
A BILL FOR AN ACT

RELATING TO ELECTRIC GRID RESILIENCY.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. Chapter 46, Hawaii Revised Statutes, is amended
2 by adding two new sections to be appropriately designated and to
3 read as follows:

4 "§46- Identification of critical infrastructure. The
5 State shall ensure that there is an adequate supply of critical
6 infrastructure in the State and that critical infrastructure can
7 continue operations in service of the public following a natural
8 disaster. The counties, in coordination with the department of
9 business, economic development, and tourism, shall be
10 responsible for the implementation of this section in a manner
11 consistent with this chapter. Each county, in coordination with
12 the department of business, economic development, and tourism,
13 shall, within one year of the effective date of Act , Session
14 Laws of Hawaii 2019:

15 (1) Develop a comprehensive list of critical
16 infrastructure in this State. Such comprehensive list
17 shall include:



- 1 (A) The name and address of each critical
2 infrastructure location;
- 3 (B) The name, telephone number, and email address of
4 at least one individual employed at the critical
5 infrastructure location in a supervisory role;
- 6 (C) The estimated capacity of each designated
7 emergency shelter, stated as the number of
8 individuals who could feasibly take refuge at the
9 designated emergency shelter during a natural
10 disaster or state of emergency; and
- 11 (D) The estimated critical load of each critical
12 infrastructure location;
- 13 (2) Determine, with respect to each critical
14 infrastructure location, the estimated number of hours
15 that the designated emergency shelter will be able to
16 continue operations following a natural disaster or
17 during a state of emergency. Such determination shall
18 consider:
- 19 (A) Each critical infrastructure location's
20 capability to store or access adequate food,
21 water, and medical supplies to serve the local



1 community that may be expected to rely on the
2 critical infrastructure following a natural
3 disaster or during a state of emergency;
4 (B) With respect to each designated emergency
5 shelter, the capability to store or access
6 adequate food, water, and medical supplies to
7 serve the estimated number of individuals who can
8 feasibly take refuge at the designated emergency
9 shelter following a natural disaster or during a
10 state of emergency; and
11 (C) Whether each critical infrastructure location has
12 sufficient access to a source of backup
13 electricity such that it will be capable of
14 supplying its critical load during an electrical
15 grid outage without significant interruption; and
16 (3) Develop, with respect to each critical infrastructure
17 location, a list of improvements that the department,
18 in coordination with the counties, considers
19 reasonably necessary to ensure that each critical
20 infrastructure location can continue operations
21 following a natural disaster or during a state of



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1 emergency. Such list of improvements shall include,
2 as applicable:
3 (A) Food and water storage equipment;
4 (B) Medical supplies and equipment to store
5 perishable medical supplies; and
6 (C) Grid resiliency improvements; provided that any
7 electricity generation technology used in such
8 grid resiliency improvements shall be consistent
9 with the renewable portfolio standards
10 established pursuant to section 269-92.

11 §46- Critical infrastructure access to electricity. (a)
12 The State shall ensure that critical infrastructure locations in
13 the State have access to adequate supplies of electricity after
14 natural disasters and during states of emergency. The counties,
15 in coordination with the department of business, economic
16 development, and tourism, shall be responsible for the
17 implementation of this section in a manner consistent with this
18 chapter. Each county, in coordination with the department of
19 business, economic development, and tourism, shall, within one
20 year of the effective date of Act , Session Laws of Hawaii
21 2019, develop a plan to ensure that each critical infrastructure



1 location has access to electricity after natural disasters and
2 during states of emergency. Such plan shall:

3 (1) Recommend grid resiliency improvements for each
4 critical infrastructure location; provided that any
5 electricity generation technology used in such grid
6 resiliency improvements shall be consistent with the
7 renewable portfolio standards established pursuant to
8 section 269-92;

9 (2) Consider potential cost savings that may result from
10 the use of grid resiliency improvements at critical
11 infrastructure locations to supply both the critical
12 infrastructure location's daily electricity needs or a
13 portion of such daily electricity needs in addition to
14 supplying the critical infrastructure's critical load
15 after a natural disaster or during a state of
16 emergency; and

17 (3) Consider and account for the increasing use and
18 importance of electricity in the fields of
19 transportation, communications, and medicine and each
20 of these field's importance to responding to natural
21 disasters and states of emergency.



