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**REDACTED -- FOR PUBLIC INSPECTION**

September 11, 2013

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 Twelfth Street, S.W.  
Washington, D.C. 20554

**Re: Connect America Fund, High Cost Universal Service Support, WC  
Docket Nos. 10-90, 05-337; Additional Costs Associated with Price Cap  
Company Service to Non-contiguous Geographic Areas**

Dear Ms. Dortch:

Hawaiin Telcom, Inc. ("HTI") in the attached letter hereby files certain information that is proprietary and highly confidential to HTI under the terms of the Second Protective Order in the above-captioned dockets,<sup>1</sup> or confidential to CostQuest, under the terms of the Third Supplemental Protective Order in WC Docket No. 10-90.<sup>2</sup> Accordingly, the attached letter indicates the confidential treatment to be afforded the submitted information as required by those Orders.

In accordance with those Orders, I have attached one copy of HTI's Stamped Confidential and Stamped Highly confidential documents, plus two copies addressed to Katie King in the Wireline Competition bureau, and two copies redacted for public inspection (the redacted copy is also being filed electronically in ECFS, which ommits confidential or highly confidential information. One copy is being served on CostQuest's counsel in accordance with the Third Supplemental Protective Order.

Please let me know if you have any questions.

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<sup>1</sup> *Connect America Fund*, Second Protective Order, WC Docket Nos. 10-90, et al., DA 12-92 (Wir. Comp. Bur., rel. Feb. 10, 2012) ("Second Protective Order").

<sup>2</sup> *Connect America Fund*, Third Supplemental Protective Order, WC Docket No. 10-90, DA 12-1995 (Wir. Comp. Bur., rel. Feb. 10, 2012) ("Third Supplemental Protective Order").

***Law Offices of Gregory J. Vogt, PLLC***

Marlene H. Dortch  
September 11, 2013  
Page 2

Sincerely,

*/s/ Gregory J. Vogt*

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Gregory J. Vogt  
Counsel for Hawaiian Telcom Inc.

Enclosure

cc: Katie King  
Margaret Avril Lawson

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**Re: Connect America Fund, High-Cost Universal Service Support, WC Docket Nos. 10-90, 05-337; Additional Costs Associated with Price Cap Company Service to Non-contiguous Geographic Areas**

Dear Ms. Dortch:

In the *USF/ICC Transformation Order*, the Commission directed the Wireline Competition Bureau (“Bureau”) to develop the cost model to provide universal service fund (“USF”) support to price cap carriers by taking into account the unique characteristics of non-contiguous geographic areas, including the State of Hawaii.<sup>1</sup> Hawaiian Telcom, Inc. (“HTI”) hereby submits information concerning Connect America Fund (“CAF”) Phase II support necessary for the Connect America Cost Model (“CACM”) to implement that Commission directive to provide adequate support in the State of Hawaii.<sup>2</sup>

On July 9, 2013 Alaska Communications Systems (“ACS”) submitted further information to the Bureau detailing the added forward-looking costs that it experiences in the State of Alaska.<sup>3</sup> It

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<sup>1</sup> *Connect America Fund*, WC Docket No. 10-90, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, ¶ 193 (2011), *pets. for review pending sub nom. In re: FCC 11-161*, No. 11-9900 (10th Cir., filed Dec. 18, 2011) (“*USF-ICC Transformation Order*”).

<sup>2</sup> Public Notice, *Wireline Competition Bureau Seeks Comments on Connect America Fund Phase II Support for Price Cap Areas Outside of the Contiguous United States*, WC Docket No. 10-90, DA 13-162 (rel. Feb. 8, 2013) (“Public Notice”). The locations involved are the States of Alaska and Hawaii, and the territories of Puerto Rico, U.S. Virgin Islands, and the Commonwealth of the Northern Marianas Islands.

<sup>3</sup> Letter from Leonard Steinberg, Alaska Communications Systems, to Marlene H. Dortch, FCC, WC Docket Nos. 10-90, 05-337 (filed Jul. 9, 2013) (“ACS July 9 ex parte”).

urges the Commission to modify the CACM to reflect these added costs. HTI supports ACS's efforts in this regard. Pursuant to the Second Protective Order in the above-captioned dockets,<sup>4</sup> the following cost information is being provided to demonstrate where HTI in Hawaii experiences similar, although not identical, additional costs due to its unique circumstances in serving a non-contiguous area of the United States.

