

LOL-HECO-IR-71

Ref: "A blackout that incapacitates the Hawaii National Guard and Civil Defense Facilities at Diamond Head could have a serious effect on Hawaii's safety and security." (T-4, page 39, lines 9-11)

Question(s):

- a. Please provide copies of any documentation, that you have reviewed, which states that critical loads in the Pukele Service Area lack back-up generators.
- b. What is the MW of critical loads handled by each subtransmission line in the Pukele Service Area?
- c. What is the MW of non-backed-up critical loads (critical loads without backup generators) for each subtransmission line in the Pukele Service Area?
- d. Should civil defense facilities have backup generators?
- e. Can the grid ever provide six nines of reliability?
- f. Should civil defense facilities have six nines level of reliability?

HECO Response:

- a. Information on back-up generators for critical load customers was provided by HECO's Customer Account Managers, and indicated that most of the critical load customers do not have back-up generators. (Only a handful of customers appeared to have back-up generators.) HECO objects to providing documentation concerning customer back-up generators for security reasons and customer privacy concerns. (HECO objects to the production of customer-specific information on the grounds that [1] such information is confidential and has been protected from disclosure by the Commission in other proceedings, and [2] the disclosure of such information has not been consented to by the customers.)
- b. The critical loads handled by each sub-transmission line in the Pukele Service Area are estimated as follows:

Pukele 1 = 0.7 MW	Pukele 5 = 0.2 MW
Pukele 2 = 2.0 MW	Pukele 6 = 0.4 MW
Pukele 3 = 0 MW	Pukele 7 = 0.2 MW
Pukele 4 = 0.6 MW	Pukele 8 = 1.4 MW

These loads do not include loads from the fire stations and police stations in the area and some of the customers which are billed under schedule "G", which will add some kW to these numbers. Schedule G applies to customers whose power load is less than or equal to 5,000 kWh per month and less than or equal to 25 kW of demand and supplied through a single meter.

- c. The critical loads on each sub-transmission circuit that do not have back-up generators are estimated as follows:

Pukele 1 = 0.4 MW	Pukele 5 = 0.0 MW
Pukele 2 = 1.1 MW	Pukele 6 = 0.4 MW
Pukele 3 = 0 MW	Pukele 7 = 0.2 MW
Pukele 4 = 0.6 MW	Pukele 8 = 0.7 MW

- d. It would be the responsibility of the Hawaii State Civil Defense to determine if back up generators are required to provide reliable service for its operations.
- e. HECO has not conducted a study to determine a response to this question. In a hypothetical situation where HECO installed various facilities for redundancy, it is possible that an electric grid could reach six nines of reliability. However, with all planning projects, various factors are considered in determining if the added reliability to an area is warranted.
- f. It would be the responsibility of the Hawaii State Civil Defense to determine the level of reliability for its operations.