

Investigation of the 2006 Oahu Island-wide Earthquake Outage

**Review of External Communications on the Island of Oahu
PUC Docket 2006-0431**



**Prepared by Hawaiian Electric Company, Inc.
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EXECUTIVE SUMMARY

On October 15, 2006, the effects of a 6.7 magnitude earthquake west of the Big Island of Hawaii precipitated an island-wide power outage on Oahu. As this was the strongest earthquake in Hawaii in almost 23 years and the first island-wide outage on Oahu in over 15 years, this was a rare and significant event.

Hawaiian Electric Company, Inc.'s ("HECO" or the "Company") operations personnel responding to the outage were able to communicate internally using multiple communications systems, including the Company's microwave radio system. External communications to the media and other audiences were, however, significantly hampered by technical challenges including congested phone networks, poor cellular phone reception, and loss of cellular and most land line phone service to HECO's Ward Avenue facility during the afternoon. Despite these challenges, Company personnel made concerted and ongoing efforts to keep the media, the public and key emergency responders and other government officials informed of the island-wide outage and restoration effort.

As a result of the outage and its investigation HECO has identified and is addressing several key areas for improvement.

1) Cellular Phone Service

Loss of cellular phone service for part of the day and poor reception hampered efforts to communicate with media and key external contacts (emergency responders, government officials and large customers).

Action Items:

- As part of the completion of HECO's new Ward Avenue Dispatch Center, the Company had initiated a project in 2006 to install an amplifier to improve the signal strength of cellular communications within the facility. This was in progress on October 15 and has since been completed.
- The Company is considering whether its key emergency response personnel should have access to cell phones from a backup carrier in the event one carrier loses service. However, as this recommendation will not address the inability to contact other parties who may have similar problems with their cell phones, it is recommended that a review be conducted by a coordinating emergency response agency of the battery capabilities of all cell phone carriers in Hawaii, leading to possible guidelines or requirements for minimum capabilities to maintain service in a major, prolonged power outage.

2) Land Line Phone Service

The external land line service provider for HECO's Ward Avenue facility lost power after the provider's facilities exhausted their battery capacity. Despite cooperative efforts of the service provider to address the problem, incoming phone service to Ward Avenue was unavailable for almost the entire period from 1:41 p.m. to 7:20 p.m. Some outgoing phone service was quickly restored when Company technicians rerouted the service through the alternative phone system used by its Waiau and Kahe power plants. However, limited outgoing lines still made external calling via the Ward Avenue land lines difficult during most of the afternoon.

Action Item:

- The Company is presently redesigning its land line connectivity to provide back up carrier circuits for the Ward Avenue facility to improve incoming and outgoing phone service during an island-wide outage.

3) Hotline Service

The Company's liaisons with Oahu Civil Defense (OCD) and State Civil Defense (SCD) managed to receive regular updates through various communications channels and contacts in spite of the ongoing problems with phone services.

Action Item:

- A dedicated hotline between HECO and OCD already exists. Discussions with SCD have been initiated to establish a hotline from HECO to the SCD emergency facilities in Berkheimer Tunnel.

4) Emergency Broadcast Communications

The primary means by which the public obtains information during an emergency such as an island-wide outage is the designated emergency broadcast radio station. HECO communications staff recognized this from the start of the emergency and made continuous attempts to contact the station early and then regularly throughout the day. Because HECO communications personnel were competing with the high volume of public phone calls into the main emergency broadcast radio station, they were unable to make initial contact for several hours on the morning of October 15. Later communications were hindered by ongoing phone service problems.

Despite the concerted efforts made, feedback from the general public makes it clear they expected to hear from HECO sooner and on a more regular basis throughout the outage.

Action Items:

- When appropriate, a HECO spokesperson will be dispatched to the emergency broadcast radio station to ensure more frequent utility communications with the listening audience.
- The Company will investigate options for backup communication capabilities into the EBS station (e.g., possible dedicated phone line).
- The Company's list of unpublished radio station phone numbers has been expanded and included in multiple reference locations for ready access. The list will continue to be updated on a regular basis.

5) Outage and Restoration Communication Messages

Using existing emergency preparedness materials, HECO communications staff responsibly provided early and ongoing information about food safety during an outage, unplugging sensitive electronic equipment to avoid potential damage from a power surge when power returns, safety reminders if using a portable generator, and requests to help reduce the initial load on the system upon power restoration by turning off residential water heaters at the circuit breaker. HECO spokespersons provided regular updates about which general neighborhoods had been energized. However, as is understandable, customers also wanted to know "when will MY power be restored?"

Action Items:

- Although there are too many variables to provide predictions of restoration times for specific neighborhoods¹, existing communications templates will be modified to more clearly explain the process of restoration after an island-wide outage. Such statements should incorporate a clearer explanation of the general sequence of restoration and more emphasis on the causes of pocket outages. These templates must account for the fact that the restoration path may vary with the specific conditions on the electric system for each major outage (for example, transmission line damage might require a different restoration sequence). Messages will also make clear the importance of protecting the electric grid and generators from long-term damage.
- These explanations should be provided as early as possible to all parties communicating with the public, including Customer Service representatives, liaisons with government agencies and media.

¹ See discussion in Section II, "Communications Messages," for more detailed explanation of the challenges of providing specific restoration times in advance during restoration in an island-wide outage situation.

I. INTRODUCTION AND OVERVIEW

On October 15, 2006, the effects of a 6.7 magnitude earthquake west of the Big Island of Hawaii precipitated an island-wide power outage on Oahu. As this was the strongest earthquake in Hawaii in almost 23 years and the first island-wide outage on Oahu in over 15 years, this was a rare and significant event.

Hawaiian Electric Company, Inc.'s ("HECO" or the "Company") operations personnel responding to the outage were able to communicate internally using multiple communications systems, including the Company's microwave radio system. External communications to the media and other audiences were, however, significantly hampered by technical challenges including congested phone networks, poor cellular phone reception, and loss of cellular and most land line phone service to HECO's Ward Avenue facility during the afternoon. Despite these challenges, Company personnel made concerted and ongoing efforts to keep the media, the public and key emergency responders and other government officials informed of the island-wide outage and restoration effort.

This review of external communications during the October 15 earthquake outage focuses primarily on communications (1) with the public via the media; (2) with customers who seek information through the Company's customer service communication channels, (3) with specific commercial customers and (4) with key emergency responders and other government contacts.

A. Staffing

Formal external communications with these audiences during the October 15 earthquake outage were primarily managed and executed by HECO's Public Affairs, Marketing Services, and Customer Service personnel, in addition to contacts made by members of the Company's emergency response Incident Command team.

