The Honorable Chair and Members of the Hawai‘i Public Utilities Commission
465 South King Street
Kekuanaoa Building, 1st Floor
Honolulu, Hawai‘i 96813

Dear Commissioners:

Subject: Docket No. 2018-0141 - Hawaiian Electric Companies
For Approval to Commit Funds in Excess of $2,500,000 for the Phase 1 Grid Modernization Project and Related Requests;
Supplement to June 30, 2020 Semi-Annual Status Report (Proportional Opt-Out Meter Deployment)


Subsequently, on August 26, 2020, the Commission sent a letter to Hawaiian Electric noting that it generally supports the idea to switch to an opt-out approach for advanced meters. The Commission letter directed the Company to develop a detailed plan for opt-out deployment and file it with the Commission if the Company wished to proceed with this approach. The Commission letter also allowed Hawaiian Electric to propose adjustments to the cost recovery caps enacted in Decision and Order No. 36230, provided that any proposed adjustments can demonstrate lower or comparable implementation costs for Phase 1. The Commission also noted that it would like to see the Company bring more focus to implementing Phase 1 on the Neighbor Islands.

Based on its clarified understanding from the status conference discussion, as stated in Attachment 3 hereto, the Company no longer believes modification to the cost ratio recovery cap is necessary. Instead, in response to the Commission’s letter, attached is Hawaiian Electric’s plan to transition to a proportional opt-out approach for advanced meter deployment, including its plans for the Neighbor Islands. The attachments are:

- Attachment 1 - Proportional Advanced Meter Deployment Plan
- Attachment 2 - Advanced Meter Installation Opt-Out Form
- Attachment 3 - Cost Recovery Cap Discussion
Attachment 1 states that Hawaiian Electric is ready to begin a communications plan to notify customers of a transition to opt-out deployment. However, the Company will not commence with any such communications until the Commission has had the opportunity to review and comment on this filing.

In addition, Attachment 4 provides a further update for the MDMS Implementation Schedule, which was discussed briefly in the August 20, 2020 status conference.\footnote{In accordance with Order No. 37043 Setting Forth Public Utilities Commission Emergency Filing and Service Procedures related to COVID-19 (non-docketed), issued by the Commission on March 13, 2020, the Company is serving this filing on the Consumer Advocate via email.}

Sincerely,

/s/ Kevin M. Katsura

Kevin M. Katsura
Director
Regulatory Non-Rate Proceedings

Attachment

c: Division of Consumer Advocacy, dnishina@dcca.hawaii.gov
Advanced Meter Opt-Out Deployment Plan

In its August 26, 2020 letter to the Hawaiian Electric Companies ("Hawaiian Electric" or "Companies"), the Commission noted that it generally supports the Companies’ idea to switch to an opt-out approach for deployment of advanced meters, but would like to see more details.

The following provides details for the Companies’ updated plan for proportional deployment of advanced meters on an opt-out basis, including the (1) Selection and Planning Criteria; (2) Initial Deployment Areas; (3) Initial Deployment Schedule; (4) Customer Communications and Opt-Out Process; and (4) Reporting.

The Companies acknowledges that, with the ongoing Covid-19 pandemic, many of the Hawaiian Electric customers are financially vulnerable and the accelerated deployment of advanced meters has become even more important so that these customers can monitor their detailed energy usage data, quickly receive outage and billing alerts and have the choice of participating in energy programs that can save them money. Hawaiian Electric recognizes that the proportional opt-out approach is not the sole answer to achieving the ultimate modernized grid and services for these customers. As the meters are deployed, we also must roll out the services needed to benefit these customers.

The Companies believe the approach discussed herein will achieve the overall objective of achieving a faster, more cost-effective deployment of the most meters while producing the greatest benefit to customers and the grid. The Companies understands cost recovery under this opt-out approach remains subject to the cost cap discussed in Attachment 3.
Selection and Planning Criteria

The Companies’ Grid Modernization Strategy (“GMS”) envisioned a proportional deployment strategy, which targets deploying meters to areas based on customer and grid needs and benefits. Based on that strategy, the Companies’ Phase 1 Application identified the following factors that would be considered in deployment:

1. Customer Energy Options Considerations
   a. Enablement of customer energy options such as demand response, DER programs, time of use (TOU) and electrification of transportation (EoT), where there may be a propensity for customer adoption based on customer adoption and participation in programs to date;
   b. Existing DER customer participation, including net energy metering customers who can benefit from the Energy Portal;

2. Operational Meter Benefits Considerations
   a. Lowest cost to deploy (high density and overhead service);
   b. Aging meter replacements/new meter sets;

3. Grid Benefits Considerations
   a. Areas that are currently or forecasted to exceed hosting capacity;
   b. Known and predicted voltage issues where additional sensing capability would provide planners and operators greater visibility into circuit constraints; and
   c. Areas where there are opportunities to improve reliability for customers through improved outage management capability.