1 (b) For a county with an electrically isolated community,
2 the county shall, in coordination with the department of
3 business, economic development, and tourism, within one year of
4 the effective date of Act _____, Session Laws of Hawaii 2019,
5 develop recommendations for measures to ensure access to
6 electricity in the electrically isolated community after natural
7 disasters and during states of emergency. Such plan shall:

8 (1) Include a brief statement explaining the reasons that
9 the county is an electrically isolated community; and

10 (2) Recommend specific grid resiliency improvements that
11 would allow the electrically isolated community to
12 have access to electricity in the event of a prolonged
13 outage of the electrical grid after natural disasters
14 and during states of emergency.

15 The county shall only recommend measures that are
16 consistent with the renewable portfolio standards established
17 pursuant to section 269-92.

18 The county shall consider measures capable of supplying
19 both the critical loads of critical infrastructure in the
20 electrically isolated community as well as other loads in the
21 electrically isolated community."



1 SECTION 2. Section 196-2, Hawaii Revised Statutes, is
2 amended by adding six new definitions to be appropriately
3 inserted and to read as follows:

4 "Battery storage device" means any identifiable facility,
5 equipment, or apparatus that:

- 6 (1) Is electrically connected to a critical
7 infrastructure's critical load and paired with a new
8 or existing renewable generation system;
- 9 (2) Stores electricity from its paired renewable
10 generation system via a chemical or mechanical
11 process;
- 12 (3) Delivers stored energy at a later time to the critical
13 infrastructure's critical load, an electric utility,
14 or the Hawaii electric system; and
- 15 (4) Has a storage capacity capable of supplying:
 - 16 (A) A critical infrastructure's critical load for a
17 minimum of forty-eight hours; or
 - 18 (B) The total of a critical infrastructure's average
19 daily usage for a minimum of five hours.

20 "Critical infrastructure" means police stations, fire
21 stations, hospitals, nursing homes, designated emergency



1 shelters, and such other critical infrastructure that may be
2 designated as such by the governor or other authorized official
3 pursuant to a natural disaster or state of emergency
4 designation. Critical infrastructure may include privately
5 owned property.

6 "Critical load" means the minimum load necessary for any
7 critical infrastructure to perform its essential functions
8 during a natural disaster or state of emergency.

9 "Designated emergency shelter" means any building, owned by
10 the State, a county, or a municipal government agency, that has
11 been designated by appropriate authorities as a place of
12 community refuge made available to provide temporary shelter and
13 housing to citizens during any natural disaster or state of
14 emergency as declared by the governor or other authorized
15 official.

16 "Electrically isolated community" means a rural or remote
17 community vulnerable to prolonged outages because the community
18 is served by a single distribution or transmission line, is
19 located in or surrounded by mountainous or other isolating
20 terrain, or has historically experienced frequent or prolonged
21 outages. For purposes of this definition, a prolonged outage is



1 any outage of the electrical grid lasting forty-eight hours or
2 longer.

3 "Grid resiliency" means the installation and operation of
4 electric equipment that:

5 (1) Prevents or reduces the severity of damage to the
6 electric grid from a natural disaster or state of
7 emergency;

8 (2) Enables faster recovery of normal grid operations
9 after a grid outage due to a natural disaster or state
10 of emergency;

11 (3) Maintains critical loads at critical infrastructure
12 during a grid outage due to a natural disaster or
13 state of emergency; and

14 (4) May include, without limitation, distributed energy
15 resources, battery storage devices, and microgrid
16 projects as that term is defined in section 269-46."

17 SECTION 3. Chapter 196, Hawaii Revised Statutes, is
18 amended by adding two new sections to be appropriately
19 designated and to read as follows:

20 "§196- Identification of critical infrastructure. The
21 State shall ensure that there is an adequate supply of critical



1 infrastructure in the State and that critical infrastructure can
2 continue operations in service of the public following a natural
3 disaster. The department of business, economic development and
4 tourism, in coordination with the counties, shall be responsible
5 for the implementation of this section in a manner consistent
6 with this chapter. The department shall, within one year of the
7 effective date of Act , Session Laws of Hawaii 2019:

8 (1) Develop a comprehensive list of critical
9 infrastructure in this State. Such comprehensive list
10 shall include:

11 (A) The name and address of each critical
12 infrastructure location;

13 (B) The name, telephone number, and email address of
14 at least one individual employed at the critical
15 infrastructure location in a supervisory role;

16 (C) The estimated capacity of each designated
17 emergency shelter, stated as the number of
18 individuals who could feasibly take refuge at the
19 designated emergency shelter during a natural
20 disaster or state of emergency; and