All officers for these departments, as well as key managers, supervisors, and numerous staff members, arrived at the Company's Ward Avenue Dispatch Center (emergency headquarters) between 7:30 a.m. and 8:30 a.m. Additional staff arrived throughout the morning and all areas remained well staffed through the duration of the outage.

B. Telecommunications challenges

As will be highlighted throughout this report, external communications on October 15 were hampered by problems encountered with telecommunications equipment and networks.

- In the early hours of the outage, Company personnel experienced extreme difficulty in reaching key external contacts, including the media, due to high call volumes overwhelming available phone circuits (land line and wireless services from third party service providers).
- The initial extremely high volume of calls into the Company's published Trouble and Customer Service lines resulted in many customers receiving busy signals. (The normal remedy in such a widespread outage is to provide customers with basic system status information via the media, but as will be noted, there were problems in initially reaching the primary emergency broadcast radio station).
- Problems with communications to external parties were further compounded when:
 - The Company's phone service provider for the Ward Avenue facility lost power to parts of its system when its backup battery system ran down after more than six hours of operation. Despite cooperative efforts of the service provider to address the problem, this resulted in an inability to maintain land line phone service into the Ward Avenue facility (including the Trouble Line) for several hours during the mid-day to early evening, estimated from 1:41 p.m. through 7:20 p.m., with a roughly 10 minute period during this time when incoming phone service was temporarily restored (The service provider restored some batteries, but additional batteries subsequently drained.). As part of the Company's emergency recovery capabilities, outbound calls were rerouted through the Company's Waiiau and Kahe power plants, but considerably fewer lines were available and thus the ability to call out of the Ward Avenue facility via land lines was significantly hampered for several hours during the afternoon of October 15.
 - The Company's primary wireless phone service was unavailable for several hours in the afternoon after the carrier's battery capacity for the cell site had become exhausted.
- The Company's website was not available as a communication channel to the public because the web server is located in the downtown area where power was not restored until later that evening, and the backup battery capability was exceeded. (It should be noted that although additional battery backup is now being pursued, customers without power that day would not generally have been able to access the website for information.)

II. COMMUNICATIONS WITH MEDIA

Concerted efforts were made to keep the media and public informed of the island-wide outage and restoration actions. Phone records verify that media contact occurred frequently despite major technical challenges with cellular and land line phone service. Some of these challenges were overcome by actions such as hand-delivery of press releases, regular live TV appearances (especially for the benefit of those who were able to watch the KITV streaming newscasts on CNN or to speak to mainland contacts watching CNN), and a studio visit to the primary emergency broadcast radio station for a live interview. Existing emergency response procedures that included prepared press release templates with information on concerns such as food safety, portable generator safety, and power surge concerns were used.

A. Media communication activities

1. Morning of 10/15/06:

- The earthquake struck Oahu at 7:08 a.m. Three minutes after the earthquake, HECO's Director of Corporate Communications (DCC) who is the primary media spokesperson, began making phone calls to HECO's System Operations personnel and the Corporate Communications (CC) staff person who had been assigned media duty for that weekend. At approximately 7:17 a.m., the DCC received pager reports that all automatic load shed blocks had activated by 7:14 a.m. and that more generators tripped off-line. He immediately departed from his location in Kaneohe and headed to HECO's Ward Avenue Dispatch Center. Because of clogged phone lines, attempts to reach KSSK, the primary emergency broadcast radio station, via the news center phone line during the drive to Ward Avenue were unsuccessful.
- At approximately 7:30 a.m., the DCC arrived at Ward Avenue, learned that an island-wide outage occurred at 7:27 a.m., discussed the situation with Dispatch Center personnel, and began contacting and calling in HECO CC personnel. The ability to make contact via cellular phone became intermittent and text messaging was used for some communication.
- Continued attempts to contact KSSK by calling the radio station's news center phone line were still unsuccessful due to heavy caller traffic into the station. Between 7:54 a.m. and 8:11 a.m., KITV-4, The Honolulu Advertiser and KHON-2 were notified of the island-wide outage situation. Attempts were also made to reach other media outlets. Meanwhile, the State Civil Defense Vice Director and the State Director of Transportation were notified of the situation by members of HECO's Incident Command team around 8:00 a.m. At approximately 8:15 a.m.,

the State Director of Transportation relayed the announcement about an island-wide outage on the air on KSSK.

- By about 8:30 a.m., the Vice President of Corporate Relations (VPCR) and most CC staff had reported to HECO's offices at Ward Avenue. A staff videographer reported to the Kahe Generating Station. CC staff continued to call the KSSK news center number without success.
- At approximately 10:00 a.m., a staff member was sent to the KSSK studio to establish contact. In parallel, access to the HECO computer network, which contained emergency communications reference materials including unpublished radio station phone numbers, was attained shortly after 10:00 a.m. Concurrently, the KSSK news director was reached via his mobile phone at 10:22 a.m. and the HECO staff member was recalled. Arrangements were made with the KSSK news director to provide regular phone updates to KSSK.
- Follow up contacts were made with KITV and The Honolulu Advertiser, as well as contacts with the Honolulu Star-Bulletin, KHNL and KGMB.
- Media communications continued to be hampered by additional technical difficulties. Cellular reception was poor within the Dispatch Center and seemed to worsen; clogged circuits prevented many calls from going out. CC staff began drafting an initial press release, informing the public to expect to be out of power for most of the day and into the evening, and providing food preservation and other safety tips. Although this first formal press release was not issued until 11:30 a.m., HECO had already made initial contact with most of the media earlier in the morning.
- When the press release was issued at 11:30 a.m., it was also read over the phone to several media stations. The Trouble Line (used to communicate HECO's phone center recorded message to callers) was updated with this information as well. Discussions with KSSK's Perry and Price occurred at 11:44 a.m. also sharing the information in the press release and the latest available updates.

2. Afternoon of 10/15/06:

Contact with the media continued, either initiated by HECO Corporate Communications personnel or in response to incoming calls. Although hampered by technology problems, contact with TV and print media and KSSK radio continued throughout the afternoon. Cellular service to the Company media line and other CC cell phones was not available from approximately 12:30 p.m. to 5:30 p.m. HECO land line incoming phone service was out for most of the period from 1:41 p.m. to 7:20 p.m. because the third party land line service provider's batteries were exhausted. Some outgoing land line service was restored. With limited success,

CC staff tried to maintain communications with the media using personal cellular phones borrowed from other HECO employees who had service with other carriers.