HTI recognizes that Commission staff has issued a public notice seeking comment on proposed revisions to the CACM that make certain adjustments for non-contiguous areas of the United States.<sup>5</sup> HTI plans to submit comments with respect to that public notice. Because the public notice only addresses a limited portion of cost differences in non-contiguous areas, HTI submits this ex parte letter in order to address those differences.

As HTI has previously indicated, the costs of providing telecommunications and broadband services in the State of Hawaii are extraordinarily high, particularly in the Neighbor Islands beyond the Island of Oahu where the state's main population center is situated. It is for these Neighbor Islands where HTI primarily requires additional CAF support in order to bring affordable broadband to those islands' customers.

As indicated in its comments in the above-captioned dockets, HTI serves an island territory that shares characteristics similar to other insular areas. Ninety-one percent of the state's land mass is home to a mere 30 percent of the population scattered among hundreds of small communities on six diverse islands. Many of the state's rural communities are quite isolated from each other (as well as from Honolulu) due to active volcanoes, steep mountain ranges, gorges, rain forests, and deep-water ocean channels many miles wide. Therefore, it is critical that the CACM reflect the higher costs of non-contiguous areas.<sup>6</sup>

The additional costs that are incurred in Hawaii involve four main areas.

1. Undersea cable costs are significantly higher than on the mainland with respect to both within the State of Hawaii and between Hawaii and the mainland. This fact is reflected in the fact that HTI's peering costs average roughly ten times higher than that faced on the mainland.

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<sup>4</sup> *Connect America Fund, Second Protective Order*, WC Docket Nos., 10-90, 05-337, 27 FCC Rcd 1494 (Wir. Comp. Bur. 2012).

<sup>5</sup> Public Notice, *Wireline Competition Bureau Announces Availability of Version 3.2 of the Connect America Fund Phase II Cost Model, and Illustrative Results; Seeks Comment on Several Modifications for Non-Contiguous Areas*, WC Docket No. 10-90, DA 13-1846 (Wir. Comp. Bur., rel. Aug. 29, 2013) ("August 29 Public Notice").

<sup>6</sup> Comments of Hawaiian Telcom, Inc., WC Docket No. 10-90, at 3 (filed Mar. 11, 2013) ("HTI Comments").

2. The State's soil type is largely made up of volcanic rock, which, when added to the remote nature of many of the Neighbor Islands, demonstrates that the State of Hawaii should be classified as "hard rock" in the CACM, rather than using a nationwide averages of different types of soils.
3. HTI costs of building last mile facilities are significantly higher than the costs reflected in the CACM because HTI has to place a higher percentage of its facilities underground, as opposed to using buried facilities.
4. HTI has a higher than average cost of shipping, and must maintain higher inventories due to longer shipping times to ensure that there is no delay in access to critical infrastructure goods. These factors raise HTI's CAPEX and OPEX above the CACM average levels.

These changes are essential steps to modifying the CACM to reflect HTI's higher costs of providing broadband and voice services in the State of Hawaii. Until such costs can be reflected in the CACM, however, the Commission should finalize the CACM, even if it does not contain the mandated accommodations for insular areas, and begin providing support promptly to all areas of the country, including non-contiguous areas, while it refines the best approach for adequately addressing insular-specific issues.

#### **Undersea Cable Costs are Significantly Higher in the State of Hawaii.**

The six largest islands in the archipelago (the "Big Island" of Hawaii, Kauai, Lanai, Maui, Molokai and Oahu) are separated from each other by ocean channels that reach depths of over 10,000 feet, and span distances of over 100 miles. Hawaii's geographically isolated location and island composition create distinct challenges and network complexities for advanced broadband infrastructure deployment.

Unlike the rest of the United States, HTI must use deep sea submarine cables to provide intrastate and interstate service. Although fiber is the best choice for inter-island connectivity, deploying submarine fiber entails substantial costs. For example, fiber requires deep sea marine cables which are expensive to manufacture, install and maintain and are vulnerable to damage from a variety of sources including seismic activity, tsunamis, maritime activity, and hurricanes. Maintenance of undersea fiber requires specialized ships, none of which are based in Hawaii, resulting in long outages when fiber cuts do occur. Further, long haul optics, environmental impact issues, permitting, and specialized cable landing stations on each island all contribute to higher cost than normal terrestrial systems.<sup>7</sup>

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<sup>7</sup> *Id.* at 9.

