



THIRTY-FIRST LEGISLATURE
REGULAR SESSION OF 2022

**Report Pursuant to Act 060,
Session Laws of Hawaii 2018**

PROFESSIONAL AND VOCATIONAL LICENSING DIVISION
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
STATE OF HAWAII

Submitted December 2021

This report is filed pursuant to Act 060, Session Laws of Hawaii (SLH) 2018, which requires the Board of Electricians and Plumbers (Board) to submit reports to the Legislature that shall include:

- (1) Any programs in the State that offer vocational training for licensed electricians to perform high voltage electrical work;
- (2) Availability of continuing education, training, or both, necessary for licensed electricians to acquire or keep current those skills related to performing high voltage work;
- (3) The number of licensed electricians in the State qualified to perform high voltage work; and
- (4) Opportunities for growth in the high voltage work subspecialty.

To address a need for individuals qualified to work with high voltage power lines, the Legislature enacted Act 065, SLH 2013, which provided a limited exemption from electrician licensing requirements for individuals employed by electrical contractors who are: (1) retained by a public utility within the State to perform high voltage work for that public utility; and (2) deemed qualified by the public utility. As the sunset date for Act 065, SLH 2013 was June 30, 2018, and the Legislature found a shortage of electricians, splicers, and linemen in the State who are qualified to work with high voltage, the passage of Act 060, SLH 2018, extended the sunset date of Act 065, SLH 2013 for an additional five years, until 2023.

In addition to extending the sunset date, the Board is required to submit reports to the Legislature no later than twenty days prior to the convening of the regular sessions of 2019, 2020, 2021, 2022, and 2023. Accordingly, the Board submits the following report for the regular session of 2022:

(1) Programs in the State that offer vocational training for licensed electricians to perform high voltage electrical work.

As of the date of this report, the following lineman apprenticeship programs are registered with the Department of Labor and Industrial Relations:

1. IBEW Local 1186 (approval date: May 6, 2013)
2. IBEW Local 1260 (approval date: July 7, 2016)
3. Hawaiian Electric Company (approval date: March 30, 1999)
4. Maui Electric Company (approval date: May 7, 1970)
5. Hawaii Electric Light Company (formerly Hilo Electric Light Company, approval date: November 1, 1967)
6. Kauai Island Utility Cooperative (approval date: June 8, 1981).

Other than the public utilities and union programs (IBEW Local 1186 and IBEW Local 1260), no other lineman apprenticeship programs are offered in the State.

The Hawaii Electricians Training Fund (HETF) has a cable splicer program that provides training in the interaction of equipment, materials, and devices dealing with National Electrical Code (NEC) systems operating up to 138,000 volts. However, this training is available only to licensed journey worker electricians who are IBEW members. Currently, no active apprentices are enrolled in the program. According to the HETF assistant training director, the HETF can enroll lineman apprentices at any time, but it currently has no requests. No other organization provides this type of high voltage training, except new or recurring manufacturers that offer training specific to their products.

(2) Availability of continuing education and/or training necessary for licensed electricians to acquire or keep current those skills related to performing high voltage work.

Other than the HETF's cable splicer program that is available only to IBEW members, in-house training for electrical utility employees, and new or recurring manufacturers training specific to their products, no continuing education or training is available to other licensed electricians to acquire or keep current skills relating to high voltage work. The Board does not track continuing education for high voltage work, as that is not a requirement to maintain a journey worker electrician license.

(3) The number of licensed electricians in the State qualified to perform high voltage electrical work.

Honolulu Community College supports two electrician apprenticeship programs: Hawaii Electricians (IBEW 1186) and Associated Builders and Contractors. Neither program includes notable coverage of voltages above 600 volts. However, the NEC, under which electricians are licensed, has articles addressing over 1,000 volt installations, including, but not limited to, the following sections:

- Article 100 General, Part II
- Article 110 Requirements for Electrical Installations, Part III
- Article 225 Outside Branch Circuits and Feeders, Part III
- Article 230 Services, Part VIII
- Article 240 Overcurrent Protection, Part IX
- Article 250 Grounding and Bonding, Part X
- Article 280 Surge Arresters over 1,000 volts
- Article 399 Outdoor Overhead Conductors over 1,000 volts

Electricians are licensed to perform work under the NEC, which covers voltages over 600 volts, and are qualified to perform this work with additional training.

