

CA-IR-16

Ref: T-4, Pages 38 and 39.

Please respond to the following questions regarding the March 3, 2004 Pukele Substation Outage as it relates to the impact of an outage of the Pukele Substation.

- a. Is HECO aware of any negative publicity or reports that created a “third world” image as a result of this outage? If yes, please provide copies of such documents.
- b. Did HECO receive or review any claims in which customers or institutions reported loss of revenues or any other financial impacts? If yes, please provide copies of such claims.
- c. Please summarize the negative economic, health or any other impacts of March 3, 2004 Pukele Substation Outage? Provide copies of all documentation and/or analysis to support the response.

HECO Response:

- a. No, HECO is not aware of any negative publicity or reports that created a “third world” image as a result of the March 3, 2004 outage. See attached pages 3-11 for articles in the Honolulu Advertiser and Honolulu Star-Bulletin regarding the March 3, 2004 outage. Fortunately, this particular outage began and was restored in the early morning hours, before it had the opportunity to disrupt more people’s lives and therefore it is unlikely that it resulted in Mainland news reports that might characterize Hawaii’s power situation as “third world.” In the future, the situation could be different. Other unflattering circumstances, including high profile crimes and environmental disasters such as oil or sewage spills, have resulted in extensive negative publicity on the Mainland and particularly in Japan. It is not unreasonable to be concerned that a protracted power outage that disrupted activities at a busier time of day, especially if it resulted in inconvenience, discomfort, danger or injury to even a small group of people, could have large negative repercussions in terms of publicity.
- b. HECO has not received any claims regarding loss of revenues as a result of the March 3,

2004 Puekele Substation outage. HECO has received ten damage claims relating to the March 3, 2004 outage. (See attached pages 12-21.) One of the customer's also filed an informal complaint with the Commission. (See attached pages 22-36.) HECO's investigation of the March 3, 2004 outage determined that HECO took reasonable diligence and care on that day to avoid an outage. The nature of the communications equipment failure that affected other equipment, in turn causing the circuit breaker to operate and the resulting outage, combined to produce an event that was unforeseeable and beyond HECO's reasonable control to prevent. In accordance with HECO's Tariff Rule No. 16, HECO determined that it was not liable for the damages that were incurred.

- c. Please refer to subpart a and b.

Posted on: Thursday, March 4, 2004

Failed transmission line cuts power in 10 neighborhoods

By Mike Gordon
Advertiser Staff Writer

Thousands of people in 10 Honolulu communities lost electrical power yesterday when one of O'ahu's major transmission lines failed.

About 40,000 customers in Manoa, McCully, Kaimuki, Waikiki, Palolo, St. Louis Heights, Mo'ili'ili, Diamond Head, Kapahulu and parts of Kahala lost power at 7:42 a.m., said Hawaiian Electric Co. spokesman Peter Rosegg.

Service was restored to some of those customers by 8:42 a.m., with the rest restored by 9:13 a.m., Rosegg said.

The cause of the failure was not known yet.

The line that failed - a 138 kilovolt transmission line from Kane'ohe to Palolo Valley - is one of two that cross the Ko'olau Mountains, Rosegg said.

It belongs to a network of power that HECO sought to bolster with a third line until public pressure forced the company in 2002 to seek an alternative route underground.

Community and environmental groups spoke out against the \$31 million project on Wa'ahila Ridge, saying it was not needed and would scar a historic, undeveloped area.

HECO crews have been working on structures above Palolo Valley since January. They had shut off power to one of the 138 kilovolt lines for the job, but when the failure occurred, the crews restored it to service.

Rosegg said an inspection team flew over the line but could not find an obvious source of the failure. Tests were being done on the line, he said.

"We will keep investigating until we come up with an answer," Rosegg said.

There is no indication that wind was a factor, but the power lines travel through remote places prone to heavy rain and gusty winds not always felt in more populated areas, Rosegg said.

"We will move to deal with it as quickly as we can," he said.

The National Weather Service was not reporting especially strong winds, with most breezes registering between 6 mph and 13 mph, said lead forecaster Robert Ballard.

"But we do know it has been locally gusty in places," he said. "There are places near the mountains that have gusted higher, but none of our observation posts are showing much."

Reach Mike Gordon at mgordon@honoluluadvertiser.com or 525-8012.

Thursday, March 4, 2004

"Patience from the community would be good in events like this," said Lt. Kathy Ferreira of District 7, which oversees the Manoa and Kaimuki areas.

Grayce McCullogh, a spokeswoman for the Pacific Beach Hotel in Waikiki said that power was out for about 40 minutes.

"We have a backup generator and that kicked right in. Everything went smoothly and we have nothing to report."

She said the elevators automatically came down the first floor so that hotel guests would have to use the stairs.

Laura Miller, a tourist from Chicago, sat eating fresh pineapple in a window seat at Cheeseburger in Paradise.

"Yeah, we notice the power was out, but it's not a problem. We're from Chicago where this happens all the time."

For years, Heco has warned that its transmission lines serving Waikiki, Manoa and some East Honolulu neighborhoods needed a major back-up system to prevent large-scale power disruptions such as today's outage.

