

# **BROADBAND ASSISTANCE ADVISORY COUNCIL MEETING (BAAC)**

## **DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS (DCCA) STATE OF HAWAII**

### **MINUTES OF MEETING**

Date: Friday, October 21, 2016  
Time: 10:30 a.m. – 11:42 a.m.  
Place: King Kalakaua Building  
Queen Liliuokalani Conference Room  
335 Merchant St.  
Honolulu, Hawaii 96813

Present: Chair Catherine Awakuni Colón (Chair), DCCA  
BAAC Members Senator Rosalyn Baker, State Senate (by phone)  
Donald Jacobs, County of Hawaii (by phone)  
Luis Salaveria, Dept. of Business, Economic  
Development & Tourism (DBEDT)  
Todd Nacapuy, Dept. of Accounting and General  
Services, Office of Enterprise Tech. Services (ETS)  
Tony Velasco, City & County of Honolulu  
Garret Yoshimi, University of Hawaii  
Jason Fujita (for Scott Barber), Hawaiian Telcom (HT)  
Ian Kitajima, Oceanit  
Sharene Urakami-Oyama, AT&T  
Kiman Wong (for Gregg Fujimoto), Oceanic Time Warner  
Cable (OTWC)

Other Participants Paul Nakagawa, Hawaiian Electric Company (HECO)  
Tracy Nishibun, HECO  
Daniel Masutomi, HT  
Paul Krueger, HT  
Jade Butay, Department of Transportation (DOT)

DCCA Ji Sook “Lisa” Kim; Cathy Takase; and Jeremy Aoyagi

## **I. Call to Order**

The Chair called the meeting to order at 10:30 a.m.

## **II. West Maui Infrastructure Redundancy**

The Chair provided background regarding the need for West Maui infrastructure redundancy, an issue raised by Senator Rosalyn Baker in the context of the recent communication outages in West Maui caused by a wildfire in the Maalaea area. The Chair invited HT and OTWC to educate the BAAC on what had occurred, the issues involved in resolving their companies' gaps in communications infrastructure, and the options to address those issues.

### **A. Report by HT**

Mr. Daniel Masutomi provided a map detailing the Maalaea area of Maui affected by the wildfire, an area prone to wildfires that have damaged HT's infrastructure in the past. The recent July 2 brush fire damaged HT's only fiber cables servicing West Maui causing communication in and out of West Maui to be cut off for approximately fifteen hours, and impacting 4,880 landline customers. Landline to landline calls could be made within West Maui, but not to or from areas outside of West Maui. E-911 calls were also affected because the public safety answering points (PSAPs) are located outside of West Maui. Landline customers could contact Lahaina police and fire departments by calling their main lines. Wireless calls were impacted for wireless providers that use HT as a backhaul provider to facilities outside of West Maui.

HT has been looking at redundancy options for a while, but it is a cost issue. Options currently being reviewed include:

- (1) Reestablishment of a microwave communication system from West Maui to Wailuku.
- (2) Lease from Sandwich Isles Communications (SIC) of an underground duct or subduct from West Maui to Wailuku. HT is in discussions with SIC on this option.
- (3) Raising the fiber cable height on the existing poles. This was previously done during the sugar cane plantation days because the fields were burned, but this option raises the cost of maintenance and safety issues for employees.
- (4) Relocating the pole lines to the Makai side of the highway.
- (5) Using the Maui Electric Company (MECO) pole line that is parallel to HT's pole line. This does not provide a true diverse path, but does provide a separation that may make sense.
- (6) Establishment of a new fiber pathway north from Waihee to Napili. This would provide the best diversity but is the most expensive option because of the lack of infrastructure and the terrain.

Senator Baker noted that residents in the area reported that they could not call from landlines within West Maui. Mr. Masutomi noted only Hawaiian Telcom landline-to-landline communications in West Maui were unaffected, but that they

would look into any specific examples the Senator could provide to see what could be improved. Senator Baker noted that because E-911 services were affected she would like to see if E-911 funds (Wireless Enhanced 911 Fund) may be used towards addressing the need for redundancy.