These high undersea cable costs are reflected in the high costs of arranging Internet peering relationships in order to carry broadband traffic. The cost of obtaining peering relationships in the State of Hawaii is very high, similar to what is experienced in Alaska. The cost per megabit to peer with the Internet in Hawaii can easily be four to ten times higher than the cost to peer in the contiguous United States, where major Internet peering centers (carrier/collocation hotels) are located across the country.<sup>8</sup> Currently, the cost to peer in Hawaii is **[BEGIN HIGHLY CONFIDENTIAL]** \*\*\*\*\* **[END HIGHLY CONFIDENTIAL]**.<sup>9</sup> The cost to peer in Hawaii is roughly 10 times higher than the CACM average mainland peering costs.

Alternatively, HTI can purchase its own capacity on the transpacific cables to transport traffic to peering points on the mainland or to Pacific Rim data centers, or it must pay Tier 1 carriers (e.g., Verizon, AT&T, CenturyLink) much higher costs for Internet connections that incorporate the transpacific links in their pricing.<sup>10</sup> These added transport costs, as specified below, do not represent any significant savings to HTI from the situation where it peers in Hawaii at the costs stated above. Further, to ensure an outage will not affect all of its services, HTI must diversify its bandwidth requirements across multiple carriers and cables. With limited options available, as compared to HTI counterparts operating in the contiguous United States, HTI inevitably pays much higher costs for peering. As indicated by a number of parties, satellite transport is not an adequate substitute for either voice or broadband communications because of the latency characteristics, delay, bandwidth limitations and high cost associated with satellite services.<sup>11</sup> For advanced applications requiring low latency, such as remote surgery, voice over Internet Protocol (“VoIP”), and other applications involving person-to-person communication, such delays make satellite-based services ineffective substitutes for terrestrial broadband services. As most recently shown by Tahiti which placed a transpacific undersea fiber cable from their country to Hawaii in 2010, satellite transport is not an economic or scalable solution when fiber-based options are available.<sup>12</sup>

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<sup>8</sup> Reply Comments of Hawaiian Telcom, Inc., WC Docket No. 10-90, at 4 (filed Aug. 11, 2010) (“HTI Cost Model Reply Comments”).

<sup>9</sup> See Declaration of Daniel Masutomi, Appendix A, at 3 (“Masutomi Declaration”).

<sup>10</sup> As a practical matter HTI enters into both types of peering arrangements to obtain route redundancy required by modern advanced communications and by customers.

<sup>11</sup> Comments of the Alaska Rural Coalition Concerning the Remote Areas Fund, WC Docket No. 10-90, at 4-5 (filed Feb. 19, 2013); Comments of General Communications, Inc. on Design of Remote Areas Fund, WC Docket No. 10-90, at 3-4 (filed Feb. 19, 2013).

<sup>12</sup> HTI Comments at 17-18.

Given the high cost of construction and maintenance of undersea cable facilities both within the State of Hawaii and between the State and the mainland, these higher costs should be reflected in the CACM.

*Higher cost of peering in Hawaii.* HTI has reviewed the cost estimate ACS included in its cost submissions to the Commission and agrees that these are reasonable forward-looking costs for the construction of undersea cable necessary if HTI were to build its own facilities for peering on the mainland.<sup>13</sup>

However, from Hawaii to the mainland there are existing international submarine cables unlike from Alaska to a mainland peering point. HTI estimates that the distance it must transport broadband traffic between its main terminal on the island of Oahu and a peering point in Los Angeles, California, is approximately 2470.7 sheath miles on the Japan-United States transpacific cable and 2438.3 sheath miles on the Asia-America Gateway transpacific cable. In planning for future capacity, based on a conservative growth projection of 400 Gbps over the next 10 years, HTI has three options for the acquisition of needed transport capacity. First, HTI could purchase bandwidth locally from major carriers like AT&T, CenturyLink, or Verizon, at an estimated price of [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL]. Second, HTI could purchase indefeasible right of use (“IRU”) capacity in existing transpacific cables, such as Japan-US, Asia—America Gateway, or Southern Cross Cable Network at a price of [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL]. Third, HTI could form a consortium of carriers to build a new transpacific cable from Hawaii to the U.S. Mainland at a cost of [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL] for a twenty percent share of the entire cable.<sup>14</sup> HTI would then establish a peering point on the mainland, but that peering cost would be compatible with the figures already included in the CACM, excluding the additional transport costs identified in the paragraph.