- KITV had generator power and was streaming video on its website and through a connection that was broadcasting through Direct TV's satellite feed, which was being picked up nationally by CNN. Arrangements were made with KITV to call or meet every 60 to 90 minutes to provide updates.
- Regular updates throughout the afternoon, via phone and in person, were also provided to several reporters for The Honolulu Advertiser, which was posting online updates on its website.
- CC staff prepared the second press release, which was issued at 2:10 p.m. Because of transmission difficulties, this release was hand delivered to the media stations.
- DCC conducted afternoon on-camera interviews with KITV and KGMB.
- DCC and CC staff continued follow up calls with KHNL, KHON, KGMB, and the Honolulu Star-Bulletin.
- Update calls to KSSK were made at 12:18, 1:00, 1:33, and 3:30 p.m. (Other attempts to call in were unsuccessful due to failure of the cellular and land line phone services and network congestion.). The DCC traveled to the KSSK studio at around 6 p.m. for a live interview.

3. Early evening of 10/15/06 through early morning 10/16/06:

Media updates continued through the early evening of 10/15 and the early morning hours of 10/16.

- Additional press releases were issued at 6:30 p.m., 9:30 p.m., and 2:15 a.m. Copies of the 9:30 p.m. press release were also hand-delivered to the media, along with videotape footage of restoration efforts for the four major TV stations. Calls with updated information were also made to the TV stations to ensure information was received before the 10 p.m. newscasts.
- In addition to the formal press releases, update calls were also made throughout the evening to all four TV stations, KSSK, The Honolulu Advertiser and the Honolulu Star-Bulletin. A late-night update was also provided to Visionary Related Entertainment (radio stations KUMU, KQMQ, KDDB and KPOI).
- The Honolulu Advertiser online updates were monitored and corrected or updated as needed.

- After issuance of the 2:15 a.m. final press release announcing near total restoration of customers, update calls were made to KSSK and KITV.
- Subsequent update calls were made to KSSK at 3:32 a.m., 4:15 a.m., 5:17 a.m., 6:08 a.m. and 6:20 a.m.
- DCC provided a live call-in update at 5:01 a.m. for the KHON-2 morning news, and then arrived for an in-studio morning interview at 5:30 a.m. DCC also called in to other morning shows.
- Call-in updates to a reporter representing Cox radio and KHNL news were made at 5:11 a.m. and 6:17 a.m., KITV at 6:27 a.m. and 6:34 a.m., KRTR at 7:04 a.m., and KHNL at 7:33 a.m.
- DCC participated in an 18-minute on air interview with KHVH at 7:05 a.m.

B. Communications messages

Communications messages about the restoration effort were given considerable attention throughout the day. HECO spokespersons repeatedly communicated that restoration would take “many hours” or “into the evening.” It was explained that a slow, methodical restoration process of returning power to small groups of customers at a time was necessary to maintain the stability of the electric system and to avoid the risk of destabilizing the electric system and potentially tripping generators offline again. Such consequences would result in considerable further delay in power restoration and could result in damage to utility equipment. HECO spokespersons provided regular updates about which general neighborhoods had been energized.

In addition, press releases and interviews on October 15 provided repeated reminders about food safety, unplugging sensitive electronic equipment to avoid potential damage from a power surge when power returns, safety reminders if using a portable generator, and requests to help reduce the initial load on the system upon power restoration by turning off residential water heaters by switching off the water heater circuit breaker. A detailed list of these tips was also provided to The Honolulu Advertiser and published on their website in the early afternoon of October 15.

However, as is understandable, customers also wanted to know when power to their home or business was going to be restored. Although a general planned sequence was developed for restoring service to HECO’s customers, it should be noted that restoration from a total blackout is a dynamic process. The stability of the electric system, especially during the early restoration stages, is very fragile. Attempts may be made to energize a particular area, but the resulting instability on the system or other problems such as malfunctioning breakers may delay or temporarily redirect

restoration efforts elsewhere. Many of these decisions are made in real time, making it difficult to make projections about the times at which specific neighborhoods are expected to be energized. In addition, on October 15 there was concern that problems might be encountered due to possible earthquake damage to relays or other equipment on the transmission or distribution systems, again delaying restoration to a particular area and redirecting restoration efforts to another area. These uncertainties were (and will always be) a real concern because raising customer expectations with a real possibility that they will not be met, which would cause further customer frustration.

Nevertheless, although it is very difficult to provide advance predictions of restoration times for specific areas, communications messages will be reviewed and revised to more clearly explain the process of restoration after an island-wide outage. Such statements should incorporate a clearer explanation of why the first areas to be energized will likely be located around the major power plants where initial power generation has been restored, and why restoration must follow the path of the transmission grid, moving in general from the plants on the west side of the island to service areas on the east side, and -- where possible, in that west to east migration -- prioritizing individual circuits serving critical customers. Such future templates must account for the fact that the restoration path may vary with the specific conditions on the electric system for each major outage (for example, transmission line damage might require a different restoration sequence).

Communications templates will also be modified to more clearly explain how the generator and electric grid protection systems work and how such protections might lead to an island-wide outage.

III. COMMUNICATIONS WITH CUSTOMERS VIA COMPANY PHONE CENTER

At 7:08 a.m. on October 15, as the earthquake hit Oahu, the Company's Customer Service Call Center was operating under a normal weekend arrangement, with public outage calls to the published Trouble Line routed to an automated trouble ticket system. This allows customers to report information about an outage at their location by entering their electric account number or a phone number previously registered with the Company for that account. Anyone without a registered phone number and/or desiring to speak to a customer service representative in person would be routed to the external answering service used during weekends and after business hours.

After the island-wide outage occurred, initial high traffic on the island's phone circuits made it very difficult for the public to successfully obtain connection to another party, including the Company or its outside answering service.

When the Customer Service Call Center supervisor reported to Ward Ave at about

8:00 a.m., calls that were able to connect into the Company's published Trouble and Customer Service lines were rerouted to receive the Company's major system recorded emergency message:

Thank you for calling Hawaiian Electric's Automated Outage Reporting System. We are presently experiencing a major power outage. There is no need to report an outage. However, if you are calling to report a hazardous condition, such as an explosion, fire on the lines or poles, or line down, please call 911 immediately. Mahalo.

However, the volume of phone calls into the Company's Trouble line and published Customer Service number exceeded the capacity of the phone system. As a consequence, many callers were not able to reach the Company recording and instead received a fast busy signal².

The outage recording was updated after the 11:30 a.m. press release with excerpts from the press release, specifically adding information that:

Customers on Oahu should expect to be out for most of the day into the evening. HECO's priority is to return power to customers as quickly as possible, but in a careful, methodical way that protects the system from damage and avoids situations where the whole process must begin again from square one.

