

LOL-HECO-IR-74

Question(s):

- a. How many outages has (a) Waikiki and (b) Civil Defense experienced in the past 15 years?
- b. How many of them were caused by:
 1. Distribution Lines;
 2. Distribution Substations;
 3. Subtransmission lines;
 4. the Pukele Transmission Substation; and
 5. the two 138-kV transmission lines bringing electricity to the Pukele Substation?

HECO Response:

- a. Please see the response to subpart b.
- b. HECO objects to providing the requested information on the basis that it would be unduly burdensome to go through the voluminous information to sort and compile the cause of the outages, as requested in this information request. Without waiving its objections, computer printouts from 1991 to present, which are sorted by circuit, are available at HECO's Regulatory Affairs office. Please contact George Hirose at 543-4787 to view the printouts. Please note that the printouts are organized by distribution circuits serving the Waikiki area, and an outage recorded on the printout does not equate to an outage of all the customers served by the distribution circuit. An outage may have only affected a single customer or a small group of customers served by the 12kV circuit, depending on what type of outage occurred.
 1. Eight outages affecting the Civil Defense were caused by distribution line outages over the past 13 years.

2. For Waikiki, there were seven outages at the distribution substations over the past 13 years, which affected parts of Waikiki. Five of the outages were attributed to failed 46kV automatic transfers at the distribution substation, one outage was due to a flashover inside a distribution substation, and one outage was caused by equipment misoperation at the distribution substation. For the Civil Defense, there was one outage in 2003 due to a failed 46kV automatic transfer at the distribution substation.
3. For Waikiki and for Civil Defense, there were no outages over the past 13 years caused by an outage of the sub-transmission lines.
4. For Waikiki, one outage was caused by the transmission substations (based on the database available from 1991 to present). On March 30, 2004, a fire on a station power transformer resulted in the loss of Pukele 138 kV Transformer #1, and a failed load transfer resulted in outages.
5. Both Waikiki and the Civil Defense experienced an outage caused by the loss of the two 138kV transmission lines feeding the Pukele Substation. On March 3, 2004, a communications error in equipment used for transmission line protection resulted in taking Koolau-Pukele #2 138 kV transmission line out of service while the Koolau-Pukele #1 138 kV transmission line was out for maintenance. Please refer to the March 3, 2004 Pukele Substation outage investigation filed with the PUC on May 11, 2004, provided in response to LOL-IR-24.