 (WCB 2014) (*CAM Inputs Order*).

<sup>10</sup> PRTRB *Ex Parte* at 1-2.

also seeks comment on how to allocate funds between bringing service to locations that had never been served versus restoring service (potentially at a lower cost) to locations where service had been disrupted by the hurricanes. For example, the Commission has previously assigned zero support to locations below the high-cost threshold on the assumption that a business case nonetheless existed to serve such locations. Does the context of rebuilding networks on these islands suggest revisiting that assumption and assigning some funding—say 10 percent of cost—to cover the costs below the high-cost threshold? The Commission also seeks comment on how the CAM should be adjusted, if at all, to take into account the need for network hardening. For example, should the Commission assume the cost of above-ground plant will increase 10 percent (or more) to account for such hardening before the Commission determines the costs per location?

**CUD Response:**

- Funds should not be permissible for adding new features or capacity to existing coverage areas that are already being served and generating profits for the existing carriers. Using thresholds for determining costs can calculate the requirements for the rural areas (these areas will have higher cost thresholds due to the low population density in rural municipios compared to cities such as San Juan); however, they are not suitable for addressing public safety solutions (given they are focused on hospitals, clinics, enterprise, etc. rather than consumers) or resiliency of the existing networks. Another model is necessary to calculate requirements for solutions focused on disaster recovery.

30. *Selection Process* – The Commission seeks comment on the appropriate time frame and format for submitting proposals. The Commission proposes to allow confidential proposals. Should the Commission unseal proposals after finishing the evaluations process for transparency reasons? The Commission seeks comment on whether to make public the submitted proposals after the evaluation process has been completed and winning applicants have been determined. The Commission seeks comment on prohibiting multiple carriers from submitting a proposal jointly.

**CUD Response:**

- Puerto Rico is out of time and this process needs to be expedited. The timeframe for submitting proposals should be 30 days (no option for extensions). There should be metrics for measuring the proposals in order to determine the winners, and those metrics should be made public as a component of the selection process. The proposals should be unsealed upon selecting and announcing the winners in the interest of transparency. Bidders should not be permitted to submit multiple proposals.

31. The Commission proposes to select winning proposals based primarily on price per-location served while adjusting the bids to consider factors including network resiliency, network deployment timing, and network performance. The Commission seeks comment on these factors

and what other factors the Commission should consider when evaluating proposals.<sup>11</sup> Considering price as the primary factor responsibly manages the Fund, but the Commission recognizes the increased costs of deploying a storm-hardened network in Puerto Rico and the USVI. For instance, how should the Commission factor storm hardening proposals into our evaluation? Should the Commission require or increase the weight of bids that comply with resiliency standards like TIA-222-H, the most up-to-date standard for antenna supporting structures,<sup>12</sup> with best practices promulgated by the FCC’s Communications Security, Reliability and Interoperability Council,<sup>13</sup> or with another industry used standard for network resiliency? Should the Commission establish weights to account for the speed of deployment? What weight would be appropriate to balance costs against encouraging prompt deployment to the territories? Should the Commission establish weights to account for proposals offering “higher speeds over lower speeds, higher usage allowances over lower usage allowances, and lower latency over higher latency”?<sup>14</sup> If so, what weighting scheme would be appropriate for that purpose? Instead of using specific weights could the Commission define preferences for various characteristics in the proposals? If the Commission does not require proposals to identify a specific number of locations to serve, what factors should we consider in comparing proposals?

### **CUD Response:**

- The FCC should not prioritize price over resiliency, timing, performance and accountability. Priorities should be:
  - Energy independence – independence from the grid with the ability to monitor the entire solution in real time in order to proactively respond and keep the network on the air (rather than waiting on a generator to run out of diesel and lose the site in order to know it is time to deploy someone to refuel the tank)
  - Resiliency of the network – how is the network being designed and improved upon in order to weather a storm or natural disaster (e.g. tsunami, earthquake, etc.)
  - Business continuity – what are the processes, solutions, etc. utilized to insure that the networks weather the next storm and are recovered immediately afterwards
  - Markets served – what areas are being covered? who are the beneficiaries of the service? How does that serve the needs of the constituents of Puerto Rico?

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<sup>11</sup> See, for example, the Commission’s rule for schools and libraries in the E-rate program, 47 CFR § 54.511(a) (“In determining which service offering is the most cost-effective, entities may consider relevant factors other than the pre-discount prices submitted by providers, but price should be the primary factor considered”).

<sup>12</sup> A description is available at <https://www.tiaonline.org/news-media/press-releases/tia-announces-publication-tia-222-h-standard-antennas-and-supporting>.