Later, at approximately 2:15 p.m., after issuance of the second press release, the recorded message was revised to include the following information:

To help reduce the initial demand for power as sections are restored, HECO requests customers to turn off power to electric water heaters and air conditioners by switching off the circuit breaker. Check to see that all lights are turned off. And unplug sensitive appliances, such as the television, VCR, and computer to prevent damage from a power surge that may occur when power is restored.

However, by this time, customers calling in were not able to hear this message because the external land line phone service provider serving HECO's Ward Avenue facility had already exhausted its battery backup and was unable to connect outside calls to HECO's published Trouble Line and Customer Service numbers for almost the entire period between 1:41 p.m. and 7:20 p.m.

Regular incoming phone service was restored at about 7:20 p.m. After the last distribution circuit was restored at about 1:55 a.m. on October 16, Customer Service personnel remained on duty through the early morning to receive calls and create trouble tickets for customers in pocket locations still without electric service due to other problems such as blown fuses impacting individual homes or distribution transformer problems affecting a small group of homes in a neighborhood.

² The number of lines into the HECO phone system had been expanded by 30% in 2004. Such capacity is sufficient to accommodate the volume of calls for most emergencies, but not for rare occurrences such as the island-wide blackout on October 15. The normal method of communicating to customers in such a large-scale emergency is through the media; however, as discussed in this report, challenges in doing this were encountered early on.

IV. COMMUNICATIONS WITH SPECIFIC COMMERCIAL CUSTOMERS

HECO account representatives assigned to specific critical facility or larger commercial customer accounts, including the military, hospitals, large hotels, government facilities, major shopping centers, media and others, called or attempted to call their respective contacts (generally, facilities operations managers or maintenance engineers). Previously discussed problems with cellular phone service also made communications difficult. Initial calls informed customers of the island-wide blackout. Later communications conveyed that customers should expect to be out of power for much of the day, into the evening. As with all customers, commercial customers desired to know when electric service to their specific facility would be restored. Individual concerns expressed by respective customer account contacts were relayed to the appropriate HECO personnel.

In post-outage discussions, it was determined that some hospital public information officers (PIOs) felt they needed more overall information during the outage. To supplement the communication efforts of the HECO account managers, contact information for the designated central information officer for hospital PIOs has been obtained and incorporated into Corporate Communications' emergency procedures.

V. COMMUNICATIONS WITH GOVERNMENT OFFICIALS

A. State and County Civil Defense and other government agencies

At approximately 8:00 a.m. on October 15, the Company's Incident Command officials called State Civil Defense (SCD) from HECO's Ward Avenue facility and via conference call briefed the Vice Director of SCD and the State Director of Transportation about the island-wide outage. Because it did not immediately appear there was major physical statewide earthquake damage, Company officials were instructed by State Civil Defense to give priority to communication with Oahu Civil Defense (OCD) at the City & County of Honolulu Emergency Operations Center (EOC).

Communications with both Oahu and State Civil Defense continued through many channels throughout the day and into the next morning until after power was restored to substantially all customers.

At approximately 8:30 a.m., HECO's Vice President of Government and Community Affairs and a HECO senior staff engineer assigned as a Civil Defense liaison during major emergencies walked to the Oahu Civil Defense EOC to brief OCD on the electric system status. (High call volumes and service problems on land line and cellular phone systems made conducting these briefings via phone very difficult. Timely in-person briefings were made easier by the fact that the Oahu Civil Defense EOC is located near HECO's Ward Avenue facility). The HECO staff liaison remained at OCD after this

briefing. Working through constraints of the phone service challenges discussed earlier, the HECO OCD staff liaison provided regular updates to City personnel located at OCD, including the OCD administrator and staff, representatives from the Mayor's office, Fire and Police departments, Board of Water Supply, Office of Environmental Services, Department of Transportation Services, and others.

A HECO staff engineer assigned as a liaison to State Civil Defense during major emergencies was briefed at the HECO Ward Avenue facility and reported to SCD at Berkheimer Tunnel between 10:30 and 11:00 a.m. Updates were provided to State and Federal personnel at SCD throughout the day and into the night. Communications with personnel at both OCD and SCD included discussion of restoration prioritization for areas and facilities such as the airport, Sand Island Wastewater Treatment plant, key military facilities, law enforcement, hospitals and Waikiki. These facilities are included among the Company's normal emergency priorities. In the case of an island-wide blackout, however, restoration must proceed very carefully, first adding customers in the vicinity of the power plants located on the west side of the island and then proceeding to pick up customers along the path of the transmission grid. Critical customers located further away from the plants cannot be restored earlier at the risk of upsetting the delicate balance between available generation and electrical load, causing damage to equipment and possibly tripping generators, which would delay restoration even further.

The liaisons to HECO OCD and SCD obtained updated information on the status of the electric system and service restoration efforts through various means during the course of the outage. An emergency phone hotline directly connects OCD and HECO's Ward Avenue Dispatch facility. Personal cell phones were also used when service from the Company's cell phone provider became unavailable in the afternoon. The SCD liaison also utilized a land line at SCD, which routed calls through a state operator, to communicate with HECO's Dispatch Center and the SCD liaison. Despite the challenges, the OCD and SCD liaisons worked through this variety of channels to keep in regular contact with each other to share and coordinate update information.

HECO's Vice President of Government and Community Affairs also provided in-person briefings to OCD after the Company's 1 p.m., 3:30 p.m. and 6 p.m. Incident Command assessment meetings. The 6 p.m. OCD briefing was video teleconferenced to SCD.

The OCD liaison left to return to HECO's Ward Avenue facility at approximately 7 p.m. when staffing at the OCD EOC was reduced; however, additional updates were provided to OCD by phone during the evening.

The SCD liaison left to return to HECO's Ward Avenue facility at approximately midnight. An additional update on system status was obtained and provided to SCD via phone shortly before 1 a.m. on October 16.

Additional communications with OCD and SCD took place through other contact points throughout the outage. HECO's Incident Commander also conferred with the Vice

Director of SCD several times in the evening, including a 2 a.m. on-site visit to HECO's Ward Avenue facility by the Vice Director of SCD.

B. Other government communications

HECO personnel also maintained communications with other government administration and agency contacts throughout the outage.

In addition to representatives from the Honolulu Police Department and Fire Department located at OCD who received information from the HECO OCD liaison and the briefings by HECO's VP of Government and Community Affairs, HPD and HFD representatives were present at HECO's Ward Avenue facility from approximately 9 a.m. until late in the evening. These representatives were briefed after each HECO Incident Command assessment meeting by HECO's VP of Government and Community Affairs.