While these higher IRU rates, do not represent forward-looking costs and thus are inconsistent with the CACM’s approach to cost modeling, these rates do reflect the higher costs of peering that HTI experiences, and will continue to experience in the future, because of its remote location in the middle of the Pacific Ocean. By adjusting the applied factors within the CACM model, the undersea fiber construction cost results will become closer and more representative of HTI’s incurred IRU costs.

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<sup>13</sup> ACS July 9 ex parte at 9-14.

<sup>14</sup> Masutomi Declaration at 2-3.

HTI estimates that 90 percent of its existing IRU capacity currently is used to provide residential and small business high speed Internet service.<sup>15</sup> This same percentage, at a minimum, can be expected to be used for any expanded capacity in the future. As ACS notes, use of broadband is only expected to increase in the future.<sup>16</sup> Unlike other carriers on the mainland, HTI provides very limited special access services that utilize transport to the mainland, and therefore the typical usage factor on the mainland as reflected in the CACM is not appropriate or compensatory for HTI. Therefore, the 90 percent usage factor, which is far higher than the 50 percent factor currently used in the CACM, should be used for HTI.

*Higher middle mile costs in Hawaii.* High submarine cable costs also impact HTI costs of middle mile transport within the State of Hawaii for voice and broadband connections. None of these higher transport costs, including ocean-going vessels to lay inter-island fiber in deep-sea channels, would be recoverable under the current version of the CACM, but these costs significantly impact the cost of bringing broadband to the Neighbor Islands in Hawaii. Such costs could be estimated using the cost figures that ACS provided, adjusted for mileage for the inter-island cable facilities. HTI estimates that transport mileage between the six main islands of the State of Hawaii for two redundant routes is approximately 1,594,560 and 1,689,600 feet, respectively. Another way to estimate these costs is the current cost of purchasing IRUs from existing cable providers for this inter-island middle mile transport. HTI paid Southern Cross Cable [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\* [END HIGHLY CONFIDENTIAL]. Wavecom, which HTI recently purchased, paid Southern Cross Cable [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\* [END HIGHLY CONFIDENTIAL].<sup>17</sup> Therefore, there should be a separate allowance in the CACM for HTI middle mile costs to deploy broadband and voice services in Hawaii.

*CACM v.3.2 Required Adjustments for Hawaii.* Utilizing the CACM v.3.2 proposed revisions,<sup>18</sup> HTI ran the model with three additional parameters to more accurately reflect HTI forward-looking costs. First, the %-Use parameter is computed as the average of all three transpacific systems identified in the Public Notice (AAG, Sothern Cross, and TPC-5), using lit capacity only, and applying a 90 percent fill factor. The resulting %-Use is equal to [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL] percent. Second, costs are computed using a lit capacity only utilization factor to reflect 100 percent facility cost recovery.

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<sup>15</sup> *Id.* at 3.  
<sup>16</sup> ACS July 9 ex parte at 13.  
<sup>17</sup> Masutomi Declaration at 3.  
<sup>18</sup> August 29 Public Notice, *supra* note 5.

The adjustment factor is [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\*  
\*\*\*\*\* [END HIGHLY CONFIDENTIAL] percent. Third, an adjustment factor is applied to address the 1,642,080 feet of intrastate undersea fiber, which includes a 50 percent sharing adjustment. The resulting factor is [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\*  
\*\*\*\*\* [END HIGHLY CONFIDENTIAL] percent. The justification for using these additional parameters will be more fully explained in HTI's Comments to be filed with respect to v3.2 on September 12, 2013.

### **CACM Should Classify Hawaii Soil Types as Hard Rock**

The CACM bases construction costs on a nationwide average of four soil types, normal, hard rock, soft rock, and water. Use of this nationwide average in the State of Hawaii substantially underestimates the costs of construction.