<sup>13</sup> See FCC, CSRIC Best Practices, <https://opendata.fcc.gov/Public-Safety/CSRIC-Best-Practices/qb45-rw2t/data>.

<sup>14</sup> *CAF Phase II Auction Order*, 31 FCC Rcd at 5957, para. 16.

- TIA-222 Rev H was only recently released and the tower owners (who will not be the bidders approaching the FCC) are already involved in the process of accounting for the changes in the standards. In addition, what crippled Puerto Rico was not the loss of towers. It was the loss of backhaul and energy, and a complete lack of disaster recovery focused networks to serve the needs of public safety.

39. *Deployment Milestones* – As with the CAF Phase II Auction, the Commission proposes that winning bidders must deploy to at least 40 percent of locations after the third year of support, at least 60 percent after the fourth, at least 80 percent after the fifth, and 100 percent after the sixth year of support.<sup>15</sup> The Commission seeks comment on whether this schedule is appropriate. The Commission also seeks comment on how we should track milestones if a particular number of locations, as already discussed, is not defined. Are there other ways to track progress without having to rely on location counts given the possible difficulty of establishing a number of locations?

#### **CUD Response:**

- Winners should be required to deploy the entire solution within the first 12 months of award. Existing carriers already have deployed networks where only an expansion is required and they do not require multiple years in order to deploy the solutions. In addition, they will generate revenue from the deployment so it is in their best interest to have the solution deployed immediately. Multi-year deployments should not even be accommodated or considered given the state of affairs in Puerto Rico.
- The easiest solution for measuring wireless carriers is deployment coverage maps that are verified by an independent 3<sup>rd</sup> party, and KPI reports (call completion, dropped call, data throughput rates, ppp session completion, etc.). In addition, users in the area should be able to submit complaints (via a webpage) identifying where there are issues with coverage, dropped calls, low data rates, etc. Wireless carriers are already utilizing customer complaints as a means of determining if cell sites should be added in areas based on numbers of user complaints. This process already exists within the carrier community and facilitates the government hearing directly from the community to confirm that carriers are or are not complying.
- Wireline carriers should provide coverage maps showing homes/businesses covered, and similar KPI reports limited to those specific coverage areas in order to measure progress. Same process should be applied regarding customer complaints.
- Lastly, carriers should be required to submit a monthly report to the FCC point of contact demonstrating progress of deployment, network performance, coverage, progress vs plan, for approved projects. Failure in execution should have corresponding consequences.

41. *First*, the Commission proposes that support recipients must satisfy all reporting and certification obligations of providers receiving CAF Phase II auction support, including as

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<sup>15</sup> *CAF Phase II Auction Order*, 31 FCC Rcd at 5964, para. 40.

described in sections 54.313 and 54.316 of the Commission's rules.<sup>16</sup> The Commission seeks comment on this proposal. The Commission seeks comment on whether providers who win support must track their restoration expenditures.<sup>17</sup> Should providers retain documentation on how much support was used for capital expenditures and operating expenditures? What are the associated burdens with retaining expenditure documentation? Would retention of this documentation be duplicative of records needed for deployment milestones?

**CUD Response:**

- Yes. Carriers should track how capex and opex funds for the awarded areas were utilized, and demonstrate that the KPI's for execution were met. Those records should be audited and validated.
- No, it does not cost them anything or require additional work. They track that data for their own internal purposes.

42. *Second*, the Commission proposes aligning the annual reporting obligations with the obligations of other rate-of-return carriers in the *2016 Rate-of-Return Order* by requiring geocoded location reporting into the HUBB.<sup>18</sup> This reporting obligation would require providers to submit information demonstrating locations the provider is reporting as broadband-enabled where the company is prepared to offer voice and broadband service meeting the requisite performance standards. Do carriers currently retain geolocation data for served locations? If not, what period of time is needed to enable collection of geolocation data? Should the Commission require this data be reported for only newly deployed locations or all reported locations? Would annual reporting or a longer period more appropriately balance the reporting burden against the accuracy of the data? Additionally, the Commission proposes requiring awarded carriers to submit performance measurements in accordance with the requirements to be defined by the Commission.<sup>19</sup> To the extent that awarded carriers have not participated in that proceeding, the Commission proposes requiring the same testing method options and parameters as price cap carriers.<sup>20</sup>

- Carriers track and maintain all geolocation data for the network, which should be submitted by carriers to demonstrate that projects that were awarded have been delivered.

43. *Third*, the Commission proposes to carefully monitor and reassess the deployment

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<sup>16</sup> 47 CFR §§ 54.313(a), (e)(2), 54.316(a).