HECO's VP of Government and Community Affairs and Senior Vice President of Public Affairs made calls to the Public Utilities Commission and the Executive Director of the Division of Consumer Advocacy and updated them during the course of the day. Regular updates were also provided to the Director of Commerce and Consumer Affairs who was with the Governor that day.

In addition, the Company conferred with officials from the State Department of Education on the status of electric service for the public schools for the following school day. By early evening, the Company communicated to DOE its commitment to restoring service in time to allow normal school operations the next day.

Corporate Communications staff also made contact with the Mayor's communications representative present at OCD, SCD communications personnel and HPD's Public Information Officer.

VI. CONCLUSIONS AND RECOMMENDATIONS

External communications on October 15, 2006 were significantly hampered by technical challenges including congested phone networks, poor cell phone reception, and loss of cellular and most land line phone service to HECO's Ward Avenue facility during the afternoon. Despite these challenges, Company personnel acted diligently and responsibly to try to keep the media, the public and key emergency responders and other government officials informed of the island-wide outage and restoration effort. Company personnel utilized alternative work-around means such as hand delivery of press releases and in-person briefings to maintain communications. Successful communications also helped to facilitate important decision making regarding electric service to public schools, enabling State DOE officials to plan accordingly.

As a result of the outage and its investigation HECO has identified and is addressing several key areas for improvement.

1) Cellular Phone Service

Loss of cellular phone communications service for part of the day and poor phone reception hindered efforts to communicate with media and key external contacts (emergency responders, government officials and large customers).

Action Items:

- As part of the completion of HECO's new Dispatch Center in 2006, the Company had initiated a project to install an amplifier to improve the signal strength of cellular communications within the facility. This was in progress on October 15, and has since been completed.
- The Company is considering whether its key emergency response personnel should have access to cell phones from a backup carrier in the event one carrier loses service. However, as this recommendation will not address the inability to contact other parties who may have similar problems with their cell phones, it is recommended that a review be conducted by a coordinating emergency response agency of the battery capabilities of all cell phone carriers in Hawaii leading to possible guidelines or requirements for minimum capabilities to maintain service in a major, prolonged power outage.

2) Land Line Phone Service

The external land line service provider for HECO's Ward Avenue facility lost power after the provider's facilities exhausted their battery capacity. Despite cooperative efforts of the service provider to address the problem, incoming phone service to Ward Avenue was unavailable for almost the entire period from 1:41 p.m. to 7:20 p.m. Some outgoing phone service was quickly restored when Company technicians rerouted the service through the alternative phone system used by its Waiiau and Kahe power plants. However, limited outgoing lines still made external calling via the Ward Avenue land lines difficult during most of the afternoon.

Action Item:

- The Company is presently redesigning its land line connectivity to provide back up carrier circuits for the Ward Avenue facility to improve incoming and outgoing phone service during an island-wide outage.

3) Hotline Service

The Company's liaisons with OCD and SCD managed to receive regular updates through various communications channels and contacts in spite of the on-going communications challenges.

Action Item:

- A dedicated hotline between HECO and OCD already exists. Discussions with SCD have been initiated to establish a hotline from HECO to the SCD emergency facilities in Berkheimer Tunnel.

4) Emergency Broadcast Communications

The primary means by which the public obtains information during an emergency such as an island-wide outage is the designated emergency broadcast radio station. HECO communications staff recognized this from the start of the emergency and made continuous attempts to contact the station early and then regularly throughout the day. Because HECO communications personnel were competing with the high volume of public phone calls into the main emergency broadcast radio station, they were unable to make initial contact for several hours on the morning of October 15. Later communications were hindered by ongoing phone service problems.

Despite the concerted efforts made, feedback from the general public makes it clear they expected to hear from HECO sooner and on a more regular basis throughout the outage.

Action Items:

- When appropriate, a HECO spokesperson will be dispatched to the emergency broadcast radio station to ensure more frequent utility communications with the listening audience.
- The Company will investigate options for backup communication capabilities into the EBS station (e.g., possible dedicated phone line).
- The Company's list of unpublished radio station phone numbers has been expanded and included in multiple reference locations for ready access. The list will continue to be updated on a regular basis.

5) Outage and Restoration Communication Messages

Using existing emergency preparedness materials, HECO communications staff responsibly provided early and ongoing information about food safety during an outage, unplugging sensitive electronic equipment to avoid potential damage from a power surge when power returns, safety reminders if using a portable generator, and requests to help reduce the initial load on the system upon power restoration by turning off residential water heaters at the circuit breaker. HECO spokespersons provided regular updates about which general neighborhoods had been energized. However, as is understandable, customers also wanted to know "when will MY power be restored?"

Action Items:

- Although there are too many variables to provide predictions of restoration times for specific neighborhoods³, existing communications templates will be modified to more clearly explain the process of restoration after an island-wide outage. Such statements should incorporate a clearer explanation of the general sequence of restoration and more emphasis on the causes of pocket outages. Such templates must account for the fact that the restoration path may vary with the specific conditions on the electric system for each major outage (for example, transmission line damage might require a different restoration sequence). Messages will also make clear the importance of protecting the electric grid and generators from long-term damage.
- These explanations should be provided as early as possible to all parties communicating with the public, including Customer Service representatives, liaisons with government agencies and media.

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³ See discussion in Section II, “Communications Messages,” for more detailed explanation of the challenges of providing specific restoration times in advance during restoration in an island-wide outage situation.

VII. Appendix A - MEDIA Communications Chronology

Note: This chronology attempts to document most major media and related communications contacts made during the October 15th outage. However additional contacts may have been made using alternative phone lines, the activity for which may not be included here.