The islands of the State of Hawaii were formed through volcanic activity, and thus in order to construct a telecommunications network, HTI is forced to incur the greater expense of erecting poles and laying conduit in dense lava, a construction and maintenance phenomenon not experienced by most of the contiguous United States. Special stainless steel messengers and down guys needed to support cables and to protect infrastructure from corrosive salt air, and work a rounds in locations affected by live volcanic activity are just a few of the many factors that are unique to the island state. Harsh sun, and relentless salt air, although viewed favorably by tourists, wreak havoc on telecommunications networks and increase the costs of materials and maintenance.<sup>19</sup>

Significant construction difficulties in the State of Hawaii are caused by soil composition. For example, the Big Island has high soil resistivity, due the presence of oxides, and soft water, which does not conduct electricity as well as hard water. Unlike other mainland sites, Hawaii soils are not usually rich in reactive minerals like calcium carbonate from sedimentary rocks such as limestone. Instead, high soil resistivity is caused by the presence of oxides, which are inert chemical compounds that create poor grounding characteristics. The presence of these oxides makes the grounding of HTI's telephone network much more expensive, even requiring soil conditioning in certain cases. Similarly, fresh water, coming primarily from rain, is soft, not hard and mineral-laden like it is in mainland states. Because soft water contains fewer dissolved mineral ions, it does not conduct electricity as well as hard water does. Oxides make equipment grounding difficult and expensive; soft water raises the costs of undergrounding and trenching. The relative youth of the Big Island also results in higher undergrounding and trenching costs due to the presence of more blue rock.<sup>20</sup>

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<sup>19</sup> HTI Comments at 18-19.

<sup>20</sup> Petition of Hawaiian Telcom, Inc. For Waiver of Sections 54.309 and 54.313(d)(vi) of the Commission's Rules, WC Docket No. 08-4, at 6-12 (Dec. 31, 2007). "Blue rock" is an extremely dense and hard form of volcanic rock found in Hawaii. It "is the bane of contractors,

Adding to these difficulties, terrain conditions vary greatly across short distances and change on an annual or even more frequent basis, due to volcanic activity. Although HTI has crafted creative, custom solutions for many of these challenges, such efforts involve considerable expense, far above that of serving areas in the contiguous U.S.<sup>21</sup> These conditions are well known to any company constructing telecommunications plant in Hawaii.<sup>22</sup>

As a consequence, the costs of deploying fiber in Hawaii are far above those on the mainland and the average reflected in the CACM. Recent work orders reflect that HTI experiences costs on average of approximately [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL] per foot to deploy fiber optic cable, far higher than the cost currently estimated in the CACM. The costs to deploy fiber in urban, suburban, and rural areas of Hawaii are [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL], per foot respectively. CACM estimates that the investment per foot of placing fiber transport cable is [BEGIN TSPO CONFIDENTIAL] \*\*\*\*\* [END TSPO CONFIDENTIAL], which is significantly below the investment required to construct cable both on average, and in any region in Hawaii.<sup>23</sup> Even when the soil type is set to reflect the cost of “hard rock” throughout Hawaii, HTI’s actual costs continue to exceed the CACM estimates.<sup>24</sup> However, of the options available in the CACM, the change to “hard rock” will come closest to reflecting HTI’s costs.

### **HTI’s Plant Mix Is Different than the National Average**

HTI experiences a higher degree of undergrounding for its facilities than is experienced on average on the mainland, which average is reflected in the CACM. Hawaii’s tourism industry, the lifeblood of the local economy, requires that the State must protect its natural beauty and geographic wonders for future generations. However, such environmental policies create higher construction costs for service providers. Special use permits, environmental impact studies,

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especially road builders and pipeline installers, because it is difficult to break. The largest bulldozers and backhoes are regularly humbled by this dense rock, causing contractors to revert to expensive drilling and blasting techniques.” See United States Geological Survey, Hawaiian Volcano Observatory, *Lava Rocks Come in Many Colors*, (Oct. 19, 2000), available at [http://hvo.wr.usgs.gov/volcanowatch/2000/00\\_10\\_19.html](http://hvo.wr.usgs.gov/volcanowatch/2000/00_10_19.html).

<sup>21</sup> HTI Comments at 11.

<sup>22</sup> See, e.g., <http://www.islandmechanical.com/Services/Telecommunications.asp>.

<sup>23</sup> Masutomi Declaration at 2.