These considerations will continue to inform deployment plans. On top of these technical and strategic benefit considerations, the Companies also consider geographical, community and
other practical considerations in determining deployment phases. For example, to the greatest extent possible, neighborhoods and other small community segments will not be split between different deployment phases.

Other community considerations include low to medium income (“LMI”) customers and communities. Benefits that may prove especially useful to LMI customers include access to an online portal that will provide detailed usage data, enabling customers to see patterns of use and to make real-time changes that can potentially reduce their bills. By monitoring their use, customers can more accurately budget for their utility expense and are less likely to be surprised when the monthly bill arrives. The advanced meters eliminate the occasional need for estimated reads, which can lead to unexpected balances after they are trued-up. In addition, start/stop transactions for renters can be processed immediately, a major convenience for customers. The additional time-series data provided by the advanced meters will provide information about energy use patterns that are critical to determine if LMI (or any other) customers can benefit directly from time-of-use rates and their potential for participation in demand response programs.

The Companies will also emphasize progressing with deployments in rough parallel across all islands in its service territories. Thus, the initial deployment phase includes about 35,000 potential meter installations on Maui and Hawaii islands, with Molokai and Lanai considered for a second deployment phase.

The Companies will also deploy advanced meters for safety purposes, such as in areas in which existing meters are currently hard to physically access.

Consistent with prior plans, Hawaiian Electric will use mesh networks where proportional deployment meter density warrants it. Other technologies such as Power Line
Carrier (PLC) or cellular meters will be considered to support customers in lower density areas where mesh isn’t as cost effective.

Customers outside planned proportional deployment areas will receive cellular advanced meters necessary to participate in Company programs.

**Initial Deployment Areas**

Taking the above-criteria into consideration, locations were prioritized based on the highest need and density in order to deploy meters faster and more broadly than achieved in 2020. As a result, subject to actual opt-out numbers, the Companies plan to initially deploy a total of approximately 68,300 advanced meters in the Hilo, Kahului, and Punchbowl/Manoa/Palolo areas (as described below). That number of advanced meters represents approximately 39% of the 175,170 meters estimated for Phase 1 deployment.¹

The following figures provide an estimation of the mesh network coverage of the initial deployment areas:

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¹ See Dkt. No. 2018-0141, Decision and Order No. 36230 at page 26
Hilo, Hawaii - 19,800 potential meters

The targeted area in Hilo depicted above was chosen based on circuits with high DER penetration, a large percentage of existing aging meters, and a high density of overhead service.
Kahului, Maui - 14,700 potential meters

The targeted area in Kahului shown above was chosen based on circuits where hosting capacity is being exceeded, and circuits with a high DER penetration, a high number of existing aging meters, a high density of overhead service, and a number of hard to access meters.
Punchbowl/Manoa/Palolo, Oahu - 33,800 potential meters

The targeted area in Honolulu shown above was chosen based on circuits where hosting capacity is being exceeded and circuits with high DER penetration, voltage issues, a high number of existing aging meters, a high density of overhead service, and a number of hard to access meters.

**Initial Deployment Schedule**

The Companies are ready now to provide general notice to customers of the opt-out deployment approach. Targeted notice to individual customers in the deployment areas (including the right to opt-out) would be provided as soon as no later than 30 days before meters will begin to be installed in those areas. The Customer Communications plan is discussed in more detail below.
The Companies are commencing now with redesign of the network and meter deployment under this new approach. The Companies believes they can be ready to begin deploying the telecom network as soon as February 2021 in the initial deployment areas. Meter deployment would follow approximately one month after. Completion of most meter installations in a deployment area is anticipated to be within 15 months after meters begin to be deployed. Actual deployment schedules will be confirmed as the designs are finalized.

However, the Companies understand that the Commission and Consumer Advocate need time to review this present filing. Thus, the Companies will hold off on their Customer Communications plan (beginning with general customer notification) until the Commission indicates that notifications may proceed.