DCC = Director, Corporate Communications, CC = Corporate Communications staff, VPCR = Vice President, Corporate Relations

TIME	ACTIVITY
October 15, 2006	
7:11 – 10:30 a.m.	
7:11 a.m.	DCC initiates call to System Operations to confirm situation, calls the designated CC weekend phone duty individual at 7:13 a.m. to alert her (note: DCC's media cellular # was forwarded to the CC weekend duty individual on prior Friday).
7:17 a.m.	DCC receives several pager alerts indicating significant system problems and immediately departs for HECO – Ward Ave. Attempts to contact KSSK during the transit are unsuccessful.
7:20 a.m.	Calls to the media cell phone following the second quake. Weekend phone duty individual responds to calls beginning at 7:20 a.m.
7:30 a.m.	DCC arrives at HECO and confirms that an island-wide outage has occurred. DCC begins calls to CC personnel to report in.
7:38 a.m.	DCC calls weekend phone duty individual to advise her of his location and to alert her that the call forward feature of his phone cannot be cancelled due to cellular network problems, so she will need to continue to temporarily respond to the media calls.
7:41 a.m.	DCC contacts VPCR.
7:53 a.m.	DCC continues to reach CC staff. Other staff members call in or text message.
7:54 a.m.	DCC initiates media calls via his media contact list and connects with the following: 7:54 a.m. – KITV-4 8:09 a.m. – The Honolulu Advertiser 8:11 a.m. – KHON-2

TIME	ACTIVITY
	Continued attempts to reach the primary media contact priority, KSSK, are unsuccessful because of busy signals.
8:00 a.m. (approx)	HECO Incident Command team members inform the Vice Director, State Civil Defense and the State Director of Transportation of the situation. At approximately 8:15 a.m., State DOT director announces island-wide outage on KSSK.
By 8:30 a.m.	CC personnel report to HECO Ward Ave. One videographer heads to Kahe Power Plant. Assignments/ responsibilities are determined for each staff member.
	CC personnel continue to respond to media calls that are able to come through the cell phone lines, and also proactively try to reach other media. Most of the early reports to media confirm that there is an island-wide outage and the start of restoration efforts.
8:49 a.m.	DCC in contact with Honolulu Star-Bulletin.
9:01 a.m.	Contact made with The Honolulu Advertiser. Continuous attempts to reach KSSK are unsuccessful.
9:13 a.m.	VPCR returns call to The Honolulu Advertiser reporter.
9:15 a.m.	Corporate Communications reaches the Public Information Officer (PIO) for the Mayor's office. Attempts are made to reach the PIOs at the State Civil Defense, but the SCD land line sends callers back to the automated voice operator.
9:27 a.m.	Corporate Communications reaches the HPD PIO to provide outage information.
9:42 a.m.	Staff person assigned normal weekend media duty is in contact with KHNL.
9:48 a.m. / 10:20 a.m.	Staff person assigned normal weekend media duty is in contact with KITV.
10:00-10:30 a.m.	Begin drafting first press release, awaiting information from Incident Command Briefing to complete the release.

TIME	ACTIVITY
	Incorporated existing emergency talking points related to food, appliance and general safety.
	CC staff member is assigned to a dedicated phone with the sole task of repeatedly calling KSSK to try to get a connection for Corporate Communications.
Approx 10:00 a.m.	Staff member sent to drive to KSSK radio station to make contact.
10:20 a.m.	Staff member in contact with KITV.
10:30 a.m. – 1 p.m.	
10:22 a.m.	DCC finds KSSK News Director personal cell #, makes contact with KSSK and informs them of the situation. Both agree to contact each other regularly.
10:45 a.m., 11:21 a.m.	DCC in contact with KITV.
11:30 a.m.	VPCR in contact with The Honolulu Advertiser.
11:30 a.m.	Trouble Line phone recorded message updated with information from 11:30 press release. It included calling 9-1-1 for emergencies.
11:35 a.m.	DCC updates KSSK news director. Arrangements made to go live with Perry and Price.
11:36 a.m.	KITV calls DCC. Both agree to call each other every 60 to 90 minutes.
11:44 a.m.	DCC on air with KSSK's Perry & Price (provides information from 11:30 press release).
	Attempts are made to distribute first press release "HECO Announces Steps for Returning Power to Oahu" via computer fax and manual fax, but both transmissions fail on receiving end due to outage. Between 12:02 – 12:08 p.m., the release is read over the phone to KHON, KGMB and KHNL. From 11:36 a.m. to 1:36 p.m., DCC continues to talk to KITV (streaming video on KITV's website is being picked up by CNN), KGMB, KSSK, The Honolulu Advertiser and Honolulu Star-Bulletin about the restoration efforts, and provides food, appliance and general safety tips.

TIME	ACTIVITY
	VPCR also in regular contact from 11:30 a.m. to 12:30 p.m. with The Honolulu Advertiser, which is providing web updates.
12 noon (approx)	DCC updates KITV. KITV has backup power and is broadcasting to CNN.
12 noon (approx)	By noon, power is restored to approximately 571 customers near by Waiiau Power Plant. A second release, "HECO Provides Update on Power Restoration on Oahu," is drafted.
12:30 (approx)	DCC's cell connection (media cell number) and all cell phones on the same network are out of service from approximately 12:30 to 5:30 p.m. (times estimated based on phone logs).
12:58 p.m.	DCC contacts Honolulu Star-Bulletin and KSSK.
1 p.m.	CC staff updates The Honolulu Advertiser with consumer information important during an extended outage, including minimizing/preventing food spoilage, protecting sensitive equipment from surges as power is restored, etc. This was posted on The Honolulu Advertiser website at 2:15 p.m.
1:29 p.m.	DCC updates KITV.
1:33 p.m.	DCC updates KSSK.
1:41 p.m.	Land line service for Ward Ave lost until about 7:20 p.m. (no incoming service / after rerouting, some limited external calling capability is available)
2:10 p.m.	Second press release approved and time-stamped.
Approx. 2:15 p.m.	Phone center recorded message updated.
2:00 – 6:00 p.m.	KSSK unpublished studio # is frequently busy. Unable to contact KSSK regularly. Phone service is unreliable (see previous entries on cellular and land line technical challenges).
2:30-3:00 p.m.	Since the outage continues to affect fax and e-mail transmissions, CC personnel hand-deliver the second update release to the four TV stations, KSSK, The Honolulu Advertiser and Honolulu Star-Bulletin.
3:00 p.m.	VPCR and DCC meet with KITV and The Honolulu Advertiser reporters in front of Ward Ave to provide updated information on restoration status (copy of earlier press release provided to KITV).

TIME	ACTIVITY
3:30 p.m.	Incident Command Meeting.
3:30, 3:42 p.m.	DCC contacts KSSK and KITV via personal cellular. Arranges TV interview with KITV.
4:00 p.m.	DCC goes on camera with KITV and KGMB in front of Ward Avenue headquarters.
4:07-4:18 p.m.	CC staff updates KHON, KGMB and KHNL as follow up to the 2:10 p.m. time-stamped release.
5:10 p.m.	VPCR provides update to The Honolulu Advertiser.
5:14 p.m., 5:45 p.m., 6 p.m.	VPCR provides updates to Honolulu Star Bulletin.
5:30 p.m.	DCC on-camera interview with KITV in front of Ward Avenue headquarters around 5:30 p.m. 5 p.m. coverage on KITV, KHNL and KGMB; 6 p.m. coverage on KHON.
5:38 p.m.	DCC updates KHNL.
6:00 – 6:15 p.m.	DCC gives in-person interview at KSSK studio.
6:30 – 10:30 p.m.	
	Corporate Communications continues to initiate as well as respond to ongoing media queries.
	A third release, "HECO Makes Progress on Oahu Power Restoration," is prepared. As of 6:30 p.m., over 86,000 customers have electric service, including the airport, Pearl Harbor and Hickam Air Force Base. HECO reminds customers that the process will be slow and methodical, and that crews will work through the night to restore electricity to everyone. Press release was faxed and read to the media via phone.
6:41 p.m.	DCC updates The Honolulu Advertiser.
7:13 p.m.	DCC updates KGMB.
7:20 p.m.	VPCR updates Honolulu Star-Bulletin.
7:33 p.m.	DCC updates KITV.