The local utility company initially proposed building a \$31 million, 138,000-volt line on 100-foot towers on state conservation land along Waahila Ridge between Manoa and Palolo but that plan was rejected two years ago by the state Department of Land and Natural Resources after it drew heavy opposition from local environmentalists and community leaders.

As an alternative, Heco proposed last October to spend \$55 million to bury three miles of transmission lines in the McCully and Ala Moana areas.

Heco said it wants build the first phase between 2005 and 2006. That first phase would include a mile of underground lines between Heco's Makaloa and McCully substations.

A second phase, which is projected for the 2007-2008, would run 1.9 miles from the company's Archer substation on Cooke Street to Young and McCully streets.

Heco, which is the process of seeking approval from the state Public Utilities Commission, announced in December that it will conduct a \$500,000 environmental assessment in response to concerns raised by residents and local environmentalists.

Community leaders have expressed some concerns about the proximity of the buried power lines to schools in the areas.

Posted on: Wednesday, March 3, 2004 10:51 AM HST

40,000 lose power

The outage lasts less than two hours but Heco says it shows the need for a back-up system

Leila Fujimori and Rick Daysog

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About 40,000 Hawaiian Electric Co. customers in Honolulu lost power today in an outage that the company says it has been warning the community about for years.

The outage shut down parts of Manoa, Kaimuki, Palolo, St. Louis Heights, Moiliili, McCully, Waikiki, Diamond Head and Kapahulu and parts of Kahala.

The power went off at 7:42 a.m. Heco began restoring power at 8:43 a.m., and had restored power to all its customers by 9:13 a.m.

"This is the condition we have talked about in making the case for the East Oahu transmission line project," said Lynne Unemori, spokeswoman for HECO. "This is why we have been working so hard, so we don't find ourselves in a condition like this."

The power went out when two high-voltage lines that feed into the Pukele substation in the back of Palolo Valley, went down. The substation supplies power to the grid that includes Kaimuki, Manoa, McCully, Waikiki and Kahala.

Unemori said one of the lines was down for maintenance, and HECO is trying to determine the cause of the malfunction of the other line.

The Pukele substation is the largest on Oahu, serving 16 percent of the island (40,000 customers) with only two 138-kilovolt lines, while other substations have three high-voltage lines, said Heco spokesman Peter Rosegg.

"That's not enough backup. That's why for 10 years the company has been trying to solve the problem."

HECO currently has a proposal before the Public Utilities Commission for a series of lower voltage underground transmission lines through the Moiliili-McCully, Unemori said.

HECO submitted its proposal to the PUC on Dec. 18, and has been informed that organizations have asked to intervene, said Rosegg. HECO is awaiting a schedule of hearings on the plan from the PUC.

HECO was able to restore power this morning by re-energizing the line that had been down for maintenance. Because it was a major transmission line, the process must be done carefully and methodically, Unemori said.

The power outage caused major problems for police and motorists.

The police department was deluged with traffic control problems, and tending to alarms being set off at homes and businesses, which had not yet opened.

Starbulletin.com

Thursday, March 4, 2004



CINDY ELLEN RUSSELL / CRUSSELL@STARBULLETIN.COM

Lt. Dale Clites directed traffic at the corner of Kalakaua Avenue and Kaiulani Street yesterday during the power outage.

Power failure mystifies HECO

Company officials say
underground lines would

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have prevented yesterday's electrical outage

By Diana Leone
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Hawaiian Electric Co. officials could not explain last night what cut power to 40,000 customers yesterday morning, but insisted its proposed improvements for East Oahu electric distribution could have shortened the hour-plus outage to minutes.

The power went off at 7:42 a.m. yesterday in most of Kapahulu, McCully, Moiliili, Waikiki, Diamond Head, Kahala, Manoa, St. Louis Heights, Palolo and Kaimuki, affecting 14 percent of HECO customers.

Of two 138-kilovolt powerlines over the Koolau Mountains bringing electricity to the affected communities, one was shut at 6:03 a.m. for scheduled maintenance, HECO spokesman Peter Rosegg said. A circuit breaker blew on the other line, cutting the flow of electricity.

HECO began restoring power at 8:43 a.m. by stopping the maintenance work and returning that line to service, Rosegg said. Power was restored to all customers by 9:13 a.m., he said.

But some residents of Manoa Valley said their power wasn't restored until 11:15 or 11:30 a.m.

The electricity loss complicated the morning commute, as drivers found intersections suddenly without functioning traffic lights. Otherwise, there was little economic impact, since most businesses had yet to open.

A helicopter check of the affected line didn't find any visible problems yesterday morning, Rosegg said. Testing of the line was done throughout the day yesterday without determining the cause of the outage, he said.

"We do not know if it was weather-related ... and there's no way of knowing how long testing will take," Rosegg said.

Had the company's proposed East Oahu upgrades been in place when yesterday's incident happened, Rosegg said, "when the second line was lost, we would have been able to bring power from downtown to temporarily supply enough power to keep things going.

"We would not have had an hour-and-a-half outage. We might have had a flicker."