**Customer Communications**

The Companies plan a robust customer communication program to encourage participation, accelerate deployment of advanced meters and emphasize customer choice. Key elements of this communication program will include the following provisions to ensure the customers are aware of what will be occurring and their options regarding the opt-out process.

The Companies will use the bimonthly customer newsletter, Ho’okui, and email to provide an overview of the advanced meter program and customer options. This overview will emphasize the future benefits of the program, which may include dynamic pricing; availability of detailed energy use data; faster outage response and outage prevention; customized billing dates; outage and billing alerts; improved power quality; and faster move-in/move-out account processing.
At least 30 days before the installation period, an email and/or postcard will be sent to customers whose meters will be replaced, describing what will happen on the installation day. Customers will have the choice to defer installation and a link to the opt-out form on the company website will be provided. The Advanced Meter Installation Opt-Out Form is included as Attachment 2 of this filing.

The Companies will use the Hawaiian Electric website to provide an overview of the advanced meter program, including benefits to customers and description of how the meters are an important component of the company’s grid modernization strategy and transition from imported fossil fuels to renewable resources. Elements on the advanced meter landing page will include FAQs, information on electromagnetic fields and links to third-party studies and research on related topics. In addition, a link to the installation opt-out form will be provided.

Customers who wish to opt-out will acknowledge with their signature that they understand they will be foregoing the benefits of an advanced meter, and that the deferral does not reflect a final determination by Hawaiian Electric regarding advanced meter installations and that the Company, at a later time, may seek recovery of costs and/or approval to charge a fee relating to those customers who decide not to receive an advanced meter. In other words, the Companies hold open the possibility that they may later seek approval to charge an opt-out fee that reflects incremental costs associated with customer non-participation. Actual opt-out level experience during deployments will determine whether such becomes necessary.

**Reporting**

The Companies will continue to report on meter implementation (now on an opt-out basis) as part of the Companies’ current semi-annual status updates to the Commission. In
particular, since customer conditions and technology can change, and because the effort to perform detailed design and engineering is complex, the Companies believe it appropriate to provide updates on a 6-month basis as part of their ongoing semi-annual reporting. This will provide the Commission and Consumer Advocate a regular opportunity to evaluate the progress of the proportional opt-out meter deployments.
Advanced Meter Installation Opt-Out Form
(Please use separate form for each account)

As a customer of Hawaiian Electric, I am aware of my ability to opt out of an advanced meter installation at my home or place of business. By opting out, I understand that I will not be receiving the future benefits of an advanced meter, which may include dynamic pricing, detailed energy use data, customized billing dates and outage alerts. The deferral program does not reflect a final determination by Hawaiian Electric regarding advanced meter installations and the company may decide to seek recovery of costs and impacts caused by those customers who decide not to receive an advanced meter.

☐ I wish to opt out of an advanced meter installation at my home or business.

Name: ___________________________________________________________

Account number: __________________________________________________

Service address: ___________________________________________________

City: ___________________________ State: Hawaii Zip code: ________________

Signature: ___________________________ Date: _________________________

Submit form:
By email: info@hawaiianelectric.com

By mail:
Hawaiian Electric
Attn: Advanced Meter Deferral, AT25
P.O. Box 2750,
Honolulu, HI 96840

09/2020
Cost Recovery Cap Discussion

The discussions during the Commission’s August 20, 2020 status conference helped the Company better understand the intent and application of the cost recovery cap established in Decision and Order (“D&O”) No. 36230, as clarified in Order No. 36334 in this proceeding. By way of background, D&O No. 36230 provided:

Variable Cost Recovery. The commission will implement variable cost recovery caps for the advanced meters project and the telecommunications network project that result in a per-meter cap on cost recovery. For the advanced meters project, the Companies shall recover, for each meter installed and in operating service, no more than the lower of actual incurred costs or their proposed aggregated costs for all three Companies divided by 175,170 - the Companies' estimated number of advanced meters they will deploy in Phase I. For the telecommunications network project, the Companies shall recover, for each meter installed and in operating service, no more than the lower of actual incurred costs or their proposed aggregated expense for all three Companies divided by 175,170.

With respect to the cost cap, D&O No. 36230 also noted:

In implementing these cost recovery caps, the commission wishes to make clear that the Companies may deploy more advanced meters, faster and more broadly than they propose in the Application, and should consider doing so. This decision rests ultimately with the Companies and should be based on the Companies' experience and learning as Phase I's implementation progresses. The per-meter cost recovery cap allows the overall approved costs of Phase 1 to be higher than the $86.7 million proposed in the Application, if Companies exceed their proposed advanced meter deployment in Phase 1.