<sup>24</sup> Alternatively, the same result may be achieved in a simpler fashion by setting the cost for placing cable in soft and medium soil types in Hawaii at the hard rock level in the CACM’s Structure Labor Tab of the CAPEX input file.

culturally significant archeological requirements, undergrounding of facilities to protect view planes, all add up to much higher cost to construct facilities in Hawaii. For instance, ancient Hawaiian bones or “iwi” uncovered during excavation for the Oahu rail system introduced not only schedule delays but also the possibility of rerouting the system that could cost the City and County of Honolulu millions of dollars. Another example of increased costs is recent governmental requirements that HTI must bore its cable well beneath endangered coral in Kaneohe Bay to provide service to Coconut Island.<sup>25</sup>

Most new developments require HTI’s facilities to be underground on the Neighbor Islands as opposed to buried construction that is dominant in the national averages. While many existing rural developments are predominantly aerial construction, the CACM underestimates the high cost of placing aerial facilities in Hawaii. HTI must pay approximately **[BEGIN HIGHLY CONFIDENTIAL]** \*\*\*\*\* **[END HIGHLY CONFIDENTIAL]** per pole to place its facilities.<sup>26</sup> Multiplied by thousands of poles, HTI’s costs of deploying broadband-capable plant in Hawaii is significantly higher.

These added per pole investment figures should be incorporated in the model to reflect HTI’s unique costs of construction in Hawaii. Adjusting the pole labor rate in the model by a factor of **[BEGIN HIGHLY CONFIDENTIAL]** \*\*\*\*\* **[END HIGHLY CONFIDENTIAL]** would better reflect pole costs for HTI.

In addition, the Bureau determined that the model would incorporate a matrix of three density zones (urban, suburban and rural) and three infrastructure types for wiring: aerial (“A”), buried (“B”) and underground (“U”).<sup>27</sup> The figures below show the Hawaii-specific plant mix percentages (“HI”) as well as the national average plant mix percentages that the Bureau proposes to use where state-specific figures are unavailable.<sup>28</sup> The matrix further breaks down the plant mix according to three types of wiring: distribution wiring, feeder wiring and inter-office fiber.

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<sup>25</sup> HTI Comments at 19-20.

<sup>26</sup> Masutomi Declaration at 4.

<sup>27</sup> *Connect America Fund; High-Cost Universal Service Support*, Report & Order, WC Docket Nos. 10-90, 05-337, DA 13-807, ¶ 64 (Wir. Comp. Bur., Apr. 22, 2013) (“*CACM Framework Order*”).

<sup>28</sup> *CACM Framework Order*, ¶ 64.

	Distribution			Feeder			Inter-Office		
	A	B	U	A	B	U	A	B	U
<b>Rural - HI</b>	<b>80%</b>	<b>1%</b>	<b>19%</b>	<b>80%</b>	<b>1%</b>	<b>19%</b>	<b>79%</b>	<b>0%</b>	<b>21%</b>
Rural - National	27%	69%	4%	25%	61%	14%	28%	58%	14%
<b>Suburban - HI</b>	<b>45%</b>	<b>3%</b>	<b>52%</b>	<b>45%</b>	<b>3%</b>	<b>52%</b>	<b>43%</b>	<b>0%</b>	<b>57%</b>
Suburban - National	30%	64%	6%	24%	49%	28%	24%	48%	28%
<b>Urban - HI</b>	<b>35%</b>	<b>2%</b>	<b>63%</b>	<b>35%</b>	<b>2%</b>	<b>63%</b>	<b>24%</b>	<b>0%</b>	<b>76%</b>
Urban - National	38%	55%	7%	19%	40%	40%	20%	40%	41%

HTI records do not categorize individual segments as “distribution,” “feeder,” or “interoffice” plant; making this assessment would require individual review and manual classification of each record, a process that would take many weeks. However, HTI is able to estimate the forward-looking percentages based on the fact that distribution and feeder plant are largely copper facilities, whereas inter-office are fiber. Based on the records for copper and fiber feeder plant, HTI believes that it has accurately estimated the forward-looking costs of each type of plant for Hawaii.<sup>29</sup>

HTI believes that these changes to the plant mix data are essential to enable the CACM to accurately model the costs of delivering broadband services that meet the Commission’s CAF Phase II standards in Hawaii.

**Capex and Opex Expenses are Higher Due to Shipping and Inventory Costs**

The CAPEX values contained in the current CACM understate the cost of transporting broadband equipment and material to Hawaii. Accordingly, CostQuest should implement an appropriate increase in the CAPEX costs applicable to Hawaii.