But opponents of HECO's plans to spend \$55 million on underground electric lines said yesterday's outage doesn't necessarily justify the utility's plans.

"It's easy to rush to judgment," said Henry Curtis, director of Life of the Land, one of several groups opposing HECO's plans.

The Public Utilities Commission, which will decide whether to allow HECO to build backup distribution lines, "will need a detailed analysis to determine what could or couldn't be done about it (the outage yesterday)," Curtis said.

Curtis called for an analysis of "what happened? Why did it happen? What could have been done differently to prevent it? And if we do need a system upgrade, which system upgrade would be best?"

"The utility has said they're cutting back on maintenance," Curtis said. "Could better maintenance of the line have prevented the outage?"

During the outage in Kapahulu, Rainbow Drive-In continued to serve breakfast.

"We have gas stoves, so we were able to cook and put out some things slowly because there were no lights," said day manager Pam Martin. "Everyone was in a good mood. We were trying our best."

At Denny's Restaurant on Kalakaua Avenue, "We just served them what we could," said manager Ed Toledo. "The coffee was still warm. We served fruits and cereals."

The University of Hawaii at Manoa held the majority of its classes as scheduled, said UH spokesman Jim Manke. However, some students in the dorms complained about not being able to use their blow dryers.

Police scrambled to control traffic as lights went out, but reported no major problems with traffic flow. Firefighters responded to two stalled elevators in Waikiki.

"I don't know what caused the outage," said City Councilwoman Ann Kobayashi, who lives in Manoa. "But that doesn't really say that another line is needed. That case still has to be proven to the community," she said.

Kobayashi, state Sen. Carol Fukunaga (D-Makiki-Pawaa) and Rep. Scott Saiki (D-Moiliili-Ala Wai) are concerned about health effects

from underground power lines on residents and children at Lunalilo School.

HECO initially proposed building a \$31 million, 138-kilovolt line on 100-foot towers on Waahila Ridge between Manoa and Palolo, but that plan was rejected two years ago by the state Department of Land and Natural Resources after it drew heavy opposition from environmentalists and community leaders.

HECO proposed in October that three miles of transmission lines in McCully and Ala Moana, plus transmission upgrades, would provide an alternate way to back up its East Oahu service area.

HECO said it wants build the first phase, with a mile of underground lines between its Makaloa and McCully substations, between 2005 and 2006.

A second phase, projected for 2007-2008, would run 1.9 miles from the company's Archer substation on Cooke Street to Young and McCully streets.

Star-Bulletin reporter Leila Fujimori contributed to this report.

Starbulletin.com

Wednesday, May 12, 2004

HECO discovers outage cause

The company says that
a controversial power line
addition would have helped

By Diana Leone
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A March 3 power failure that cut off electricity to 40,000 Hawaiian Electric Co. customers was caused by faulty communication equipment that accidentally shut down a 138-kilovolt distribution line, the utility announced yesterday.

"We traced the problem to several defective modules in the communications equipment and we have taken steps to prevent a recurrence," said Chuck Freedman, HECO vice president of corporate relations. "The fixes we're making would prevent this particular problem from happening again."

The 7:42 a.m. outage affected most of Kapahulu, McCully, Moiliili, Waikiki, Diamond Head, Manoa, St. Louis Heights, Palolo and Kaimuki -- about 14 percent of HECO customers. Power was restored to 39,000 customers in 45 minutes to two hours, while 1,000 customers waited almost four hours, the company said yesterday.

HECO had turned off one of two 138-kilovolt lines serving the affected areas so that an old wooden tower could be replaced with a new steel one. Before that work began, corrupted microwave signals ordered the second 138-kilovolt line to shut off as well.

"Unforeseen events can and do happen on transmission systems and had we had the East Oahu Transmission Project in place, this would

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not have been a problem," Freedman said.

HECO's proposed \$55 million East Oahu project, under review by the state Public Utilities Commission, would add several miles of underground transmission lines to back up lines serving East and Windward Oahu. An earlier attempt by HECO to take the lines across Waahila Ridge for the same purpose was killed by public objections.

Henry Curtis, executive director of Life of the Land environmental group, said the company's findings about the outage still don't convince him a third transmission line is needed to serve customers.

"I think it bolsters the argument that doing better maintenance on their system would make a difference," Curtis said.

The replacement cost of faulty equipment will be borne by manufacturer, Harris Corp., Freedman said. He didn't have the cost of troubleshooting the outage yesterday, but said it would be absorbed in HECO's operating budget.

Of about 500 communication modules in use on Oahu, five were found to be faulty and replaced, Freedman said. Checks of equipment at HECO affiliates Maui Electric and Hawaii Electric Light found no similar problems, he said.

In addition to the East Oahu Transmission Project, ongoing upgrades of HECO's communication system should help to prevent a similar outage in the future, Freedman said.

Ten HECO customers filed claims totaling \$6,800 in damages due to the outage, Freedman said. The company told them Monday that the outage was beyond HECO's control and that it would not be paying damages.

The company says that a controversial power line addition would have helped

By Diana Leone

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