The Chair noted the importance of identifying weaknesses in the current system and bringing partners together to resolve them.

## **B. Report by OTWC**

Mr. Kiman Wong also provided a map of the affected areas. He noted that all of OTWC's fiber lines serving West Maui travel the same path and pole line as HT, and end at a hub site in Lahaina that feeds all of West Maui. Because the fire damaged the fiber lines to the Lahaina hub, OTWC lost all cable, Internet, and phone services for West Maui as well as backhaul connection for the wireless towers.

Mr. Wong stated that OTWC has and continues to look at various redundancy options for its hub sites, and also noted the difficulty in funding these options, which include:

- (1) Lease of redundant circuits. OTWC did not find any available.
- (2) Lease of a dark fiber path. MECO does not have any dark fiber for lease. They do have a higher path pole line on the south side of the island up on the ridgeline by the windmills that comes back down to the coast, which would provide some path diversity but there is no fiber at this time. (Mr. Masutomi noted that HT had also confirmed with MECO that they do not have dark fiber in West Maui.)
- (3) Build a redundant path either on a diverse pole line or in an underground conduit system. For true diversity, OTWC estimated the need for an approximately 20-mile path. The estimated cost to deploy a redundant path, either in an existing underground duct pathway or by attachment to an existing pole line, is approximately \$4 million.
- (4) Build underground duct line. This would cost approximately \$50 million and would take a long period of time.
- (5) Construction of an ocean fiber festoon from Lahaina to Kihei, which locations have existing cable landing sites. A rough estimate cost for this option would be \$25 million.

OTWC will continue to review options, including the possibility and cost of leasing space from SIC in its underground conduit, and will report back to the BAAC.

Senator Baker noted her appreciation for the investigative work done by OTWC and HT. Because it is a health and safety matter likely to occur again for a sizeable resident and visitor population, she hoped that both could come up with a plan that could begin to be executed, possibly as a public-private effort involving Maui County civil defense, police, and fire.

The Chair noted DCCA's willingness to work with the carriers on options, to make other state and county partners aware of the issues, and to otherwise provide assistance where possible. DCCA will also provide status reports to the BAAC.

### **III. Federal Communications Commission (FCC) Connect America Fund, Phase II (CAF II)**

The Chair noted that HT had been invited to provide the BAAC with a report on the FCC's CAF II monies awarded to HT, including HT's specific projects, project timelines, and any challenges faced.

Mr. Masutomi explained that the CAF II program is federally funded through the Universal Service Fund for the purpose of providing broadband to unserved areas. HT currently has approval to use awarded funds to make approximately 11,000 addresses broadband capable by 2020, with required service being a minimum of ten megabits per second (Mbps) download speed and one Mbps upload speed. He noted, however, that because HT was using a combination of fiber to the premises and fiber to the node, customers would likely receive much higher bandwidth.

Mr. Masutomi provided the BAAC with a list of approved CAF II locations that are currently completed or in the engineering or construction stage, with estimated completion dates in the 4<sup>th</sup> quarter of 2016 through the 2<sup>nd</sup> quarter of 2017. He noted that the Big Island Country Club locations are complete and customers are enjoying fiber to the premises there with at least three customers subscribing to HT's 500 Mbps service. He also noted that the list provided represents approximately 25% of the 11,000 approved addresses, and that HT's target is just under 4,500 addresses by the end of 2017.

Challenges exist in meeting the CAF II project schedules, with the biggest challenge in the short-term being the wait time for DOT permit approvals to construct along the highway, due to DOT resources on Hawaii Island.

Mr. Masutomi noted that about 98% of the project addresses are on Hawaii Island, with a few more locations on Maui and Molokai. Other challenges are normal engineering and construction challenges faced in getting to unserved areas where infrastructure must be built, including areas unserved by Hawaii Electric Light Company.