HTI must import nearly all of its materials, increasing its costs. These higher shipping costs are reflected in the higher costs to ship goods to the Islands, than those reflected in the CACM and faced by other carriers on the mainland. HTI’s additional transpacific shipping costs are approximately [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL] per pound, and the inter-island shipping freight is [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL] per pound. When there is an emergency or other rush requirement, HTI must ship by air, at [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL] per pound for

<sup>29</sup> Masutomi Declaration at 2.

transpacific air and inter-island air, respectively.<sup>30</sup> Due to the delay caused by the need to ship materials to the islands, HTI is forced to carry an above-average value of inventory in order to decrease the time to repair damaged facilities, further increasing its costs.<sup>31</sup> Furthermore due to the isolated nature of Neighbor Islands in Hawaii, HTI must ship equipment by boat or by plane, an expense not faced by mainland carriers.

HTI's higher shipping costs result in a [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL] percent increase to material costs. Increasing the Supply Expense rate in the CACM by [BEGIN HIGHLY CONFIDENTIAL] \*\* [END HIGHLY CONFIDENTIAL] percent will result in the CACM utilizing a [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL] percent higher Material Supply Expense adjustment when compared to mainland costs, a better representation of HTI's costs.

#### **Impact of Proposed HTI Input Adjustments on CACM Support Results for Hawaii**

Taken together these changes increase the total support estimated by the CACM to deliver broadband service which meets the Commission's CAF Phase II standards in Hawaii.

HTI is uncertain as to the exact impact on the CACM model outputs due to the changes proposed above because HTI is not able to fully understand a number of the cost interrelationships contained in the CACM. Notwithstanding, HTI is ready and willing to discuss any potential changes with the Commission and/or CostQuest in order to make the changes to the CACM mandated by the Commission for price cap carriers serving non-contiguous areas.

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<sup>30</sup> *Id.* at 4.

<sup>31</sup> HTI Comments at 19.

Based on HTI’s computations using the proposals above, HTI estimates that the CACM results would be as follows utilizing CAF II CACM Model v3.2.

<b>Cost of Money</b>	<b>Lower Benchmark</b>	<b>ATC</b>	<b>Upper Benchmark</b>	<b>HTI Funding Result</b>	<b>Locations Served</b>
8 %	\$49.15	\$112.378	\$161.528	[BEGIN HIGHLY CONFIDENTIAL] ***** [END HIGHLY CONFIDENTIAL]	[BEGIN HIGHLY CONFIDENTIAL] ***** [END HIGHLY CONFIDENTIAL]
8 %	\$52.00	\$124.626	\$176.626	[BEGIN HIGHLY CONFIDENTIAL] ***** [END HIGHLY CONFIDENTIAL]	[BEGIN HIGHLY CONFIDENTIAL] ***** [END HIGHLY CONFIDENTIAL]
9 %	\$55.40	\$119.472	\$174.872	[BEGIN HIGHLY CONFIDENTIAL] ***** [END HIGHLY CONFIDENTIAL]	[BEGIN HIGHLY CONFIDENTIAL] ***** [END HIGHLY CONFIDENTIAL]

HTI appreciates the Commission’s efforts in taking into account the higher costs of price cap carriers serving non-contiguous areas of the country. HTI urges the Commission to promptly complete the CACM and distribute support in order to further the goal of bringing broadband to all Americans. Please let me know if you have any questions regarding this submission.

Sincerely,

/s/ Steven P. Golden  
 Steven P. Golden  
 Vice President External Affairs  
 Hawaiian Telcom Inc.

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

In the Matter of )  
 )  
Connect America Fund ) WC Docket No. 10-90  
 )  
High Cost Universal Service Support ) WC Docket No. 05-337

**DECLARATION OF DANIEL MASUTOMI**

I, Daniel Masutomi, hereby declare the following:

1. I am the Emerging Technologies and Integration Director of Hawaiian Telcom, Inc. (“HTI”). In that position, I am responsible for overseeing capital investments involving HTI’s network expansion and upgrade plans, reviewing and introducing new technologies into HTI’s network, integrating acquired assets and companies into HTI’s network, and developing network cost savings initiatives. I have been in my current position for a year and have worked in the Hawaii communications sector for over 26 years. During this tenure, I have actively been involved in the evolving Hawaii telecommunication network from electromechanical switching being replaced with digital switches, the placement of the first interisland fiber cable, and the growth of broadband services in Hawaii. Part of my responsibilities includes evaluating different backhaul alternatives available to HTI to meet our network needs. I hold a Bachelor of Science degree in Electrical Engineering from Santa Clara University. Except where otherwise specifically indicated, the information in this declaration is based upon my personal knowledge, and I could testify to these facts if necessary.