<sup>17</sup> See, e.g., Open Mobile Petition at 7-8 (describing accountability measure including filing "periodic reports providing the Commission with a detailed accounting of all expenditures by category").

<sup>18</sup> *2016 Rate-of-Return Order*, 31 FCC Rcd at 3167, para. 217.

<sup>19</sup> See *Comment Sought on Performance Measures for CAF Recipients*, 32 FCC Rcd. 9321 (WCB 2017) (seeking comment regarding the performance measures for high-cost universal service support recipients).

<sup>20</sup> *Id.* at 9324, para. 7.

obligations of the awarded support before the end of the fifth year. Understanding the deployment and operational realities of providing service in both Puerto Rico and the U.S. Virgin Islands, the Commission believes this reassessment would be prudent to address any changed circumstances within the territories, whether that be changes in subscribership expectations due to population changes or future disruptive natural disasters. As the current situation demonstrates, the long-term planning involved in any telecommunications deployment decision requires a number of assumptions that may change dramatically over time. Would providing an opportunity for the Commission to reassess deployment obligations be beneficial to providers or cause unneeded uncertainty? Should the reassessment be tied to deployment milestones? For example, the reassessment would not be triggered if a provider is 60 percent deployed after four years, but would occur if a provider failed to meet the deployment obligation. Would it be appropriate to alter the obligations by increasing or decreasing the number of locations or modifying the service obligations?

**CUD Response:**

- Carriers should have all projects deployed in 12 months, and they should be reassessed on a yearly basis to confirm they are complying. Carriers do not need 10 years or for that matter six years to deploy projects. The FCC should focus its efforts on resolving immediate unmet needs.

44. *Fourth*, the Commission proposes to subject awarded carriers to the same compliance standards as any other carrier with defined obligations by defining specific obligations for the support.<sup>21</sup> This may result in a carrier that failed to meet its milestones having support reduced until the carrier can meet its obligations or face recovery actions.<sup>22</sup> The Commission seeks comment on this approach.

**CUD Response:**

- Agreed. There should be consequences for lack of performance and execution against plan.

45. The Commission also seeks comment on whether successful applicants must obtain a letter of credit by way of security, as must winning bidders in the CAF Phase II auction.<sup>23</sup> If so, how should the letter of credit be structured? Should it be for the full amount awarded, or some lesser amount that will nevertheless protect the USF? Should an alternative to a letter of credit be considered, such as a performance or payment bond?

**CUD Response:**

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<sup>21</sup> 47 CFR § 54.320(d); *December 2014 Connect America Order*, 29 FCC Rcd at 15694-700, paras. 142-54.

<sup>22</sup> 47 CFR § 54.320(d)(2); *December 2014 Connect America Order*, 29 FCC Rcd at 15697, para. 148.

<sup>23</sup> See 47 CFR § 54.315(c).

- The bidders with the highest probability of winning are all large carriers with billions in revenue. Requiring a letter of credit is not necessary. A performance bond should definitely be a requirement in order to protect the USF.

56. In the aftermath of the hurricanes, the rapid restoration of mobile service was critical in facilitating communications with public safety and civic officials and connecting families to loved ones.<sup>24</sup> Building upon the significant restoration efforts that have taken place to date, the Commission seeks comment on how best to target high-cost support to rebuild, improve, harden, and expand mobile services in Puerto Rico and the U.S. Virgin Islands. The Commission proposes to make \$259 million in support available to eligible facilities-based mobile providers over the next three years through the Uniendo a Puerto Rico Fund and the Connect USVI Fund. The Commission's goal is to facilitate timely recovery of mobile services within these territories in a cost-effective manner.

**CUD Response:**

- As identified in 33 and 35, this definition is too broad. The issues plaguing the infrastructure and causing the loss of service were related to facilities (e.g. aerial fiber and copper rather than trenched, underground facilities), energy (dependence on the grid and basic generator backup) and lack of a public safety focused disaster recovery network for the underlying infrastructure that make up the backbone of a recovery (e.g. hospitals, clinics, retailers, logistics providers, gas stations, etc.). All funds should be directed at solutions that address these 3 points.