In Order No. 36334, the Commission clarified:

The commission confirms that the Companies’ per-meter calculations of the cost recovery caps for the advanced meters

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1 Docket 2018-0141, D&O No. 36230 at p 25 - 26
2 D&O No. 36230 at page 26 - 27 (underscore added).
project and for the telecommunications network project are correct. Finally, the commission will compare variable cost recovery caps against actual costs at the end of Phase 1, to accurately reflect the aggregated project costs.\(^3\)

It is Hawaiian Electric's clarified understanding that, in the semi-annual status report following completion of Phase 1 of the Grid Modernization Strategy, the Company will report the actual incurred costs and the number of smart meters deployed in Phase 1 on an aggregated basis for all three Companies (and on an individual Company basis for informational purposes). The per-meter cost recovery will then be the lesser of the actual incurred average cost per meter, or the proposed aggregated costs for all three Companies divided by 175,170.\(^4\) In hindsight, the Company believes D&O No. 36230 and Order No. 36334 were clear in this respect and its previous uncertainty whether the per-meter cost ratio must be maintained at every step of the deployment (as opposed to in the aggregate by the completion of all Phase 1 deployments) was misplaced.

Based on this clarified understanding, the Company is not requesting an adjustment to the cost recovery cap.

\(^3\) Docket 2018-0141, Order No. 36334, Clarifying D&O No. 36230 at p 7-8 (underscore added).
\(^4\) See Companies' Motion for Clarification and/or Partial Reconsideration of D&O No. 36230 at 10-14.
Supplemental Update: Customer Systems Projects

The Phase 1 Customer Systems projects (Meter Data Management System, Energy Portal, and Meter Head) continue progressing through their respective implementations and integrations. As noted in Hawaiian Electric’s semi-annual status report filed on June 30, 2020 (“Status Report”), however, and as also mentioned during the August 20, 2020 status conference in this docket, the implementation schedule for these projects has been affected by Covid-19 pandemic impacts. To mitigate Covid-19 schedule impacts, the Companies had planned for a two wave go-live, as described in the Status Report, with the first wave go-live by December 13, 2020 and the second wave go-live in early first quarter 2021. Additionally, the Energy Portal Green Button Connect My Data functionality would be available in February 2021 following the second wave go-live.

Schedule impacts from Covid-19 have persisted and increased. As a result, the Companies have adjusted schedules and now plan for all Customer Systems projects, including Green Button Connect My Data functionality, to complete implementation and become fully functional in April 2021. Overall, despite the schedule changes, the Companies are confident these projects will be completed within the approved recovery cap or less.

Finally, although not ideal, the Companies will continue to temporarily support current and new Smart Meter Customers via existing interim solutions, including:

- The Hosted Customer Portal that went live in December 2019 and is currently available to existing Advanced Meter (Mesh and PLX) customers.
- Our Interim Cellular meter solution for new CGS+ and SmartExport customers that choose to enroll between now and go-live.
• Usage data is available for non-Smart meter customers today through our UCES customer self-service platform, though not in the desired standardized format.

COVID-19 project impacts and mitigations

As mentioned in the Status report and mentioned during the August 20, 2020 status conference, COVID-19 impacts have affected the Customer Systems projects schedule. One of the most significant impacts has been the schedule impact of remote work. The combined system integrator and Hawaiian Electric project core team were working and collaborating together on site until the March COVID-19 stay at home order. At that time, all system integrator resources returned home to their home states and countries. The Company noted schedule risk and mitigations taken in the Status Report. The schedule at that time assumed that the team would be back on site in August during phases of the project that are highly dependent on close collaboration and coordination, such as integration testing, system cut-over and training. Subsequently, COVID-19 cases spiked in Hawaii, travel restrictions were not lessened as had been hoped, and a second set of stay-at-home orders were issued.

Other early challenges presented by Covid-19 included resource constraints while the Company addressed immediate customer needs and prioritized support of employee and project team transition to teleworking. Additionally, onboarding of vendor resources supporting development of the Energy Portal enhancements was halted from mid-March until mid-June as background checks could not be completed while courts were closed in Minnesota, where the resources reside.

The cumulative effect of these COVID-19 impacts is the primary reason for the schedule change to an April 2021 go-live. The new schedule reasonably considers that COVID-19 is an
ongoing factor and risk and the Companies have taken a number of steps to mitigate the impacts of remote project execution including supplementing the project team with additional resources, required overlapping work times between mainland US and offshore resources, daily team virtual standups, weekly leadership meetings, and remote access and collaboration technology improvements.