TIME	ACTIVITY
7:54 – 8:00 p.m.	DCC updates The Honolulu Advertiser.
8:02 p.m.	VPCR reaches SCD communications personnel (is informed that they were satisfactorily updated via video link to Oahu Civil Defense by HECO VP of Govt. and Community Affairs).
8:16 p.m.	The Honolulu Advertiser posts online update on 91,000 customers restored after phone interview with DCC.
8:50 p.m.	DCC updates KHNL.
8:54 p.m.	DCC updates The Honolulu Advertiser
9:00 p.m.	Coverage on KFVE.
9:02 p.m.	The Honolulu Advertiser posts online update on 114,000 customers restored after phone interview with DCC.
	Video footage of the restoration efforts is compiled on DVD cam tape for media use.
9:26 p.m./ 9:44 p.m.	VPCR updates The Honolulu Advertiser and Honolulu Star-Bulletin.
9:29 p.m.	DCC calls KSSK.
	A fourth update release, "HECO Continues to Make Progress on Power Restoration," is prepared and time-stamped 9:30 p.m. Corporate Communications staff hand-deliver the release with video footage of Company restoration operations to the four TV stations by 10 p.m.
9:40 p.m.	Call to KHON to update before 10 pm news.
9:44 p.m.	Call to KHNL to update before 10 pm news.
9:44 p.m.	Call to KGMB to update before 10 pm news.
9:45 p.m.	The Honolulu Advertiser posts online update on 134,000 customers restored after phone interview with DCC.
9:48 p.m.	The Honolulu Advertiser team coverage of earthquake and power outage is posted online.
10:00 p.m.	News coverage airs on KHON, KITV, KHNL and KGMB.

TIME	ACTIVITY
10:05 p.m., 10:28 p.m.	VPCR provides updates to The Honolulu Advertiser.
10:30 p.m. – 3:30 a.m. (10.16.06)	
	Update fax to KSSK, and call made to The Honolulu Advertiser night city desk reporter regarding restoration update at 11:30 p.m. (202,000 customers restored).
11:21 p.m.	Update provided to Honolulu Star-Bulletin.
11:42 p.m.	DCC updates Visionary Related Entertainment (radio stations KUMU, KQMQ, KDDB and KPOI).
12:14 a.m.	The Honolulu Advertiser posts online update (202,000 customers restored).
	CC midnight shift employee responds to calls from Visionary Related Entertainment (KQMQ, KUMU, KDDB and KPOI), KITV and The Honolulu Advertiser. Also contacted The Honolulu Advertiser to correct online information.
October 16, 2006 (early morning only)	
1:01 a.m.	Call made to The Honolulu Advertiser to provide latest update (234,000 customers restored) and same update given to KITV.
2 a.m.	KHON news update airs.
2:15 a.m.	The final update release, "HECO Power Restoration Update," is faxed. All customers restored as of 1:55 a.m. with pocket outages still affecting some areas. Instructions provided that those without power in pocket areas should call in to report outages. Follow up calls made to KHNL, KSSK and KITV. Stations also called in to request on camera interviews for morning shows.
2:38 a.m.	The Honolulu Advertiser posts online update "Power restored island-wide."
3:30 a.m.	KSSK news director (and national stringer) calls for final update.
4 a.m.	KITV news update airs.

TIME	ACTIVITY
4:15 a.m.	DCC checks in with KSSK.
5:01 a.m.	DCC provides update for KHON-2 morning news.
5:30 a.m.	DCC does in-studio interview with the KHON-2 morning news.
5:11, 6:16 a.m.	DCC updates reporter for Cox Radio/KHNL-8.
5:17, 6:08, 6:20 a.m.	DCC updates KSSK and starts multiple dialogs with KSSK due to 'pocket outage' customers having trouble contacting HECO via trouble and call center phones. DCC calls in a "work around" to KSSK listeners, takes outage locations from KSSK listeners.
6:27, 6:34 a.m.	DCC updates KITV.
7:04 a.m.	DCC updates KRTR.
7:05 a.m.	DCC does 18 minute on-air interview with KHVH.
7:33 a.m.	DCC updates KHNL.
8 a.m.	KHNL news update airs.
8:31 a.m.	VPCR updates Honolulu Star-Bulletin

VIII. Appendix B – Press Releases

Following are press releases distributed to media on October 15 and October 16 regarding the island-wide power outage and restoration progress.



Hawaiian Electric Company

N E W S • R E L E A S E

Contact: Jose Dizon
223-9932

FOR IMMEDIATE RELEASE
October 15, 2006
11:30 a.m.

HECO Announces Steps for Returning Power to Oahu

Honolulu, Hawaii: Oahu experienced an island-wide power outage this morning following the earthquake leaving approximately 291,000 customers without power. Hawaiian Electric Company's system operated as programmed. After the first units tripped out due to the earthquake, the system detected that load was greater than generating capacity and additional power generators shut down to protect the system from long-term damage.

Customers on Oahu should expect be out for most of the day into the evening, although some customers may be returned to power more quickly. HECO's priority is to return power to customers as quickly as possible, but in a careful, methodical way that protects the system from damage and avoids situations where the whole process must begin again from square one. As always, the safety of the public, HECO customers and crews has the highest priority.

At this time, HECO crews are simultaneously checking the transmission systems, substations and power generators for any damage as a result of the earthquake and preparing the generators for restart, a lengthy process. Preliminary assessments have been completed and work is proceeding to restart the system gradually, bringing electrical load on a little at a time, rather than in big chunks.

"Recovery is our priority," said Jose Dizon, HECO spokesman. "But customers should understand that doing so in a safe, methodical way will take some time and our customers should plan accordingly. We will keep the media posted as we progress."

...more

IMPORTANT INFORMATION:**Immediate health and safety concerns:**

Persons with immediate health and safety concerns should contact 911.