60. The Commission proposes that only providers that provided facilities-based mobile services in Puerto Rico and the U.S. Virgin Islands prior to the hurricane impacts, according to the June 2017 Form 477 data, would be eligible to elect this new funding. The Commission proposes to allocate the new funding based on the number of subscribers (voice or broadband Internet access service) each provider served as of June 30, 2017—similar to how the Commission calculates support in stage one. As an alternative, the Commission seeks comment on allocating all funding available for mobile network operators in the second stages of the Uniendo a Puerto Rico Fund and the Connect USVI Fund based on pre-hurricane subscribership. Such an approach would avoid any inefficiencies in the historic allocation of support among the islands and avoid the need for a decision ahead of time regarding how much in particular should go to Puerto Rico versus the U.S. Virgin Islands. If the Commission pursues this alternative approach, should the Commission set transitional funding amounts for existing recipients of high-cost support? In particular, should the Commission ensure that existing recipients receive at least two-thirds of their current mobile support in 2019 and at least one third in 2020?

**CUD Response:**

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<sup>24</sup> Rachel Becker, *Trying to communicate after the hurricane: 'It's as if Puerto Rico doesn't exist'* (Sept. 29, 2017), <https://www.theverge.com/2017/9/29/16372048/puerto-rico-hurricane-maria-2017-electricity-water-food-communications-phone-internet-recovery>.



- This structure favors the largest providers and eliminates the possibility for new entrants that can service the mission critical disaster recovery needs of the island. The structure should encourage creativity and addressing the needs of the island rather than simply subscriber levels.
- The proposals should be focused on a detailed explanation of where their networks failed (e.g. a root cause analysis), detailed plan how the bidders intend to utilize the funds to improve the resiliency of the networks serving the island and/or how the solutions will serve the needs of public safety.

61. The Commission proposes that, in exchange for accepting additional support, each mobile provider must commit to, at minimum, a full restoration of its pre-hurricane coverage area, at a level of service that meets or exceeds the minimum standard required of recipients of MF-II support.<sup>25</sup> Such a requirement aligns with the goal of MF-II to “target universal service funding to support the deployment of the highest level of mobile service available today—4G LTE.”<sup>26</sup> The Commission tentatively concludes that, given the extent of damage in Puerto Rico and the U.S. Virgin islands, most providers will already be engaging in substantial rebuilding of towers and infrastructure, and will find it most economical to deploy 4G LTE during such restoration versus alternative technologies. The Commission seeks comment on whether this requirement is appropriate. Should the Commission instead require providers to rebuild their networks at a different standard? For example, should the Commission instead require deployment at the speed benchmark used to identify areas eligible for MF-II?<sup>27</sup> Is there an alternative standard appropriate to ensure that residents of Puerto Rico and the U.S. Virgin Islands have comparable service to other areas of the United States? Should the Commission restrict funding to support operation, deployment, and enhancement only of 4G LTE?

### **CUD Response:**

- The funding should not be tied to a particular technology as it fundamentally punishes

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<sup>25</sup> *Connect America Fund; Universal Service Reform – Mobility Fund II*, Report and Order and Further Notice of

Proposed Rulemaking, 32 FCC Rcd 2152, 2189-90, para. 87 (2017) (*Mobility Fund II Report & Order*). Those requirements include offering voice service and providing 4G Long Term Evolution (LTE) service that meets minimum baseline performance requirements for data speeds, data latency, and data allowances for at least one offered plan. The median data speed of the network for the supported area must be 10 Mbps download speed or greater and 1 Mbps upload speed or greater, with at least 90 percent of the required download speed measurements

being not less than a certain threshold speed. For latency, at least 90 percent of the required measurements must have a data latency of 100 milliseconds or less round trip. Support recipients must offer at least one service plan that includes a data allowance comparable to mid-level service plans offered by nationwide providers.

<sup>26</sup> *Id.* at 2156, para. 13.

<sup>27</sup> *Id.* at 2173, para. 51. For the purposes of MF-II, the Commission defined “qualified 4G LTE service” as mobile wireless service provided using 4G LTE technology with download speeds of at least 5 Mbps.

any company utilizing alternative technologies to LTE. In addition, mobile carriers have multiple technologies deployed on island, and not all of them have deployed VoLTE preferring to use CDMA or UMTS for voice service and LTE for data. Focusing solely on LTE will limit the coverage area and facilitate situations where a user can update their Facebook status but the lack of voice service means they cannot call 911 in case of an emergency. In addition, implementation of e911 and geolocation of users (i.e. GPS location of a caller) should be of paramount importance during disaster recovery. Acceptance of support should be tied less to a technology and more to the resiliency, coverage, speed in execution, transparency and servicing the needs of public safety.