The Chair noted that DOT had asked for additional information once DCCA, with its interest in promoting broadband deployment, made DOT aware of the permitting challenges on Hawaii Island. DOT Deputy Director Jade Butay, stated that DOT stood ready to grant timely permit approvals and asked that DCCA inform them if anything else was needed. The Chair thanked DOT, noting the importance of ensuring that the CAF II monies, which come from ratepayers, is

used to deploy service to unserved areas of the State within the award timeframe to avoid loss of those monies for the State. Mr. Masutomi thanked Deputy Director Butay and noted that the community response to the CAF II projects has been great, with many residents placing pre-orders for service. In response to an inquiry as to the amount of CAF II monies received, Mr. Masutomi responded that HT was awarded approximately \$25 million.

The Chair thanked HT for its report and DOT again for its help.

#### **IV. Presentation by JP Morgan Chase & Co. (JP Morgan)**

The Chair noted that JP Morgan had been invited to provide the BAAC with information on DBEDT's broadband project, and asked DBEDT Director Luis Salaveria to provide an introduction on the project.

Director Salaveria recounted that the State in 2015 issued \$25 million in reimbursable general obligation bonds to facilitate investment in critical broadband infrastructure, predicated upon the understanding that the State needed to encourage additional trans-pacific cable landings to allow the State to participate in the global economy going forward. To best leverage these funds, DBEDT issued a Request for Proposals (RFP) to determine opportunities to enter into a public-private partnership with respect to cable landing stations. JP Morgan was the selected contractor and will assist DBEDT in determining the best structure for a public-private partnership for cable landings in the State (P3 Cable Landing Project).

Director Salaveria introduced Mr. Jason Gredell, Executive Director in the Public Infrastructure Group at JPMorgan, who presented an overview of the P3 Cable Landing Project, summarized in the Hawaii Broadband Initiative Overview Materials (Project Overview Materials) shared with the BAAC. Mr. Gredell stressed the importance of the project because technological advancements now allow submarine cables to bypass Hawaii, which will create a problem in providing broadband in State over the next 30 years. As outlined in the Project Overview Materials, the objective of the project is to make the State a communications hub of the Pacific again by facilitating the ability for submarine cables to land, and to provide the State with a foundation resource for the provision of broadband over the next 20 to 30 years.

Mr. Gredell noted that the primary reason for this discussion with the BAAC was to have stakeholders learn about the project, project team, and process, and to open lines of communication to ensure that the final product, which will be a community resource, reflects the views of the State's key stakeholders. He emphasized this project's need for input from all key stakeholders in order to address this unique problem faced by the State, and to leverage current work being done by stakeholders with a central project and community resources

going forward. He noted that these stakeholder discussions would continue until identification of the project and partners.

Mr. Gredell noted that the impetus to provide a platform to encourage landings is the growth of the Asian markets as well as that of Australia and New Zealand that have outpaced expectations, and the realistic scenario that shows exhaustion of capacity for the State by the mid-twenties. He noted that the target may not solely be a direct fiber landing, but may also be branching units that create access for the State. Because submarine cable landings are long life cycle projects, the project goal is to ensure a streamlined way to land and a reason to land. Mr. Gredell referenced the Project Overview Materials that show the known planned trans-pacific submarine cables as well as the forecasted submarine cable capacity outlook for Hawaii. Mr. Gredell noted that the project team has been focused to date on investigation and research on the environment and history in Hawaii to better understand what the project should look like and to capture the input of potential users and partners. The key will be to find a strong operating partner able to execute the project.

Mr. Todd Nacapuy asked whether they anticipated smaller companies as potential partners or larger companies like Google or Microsoft. Mr. Gredell responded that it could be either as long as they are open to the creation and operation of a carrier-neutral facility, but that Google might more likely be a participant or partner to a carrier. JP Morgan is drafting the request for proposals with clear objectives but open to diverse parties and project plans that could even include the building of a cable.