Preparing for return to power:

During a power outage, a fully-stocked free-standing freezer will keep most of your foods frozen for up to seventy-two hours -- if you don't open the door! The freezer section of a refrigerator-freezer will keep most of your foods frozen ten to twenty-four hours. Don't peek inside to see if the food is still frozen...each time you open the door, cold air gets out!

Unplug your sensitive electrical appliances such as your television, VCR, and computers by shutting them off and unplugging them. Check to see that all your lights are off, and that all sensitive equipment is unplugged to prevent damage from a power surge that may occur when the power is restored.

If you use an emergency generator at home:

Connecting a portable generator can cause safety problems if not done properly. When using a portable generator, HECO asks that you carefully follow instructions in the manufacturer's manual, for your safety and the safety of HECO employees working to restore electricity to the HECO system.

As a general rule, don't plug household electrical outlets to the generator. Instead: Plug your equipment or appliance directly into the generator; make sure the wattage requirements of the appliance don't exceed the capacity of your generator or extension cord. Also, be sure to provide adequate ventilation for exhaust and cooling. And store reserve fuel in a safe place away from the generator or any other equipment that might ignite the fuel; use containers designed for fuel storage.

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Hawaiian Electric Company

N E W S • R E L E A S E

Contact: Jose Dizon
223-9932

FOR IMMEDIATE RELEASE
October 15, 2006
2:10 p.m.

HECO Provides Update on Power Restoration on Oahu

Honolulu, Hawaii: Hawaiian Electric Company has started some of its power generators at the Waiiau Power Plant, following the island-wide power outage experienced this morning. A small group of customers, nearly 13,000, near the Waiiau Power Plant now has electric service.

HECO wants to advise customers that restoring power is a slow, methodical process. Small groups of customers in the vicinity of the power plants will be brought online incrementally to maintain stability in the system. The generation output and the demand for power need to be equalized.

“We are pleased that we are beginning to restore power and we appreciate customer’s patience.” said Jose Dizon, HECO spokesman. “However, customers should understand that full restoration will take many hours and they should plan accordingly.”

To help reduce the initial demand for power as sections are restored, HECO requests customers to turn off power to electric water heaters by switching off the water heater circuit breaker. Check to see that all the lights are turned off. And unplug sensitive appliances, such as the television, VCR, and computer to prevent damage from a power surge that may occur when the power is restored.

- more -

HECO Power Update – 2:10 p.m.
October 15, 2006
Page 2 of 2

Here are some guidelines for food safety -- butter, margarine, and hard cheeses are safe unless mold or rancid odors develop. Fresh fruits and vegetables are safe as long as they aren't mushy or slimy. Eggs will be safe for several days if the shells have no cracks. Fresh meat, poultry, luncheon meats or hot-dogs should be discarded if allowed to warm to room temperature for more than two hours. Milk and cream probably will sour after eight hours without refrigeration. Vinegar and oil salad dressings, jellies, jams, mustard, pickles, and olive may be safely kept unrefrigerated unless they have been contaminated by poultry or meat juices.

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Hawaiian Electric Company

N E W S • R E L E A S E

Contact: Jose Dizon
223-9932

FOR IMMEDIATE RELEASE
October 15, 2006
6:30 p.m.

HECO Makes Progress on Oahu Power Restoration

Honolulu, Hawaii: Hawaiian Electric Company (HECO) has made progress restoring power to Oahu, following the island-wide power outage experienced this morning. Power generating units at Waiiau and Kahe Power Plants have been brought online. As of 6:30 p.m. over 86,000 customers have electric service.

Power has primarily been restored to Leeward parts of the island, including Pearl City, Aiea, Waianae, Nanakuli, Makaha, Waipahu, Mililani, Waialua, and Wahiawa. Other parts of the island that now have power include Keehi, Makalapa, Sand Island, Iwilei, and areas near Neal Blaisdell Center. The Honolulu International Airport, Pearl Harbor, and Hickam Air Force Base have also been restored.

“We have made progress as we carefully and safely restore power to Oahu and we will continue to work into the night until all customers have electricity,” said Jose Dizon, HECO spokesman.

HECO asks customers, both residential and business, who are still out of power to assist in the restoration process by shutting off appliances and equipment that draw large amounts of electricity, such as air conditioners and electric water heaters. These measures will help provide stability to the electrical system as customers are gradually brought online.

Customers should also unplug sensitive appliances, such as televisions, VCRs, and computers, to prevent damage from a power surge that could occur when power is restored.

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Hawaiian Electric Company

N E W S • R E L E A S E

Contact: Jose Dizon
223-9932

FOR IMMEDIATE RELEASE
October 15, 2006
9:30 p.m.

HECO Continues to Make Progress on Power Restoration

Honolulu, Hawaii: Hawaiian Electric Company (HECO) continues to restore power to customers on Oahu, following the island-wide power outage experienced this morning. HECO continues to bring power generators online, including the power generators at the independent power producers. As of 9:30 p.m. over 136,000 customers have electric service.

Power has been restored to most of the following areas: Pearl City, Aiea, Waianae, Nanakuli, Makaha, Waipahu, Pearl City, Ewa Beach, Kunia Makai, Waiialua, Haleiwa, Wahiawa, Helemano, Mililani, Waimano, Waimalu, Hala, Keehi, Makalapa, Sand Island, Iwilei, Kewalo, Archer, Piikoi, Kapahulu, Kaimuki, Kahala, Kawela, Olomana, Mokapu, Keolu, and Kaneohe Marine Corps Base have power.

“We will continue to work through the night until all customers have electricity,” said Jose Dizon, HECO spokesman. “We thank customers for their patience and apologize for the inconvenience caused by the outage.”

To maintain stability on the system as power is gradually restored HECO asks residential and business customers who are still without power to shut off appliances and equipment that draw large amounts of electricity, such as air conditioners and electric water heaters.

Customers should also unplug sensitive electronic appliances, such as televisions, VCRs, and computers, to prevent damage from a power surge that could occur when power is restored.

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Hawaiian Electric Company

N E W S • R E L E A S E

Contact: Sharon Higa
223-9932

FOR IMMEDIATE RELEASE
October 16, 2006
2:15 a.m.

HECO Power Restoration Update

Honolulu, Hawaii: As of 1:55 a.m. on Monday, October 16, Hawaiian Electric Company has restored nearly all of the approximately 290,000 customers on Oahu affected by the island-wide power outage following the Sunday morning earthquake. Small pockets of customers may still remain without power, and are advised to call the HECO trouble line at 548-7961 to report the outage.

This is the final update.

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