- An alternative standard appropriate to ensure that residents of Puerto Rico have comparable service to other areas of the United States from a public safety, rather than commercial/consumer standard, is Digital Mobile Radio (DMR). DMR is a digital radio standard specified for business mobile radio users. A DMR network initiated by the private sector is the most affordable way to deliver Island wide and energy independent communications for emergency response and business continuity. The main difference between DMR and traditional radio is that it is based on a dedicated frequency and is also capable of interoperating with Analog and P25 as utilized by the US local, state and federal government. It offers an alternative in the event the Public Sector network fails and communications are needed. It enables the private sector to support public safety by securing the supply chain distribution for health, food, and other critical industries during the recovery process.
  - Features include one to one, one to all, group calls, GPS and text messaging, the DMR standard creates a new level of utility for the two-way radio.
  - DMR standard radios will work with other DMR standard two-way radios even from different manufacturers offering flexibility.
  - An Island wide solution can be deployed within 90-days of funding.

63. The Commission also seeks comment on the appropriate reporting requirements for support recipients. The Commission proposes to have any mobile providers receiving second-stage support via the Uniendo a Puerto Rico Fund and the Connect USVI Fund report twice per year on their coverage. Specifically, the Commission proposes that providers supply coverage maps using the buildout parameters the Commission will adopt for the MF-II auction.<sup>28</sup> If the Commission adopts a different service requirement for funding recipients than the minimum standard required of recipients of MF-II support, the Commission proposes to make appropriate adjustments to the reporting requirements. The Commission seeks comment on these proposals. The Commission also seeks comment on how this data should best be submitted to the Commission, such as through the regular Form 477 filings or some other process?

## **CUD Response:**

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<sup>28</sup> See *Mobility Fund II Report & Order*, 32 FCC Rcd 2152, 2189-90, para. 87.

- Recipients should report on a quarterly basis in order to maintain transparency, visibility on their ability to recover during hurricane season and it permits the FCC to take action in cases where a recipient is not complying.

65. We propose to use an auction to allocate funding following this three-year period, with any funding commitments resulting from such an auction to commence on the day following the end of the three-year period. We seek comment on whether the competitive environment in Puerto Rico and the U.S. Virgin Islands is sufficiently robust to ensure an auction that distributes funds in a cost-effective way and whether it makes sense from the perspective of administrative efficiency to hold such an auction. Can we use the same general auction rules and same auction design for this auction as we will use for the MF-II auction?<sup>29</sup> Are there any specific auction rules or procedures we should consider so that an auction would not be overly complicated for the Commission to administer and would not overly burden potential bidders?

**CUD Response:**

- An auction while very efficient and suitable for the award of spectrum, it is slow, inefficient and solely favors the largest carriers on island due to their ability to lobby and allocate significant funding to insure award. Bidders should submit their proposals in a period of 30 days and the sole focus of the proposals should be the items addressed in the response to paragraph 80.

71. Finally, the Commission understands that much of Puerto Rico still lacks electrical power.<sup>30</sup> Communications networks require reliable power to operate. The Commission seeks comment on what obligations providers should bear to ensure that their networks can function even when the electrical power grid is down. For instance, the Commission seeks comment on whether carriers could run their networks using energy sources readily available in Puerto Rico and the U.S. Virgin Islands that do not need to be shipped from elsewhere. The Commission seeks comment on the applicable costs of sustainable back-up power. What are the costs of maintaining generators on-site versus using portable generators? What are the costs and additional considerations of obtaining renewable back-up power versus traditional power methods?

**CUD Response:**

- All providers should be focusing awarded funds to address those items that crippled their networks ability to provide communications across Puerto Rico. The loss of antennas and line (A&L) on a tower is easily addressed by having spare A&L available on island, and a microwave hop can be recovered. A downed tower can be quickly recovered utilizing a cell site on wheels (COW), and a damaged BTS/eNodeB can be quickly

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<sup>29</sup> See *Connect America Fund; Universal Service Reform – Mobility Fund*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 2152 (2017) 47 C.F.R. §§ 1.21000 *et seq.*

<sup>30</sup> See, e.g., PRTRB *Ex Parte* at Attach.

deployed; however, a lack of energy to power the network and lack of backhaul to connect the site to the central office for call processing can bring the entire island to its knees in an instant.

- Carriers should be required to look at making their networks energy independent given the state of the grid, and any proposal that prioritizes an energy independent, resilient communications platform should be granted priority.
- During disaster recovery, the complete lack of communication cripples the ability for first responders, public safety providers, retailers (that support public safety), logistics providers, carriers (mobile and fixed) and aid groups to facilitate aid. Lack of communication can cost the lives of those needing aid, and the lives of those attempting to provide aid.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nelson J. Ramirez', enclosed within a large, hand-drawn oval.

Nelson J. Ramírez  
President

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