Director Salaveria reiterated the importance of the project given the projected outlook prepared by the Pacific Telecommunications Council (PTC), shown on page 8 of the Project Overview Materials. He noted that even taking a much more conservative estimate, the State will need to make major investments in infrastructure in the next 50 years. He explained that the \$25 million in bonds may be leveraged with State lands and private partners' monies to build infrastructure necessary for more cable landings in the State. He noted that stakeholder input, including challenging the project premise that more capacity will be needed, was important in shaping the project.

Mr. Garret Yoshimi stated his belief that the PTC's projected growth in demand was too low and Mr. Nacapuy agreed. Mr. Yoshimi emphasized the need to plan now because of the long timeframe of infrastructure projects and the importance of the State's investment to show its intent to participate. He noted that the investments made by Australia, Singapore, Korea, and China are based upon higher projections of capacity needs. Mr. Nacapuy also pointed to the fact that companies in the State were just starting to look at cloud-based platforms, and that once committed would require much more bandwidth.

Mr. Gredell reiterated the project's objective to ensure that Hawaii has sufficient capacity despite advancements in technology that allow cables to bypass the State. He noted that the project makes sense and is straightforward given the operators on the island and agencies, such as DBEDT, UH and ETS, capable of guiding the project and leveraging the given amount of money to great impact in providing protection and redundancy for the State. A key for the project is to take into account the views of stakeholders and those in the market in order to elicit a good response to the RFP and to ensure a successful project. Director Salaveria added that the project expands the role of the BAAC in providing input because this initiative is viewed equally as a broadband and telecommunications initiative and an economic development initiative.

Mr. Nacapuy asked how the competition between large companies such as Amazon, Microsoft, and Google, to purchase the available dark fiber around the world was being considered in developing the RFP. Mr. Gredell noted that his company's banking and intelligence coverage teams for these companies can provide information; that the access provided by his company's relationships with decision makers for these companies and relevant participants, including major carriers outside the U.S., will be used to explain the impact of access to transpacific cables on the State, which will also be reinforced broadly in the RFP; and that they are also seeking stakeholder input.

Deputy Director Butay asked what revenue would be used to service the bond, and whether the \$25 million issuance would be sufficient to fund the project. Mr. Gredell responded that the RFP will require the respondent to propose a business model that will be able to use up to the \$25 million bond issuance and to service the debt. He also responded that the amount is adequate because the monies are not intended to fund the entire build but are in effect a low cost loan to a private entity to provide capital to be used toward infrastructure to facilitate landings in the State.

The Chair noted the project timeline on page 10 of the Project Overview Materials and asked how to assist with further engagement of stakeholders. Mr. Gredell asked that all stakeholders contact him or DBEDT for formal or informal meetings or conversations. The goal is to issue the RFP before the end of the year, to have a partner identified in the first quarter of next year, and to have an agreement negotiated by March 2017. No issues were envisioned that would significantly delay the project past the schedule presented.

The Chair asked for questions and comments. In response to an inquiry regarding possible future use of satellite communication technology to augment fiber, it was noted that this technology is still in the research and development phase and may be part of hybrid networks in the future, with subsea fiber remaining as the primary technology. Senator Rosalyn Baker noted that there was much discussion in the Legislature about ensuring that this undersea fiber

project was pursued for economic development, and noted her appreciation for the discussion.

## **V. Announcements**

The Chair asked members to respond to the meeting poll for the next BAAC meeting proposed for November 21 or 22. For that meeting, Verizon has been asked to present information on 5<sup>th</sup> generation wireless technology, challenges in the deployment of small cell systems, smart communities, and the Internet of Things.

## **VI. Adjournment**

The Chair thanked all for their attendance and participation, and adjourned the meeting at 11:42 a.m.