2. I have reviewed the plant mix figures presented in the attached ex parte letter. In my professional experience and judgment, they reflect the efficient, forward-looking proportions of aerial, underground, and buried plant that HTI would construct to deliver broadband service that meets the Connect America Fund, Phase II standards in Hawaii. Recent work orders reflect that HTI experiences costs on average of approximately **[BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL]** per foot to deploy fiber optic cable, far higher than the cost currently estimated in the CACM. The costs to deploy fiber in urban, suburban, and rural areas of Hawaii are **[BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL]**, per foot respectively.

3. HTI estimates that the distance it must transport broadband traffic between its main terminal on the island of Oahu and a peering point in Los Angeles, California, is approximately 2470.7 sheath miles on the Japan-United States transpacific cable and 2438.3 sheath miles on the Asia-America Gateway transpacific cable. In planning for future capacity, based on a conservative growth projection of 400 Gbps over the next 10 years, HTI has three options for the acquisition of needed transport capacity. First, HTI could purchase bandwidth locally from major carriers like AT&T, CenturyLink, or Verizon, at an estimated price of **[BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* \*\*\*\*\* [END HIGHLY CONFIDENTIAL]**. Second, HTI could purchase infeasible right of use (“IRU”) capacity in existing transpacific cables, such as Japan-US, Asia—America Gateway, or Southern Cross Cable Network at a price of **[BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\***

\*\*\*\*\*[END HIGHLY CONFIDENTIAL]. Third, HTI could form a consortium of carriers to build a new transpacific cable from Hawaii to the U.S. Mainland at a cost of [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\*[END HIGHLY CONFIDENTIAL] for a twenty percent share of the entire cable.

4. Currently, the cost to peer in Hawaii is [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL].

5. HTI estimates that transport mileage between the six main islands of the State of Hawaii for two redundant routes is approximately 1,594,560 and 1,689,600 feet, respectively. Currently, HTI paid Southern Cross Cable [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL]. Wavecom, which HTI recently purchased, paid Southern Cross Cable [BEGIN HIGHLY CONFIDENTIAL] \*\*\*\*\* [END HIGHLY CONFIDENTIAL].

6. HTI estimates that 90 percent of its existing IRU capacity currently is used to provide residential and small business high speed Internet service. This same percentage, at a minimum, can be expected to be used for any expanded capacity in the

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future. Unlike other carriers on the mainland, HTI provides very limited special access services that utilize transport to the mainland, and therefore the typical usage factor on the mainland as reflected in the CACM is not appropriate or compensatory for HTI.

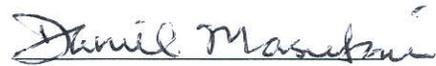
7. HTI must pay approximately **[BEGIN HIGHLY CONFIDENTIAL]** \*\*\*\*\* **[END HIGHLY CONFIDENTIAL]** per pole to place its facilities.

8. HTI's additional transpacific shipping costs are approximately **[BEGIN HIGHLY CONFIDENTIAL]** \*\*\*\*\* **[END HIGHLY CONFIDENTIAL]** per pound, and the inter-island shipping freight is **[BEGIN HIGHLY CONFIDENTIAL]** \*\*\*\*\* **[END HIGHLY CONFIDENTIAL]** per pound. When there is an emergency or other rush requirement, HTI must ship by air, at **[BEGIN HIGHLY CONFIDENTIAL]** \*\*\*\*\* \*\*\*\*\* **[END HIGHLY CONFIDENTIAL]** per pound for transpacific air and inter-island air freight, respectively. Therefore, HTI's higher shipping costs result in a **[BEGIN HIGHLY CONFIDENTIAL]** \*\*\*\*\* **[END HIGHLY CONFIDENTIAL]** percent increase to material costs.

HIGHLY CONFIDENTIAL INFORMATION – SUBJECT TO SECOND PROTECTIVE ORDER IN WC DOCKET NOS. 10-90 AND 05-337 BEFORE THE FEDERAL COMMUNICATIONS COMMISSION – ADDITIONAL COPYING PROHIBITED

CONFIDENTIAL INFORMATION – SUBJECT TO THIRD SUPPLEMENTAL PROTECTIVE ORDER IN WC DOCKET NO. 10-90 BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

9. I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information and belief.

  
Daniel Masutomi

Dated: September 11, 2013