“High voltage” is defined in Hawaii Revised Statutes section 448E-13(a)(2)(A):

§448E-13. Exemption of public utility and community antennae television company personnel.

- (a) The following persons shall be exempt from this chapter:
 - (1) All employees of a public utility within the State under a franchise or charter granted by the State which is regulated by the public utilities commission and community antennae television company, while so employed; and
 - (2) Employees of an electrical contractor duly licensed under chapter 444; provided that:
 - (A) Such contractor is retained by a public utility within the State under a franchise or charter granted by the State which is regulated by the public utilities commission to perform high voltage (six hundred volts or higher) electrical work for the public utility; and
 - (B) Such employees are deemed qualified by the public utility to perform such high voltage electrical work; provided further that in no circumstance shall such persons be less qualified than the public utility’s own employees that perform such high voltage electrical work.

Section 448E-13(a)(2)(A) describes high voltage for public utility electrical work as 600 volts or higher. Therefore, a licensed electrician can perform high voltage work above 600 volts, provided that the electrician has additional training.

Under Hawaii Administrative Rules (HAR) section 16-80-3, “electrical wiring” means “any electrical conductor, material, device, fitting, apparatus, appliance, fixture, or equipment, constituting a part of or connected to any electrical installation attached or fastened to any building, structure, or premises and which installation or portion thereof is designed, intended[,] or used to generate, transmit, transform, or utilize electrical energy within the scope and purpose of the National Electrical Code, as adopted by each county.” “Electrical work” means “the installation, alteration, reconstruction, or repair of electrical wiring.” Based on these definitions, the Board concludes that all currently licensed electricians, i.e., journey worker electricians, supervising electricians, journey worker industrial electricians, and supervising industrial electricians, all of which total 3,394 as of September 21, 2021, are qualified to perform high voltage work under the scope of the NEC, provided they have additional training. The HETF assistant training director stated that both the cable splicer program and the lineman apprenticeship program provide training in the interaction of equipment, materials, and devices dealing with NEC systems operating up to 138,000 volts. The minimum qualification for these training programs is licensure as a journey worker electrician. Accordingly, there is no shortage of electricians qualified to perform high voltage work with additional training. However, there may be a shortage of electricians specifically trained as linemen for public utilities.

(4) Opportunities for growth in the high voltage work subspecialty.

Contractors in Hawaii are licensed to perform high voltage work. HAR, title 16, chapter 77, Exhibit A sets forth the scope of work of each specialty contractor classification:

C-62: Pole and line contractor. To dress, ground, anchor, and erect poles that will carry high voltage (600 volts phase to phase or more) electrical wires; and to connect and string electrical wires, fixtures, and apparatus to and between the poles, including installation of pole-mounted transformers. Work shall include street and highway lighting and traffic signal systems, and the work of the C-63 high voltage electrical contractor[.]

C-63: High voltage electrical contractor. To place, install, erect, or connect any electrical wires, fixtures, appliances, apparatus, conduits, raceways, and to do trenching, backfilling, patching, and surface restoration in connection with the installation of conduits and lines which transmit, transform, or utilize electrical energy of more than 600 volts phase to phase[.]

Both the C-62 and C-63 licenses allow contractors to perform work over 600 volts, and contractors must use licensed electricians to perform any electrical work. Contractors on the Contractors License Board indicated that at a minimum, they will hire licensed journey worker electricians and send them to additional training (usually with manufacturers), the HETF's cable splicer program, and online correspondence courses provided by training providers such as Penn Foster Career School, Northwest Lineman College, and T&D Power Skills. Electricians can perform electrical work over 600 volts, but they cannot perform lineman work that is usually done by a utility. The Board of Electricians and Plumbers considers qualified journey worker licensed electricians able to perform lineman work with additional training.

Opportunities for growth in the high voltage work specialty is typically an industry issue. With newer technologies such as photovoltaic and solar wind farms, the potential for growth exists. However, because this is not a board issue, the Board has asked for the industry's input regarding this topic. According to the HETF, no apprentices are currently enrolled in the lineman apprenticeship program and there are no requests for lineman apprentices, as the lack of pole and line work available to their signatory electrical contractors from the Hawaiian Electric Company has diminished the need for lineman apprentices. The HETF also noted it can enroll lineman apprentices at any time, when the need for pole and line work is prevalent.