1 (D) The estimated critical load of each critical
2 infrastructure location;

3 (2) Determine, with respect to each critical
4 infrastructure location, the estimated number of hours
5 that the designated emergency shelter would be able to
6 continue operations following a natural disaster or
7 during a state of emergency. Such determination shall
8 consider:

9 (A) Each critical infrastructure location's
10 capability to store or access adequate food,
11 water, and medical supplies to serve the local
12 community that may be expected to rely on the
13 critical infrastructure following a natural
14 disaster or during a state of emergency;

15 (B) With respect to each designated emergency
16 shelter, the capabilities to store or access
17 adequate food, water, and medical supplies to
18 serve the estimated number of individuals who
19 could feasibly take refuge at the designated
20 emergency shelter following a natural disaster or
21 during a state of emergency; and

1 (C) Whether each critical infrastructure location has
2 sufficient access to a source of backup
3 electricity such that it would be capable of
4 supplying its critical load during an electrical
5 grid outage without significant interruption; and
6 (3) Develop, with respect to each critical infrastructure
7 location, a list of improvements that the department,
8 in coordination with the counties, considers
9 reasonably necessary to ensure that each critical
10 infrastructure location can continue operations
11 following a natural disaster or during a state of
12 emergency. Such list of improvements shall include,
13 as applicable:
14 (A) Food and water storage equipment;
15 (B) Medical supplies and equipment to store
16 perishable medical supplies; and
17 (C) Grid resiliency improvements, provided that any
18 electricity generation technology used in such
19 grid resiliency improvements shall be consistent
20 with the renewable portfolio standards
21 established pursuant to section 269-92.



1 §196- Critical infrastructure access to electricity.
 2 The State shall ensure that critical infrastructure locations in
 3 the State have access to adequate supplies of electricity after
 4 natural disasters and during states of emergency. The
 5 department of business, economic development, and tourism, in
 6 coordination with the counties, shall be responsible for the
 7 implementation of this section in a manner consistent with this
 8 chapter. The department shall, within one year of the effective
 9 date of Act , Session Laws of Hawaii 2019:

- 10 (1) Develop a plan to ensure that each critical
 11 infrastructure location has access to electricity
 12 after natural disasters and during states of
 13 emergency. Such plan shall:
- 14 (A) Recommend grid resiliency improvements for each
 15 critical infrastructure location; provided that
 16 any electricity generation technology used in
 17 such grid resiliency improvements shall be
 18 consistent with the renewable portfolio standards
 19 established pursuant to section 269-92;
- 20 (B) Consider potential cost savings that may result
 21 from the use of grid resiliency improvements at



1 critical infrastructure locations to supply both
2 the critical infrastructure location's daily
3 electricity needs, or a portion of such daily
4 electricity needs, in addition to supplying the
5 critical infrastructure's critical load after a
6 natural disaster or during a state of emergency;
7 and

8 (C) Consider and account for the increasing use and
9 importance of electricity in the fields of
10 transportation, communications, and medicine and
11 each of these field's importance to responding to
12 natural disasters and states of emergency;

13 (2) Develop recommendations for measures to ensure access
14 to electricity in electrically isolated communities in
15 the State after natural disasters and during states of
16 emergency. Such plan shall:

17 (A) Identify and list electrically isolated
18 communities; and

19 (B) Recommend specific grid resiliency improvements
20 that would allow electrically isolated
21 communities to have access to electricity in the



1 event of a prolonged outage of the electrical
2 grid after natural disasters and during states of
3 emergency; provided that the department:

4 (i) Shall only recommend measures that are
5 consistent with the renewable portfolio
6 standards established pursuant to section
7 269-92; and

8 (ii) Shall consider measures capable of supplying
9 both the critical loads of critical
10 infrastructure in electrically isolated
11 communities and other loads in such
12 electrically isolated communities."

13 SECTION 4. New statutory material is underscored.

14 SECTION 5. This Act shall take effect upon its approval.

15

INTRODUCED BY: Miss E. Loman

JAN 22 2019



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Report Title:

Electric Grid Resiliency; Critical Infrastructure

Description:

Requires the Department of Business, Economic Development, and Tourism, in coordination with the counties, to identify critical infrastructure locations and ensure those locations have adequate supplies of electricity during and after a natural disaster or during a state of emergency.

The summary description of legislation appearing on this page is for informational purposes only and is not legislation or evidence of legislative intent.