Overall, the Company is confident that, despite schedule changes and on-going Covid-19 impacts, the Customer Systems projects will be completed within the approved cost recovery cap, or less.

**Updated Schedule**

Over the remaining months of 2020, the Companies and Landis & Gyr (L+G) will migrate the AMI Headend software, known as the Command Center, from a SaaS solution hosted with L+G to on-premise system. Also, in the fourth quarter of 2020, reprogramming of currently deployed meters from 15-minute interval reads to 5-minute intervals will begin, the software vendors and system integrator will complete end to end system integration testing. Following this and continuing into the first quarter of 2021, the Companies will perform user acceptance testing, train employees on the new processes, finalize the cutover plan and dress rehearsals to practice the migration of the MDMS and My Energy Use portal, also both currently hosted SaaS platforms, to on-premise will be performed along with the necessary SAP integration changes.
The table below provides the updated combined schedule for an April 2021 single wave go-live:

<table>
<thead>
<tr>
<th>Project Milestone</th>
<th>Start</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROD Server Build Complete</td>
<td>10/16/20</td>
<td>10/16/20</td>
</tr>
<tr>
<td>Training Server Build Complete</td>
<td>10/30/20</td>
<td>10/30/20</td>
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<tr>
<td>Development Cycle</td>
<td>2/4/20</td>
<td>10/23/20</td>
</tr>
<tr>
<td>SAP Code Deploys to QA</td>
<td>8/10/20</td>
<td>11/13/20</td>
</tr>
<tr>
<td>System Integration Testing</td>
<td>8/13/20</td>
<td>12/11/20</td>
</tr>
<tr>
<td>Cybersecurity Assessment</td>
<td>9/7/20</td>
<td>1/25/21</td>
</tr>
<tr>
<td>Command Center Migration to on-prem</td>
<td>11/7/20</td>
<td>11/15/20</td>
</tr>
<tr>
<td>UAT Cycle 1</td>
<td>11/30/20</td>
<td>1/22/21</td>
</tr>
<tr>
<td>End User Process Training</td>
<td>1/27/21</td>
<td>3/26/21</td>
</tr>
<tr>
<td>Dress Rehearsal 1</td>
<td>1/29/21</td>
<td>1/31/21</td>
</tr>
<tr>
<td>UAT Cycle 2</td>
<td>2/1/21</td>
<td>3/11/21</td>
</tr>
<tr>
<td>Dress Rehearsal 2</td>
<td>3/10/21</td>
<td>3/12/21</td>
</tr>
<tr>
<td>Pre-Cutover Tasks</td>
<td>3/16/21</td>
<td>3/29/21</td>
</tr>
<tr>
<td>Go/No-Go Meeting &amp; Decision</td>
<td></td>
<td>3/29/21</td>
</tr>
<tr>
<td>SAP Integration Deployment to Prod Complete</td>
<td></td>
<td>4/11/21</td>
</tr>
<tr>
<td>MDMS Migration to on-prem Complete</td>
<td></td>
<td>4/11/21</td>
</tr>
<tr>
<td>Portal Migration to on-prem Complete</td>
<td></td>
<td>4/11/21</td>
</tr>
<tr>
<td>All Systems Live On-Prem</td>
<td></td>
<td>4/11/21</td>
</tr>
</tbody>
</table>

**Actual Capital and Deferred Costs Incurred**

The following are updated actuals as of 8/31/2020 (Capital + Deferred):

<table>
<thead>
<tr>
<th></th>
<th>Oahu</th>
<th>Maui</th>
<th>Hawaii Island</th>
<th>Total1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Systems - Capital</td>
<td>$1,525,611</td>
<td>$0</td>
<td>$0</td>
<td>$1,525,611</td>
</tr>
<tr>
<td>Customer Systems - Deferred</td>
<td>$4,963,271</td>
<td>$1,092,894</td>
<td>$1,045,793</td>
<td>$7,101,957</td>
</tr>
<tr>
<td>Total Spend (Total Capital + Deferred)</td>
<td>$6,488,883</td>
<td>$1,092,894</td>
<td>$1,045,793</td>
<td>$8,627,569</td>
</tr>
</tbody>
</table>

1 Slight differences due to rounding
The foregoing document was electronically filed with the State of Hawaii Public Utilities Commission's Document Management System (DMS).