

BOARD OF ELECTRICIANS AND PLUMBERS
Professional and Vocational Licensing Division
Department of Commerce and Consumer Affairs
State of Hawaii

MINUTES OF MEETING

Date: Tuesday, December 16, 2014

Time: 10:30 a.m.

Place: King Kalakaua Conference Room
King Kalakaua Building
335 Merchant Street, 1st Floor
Honolulu, HI 96813

Present: Peter Akamu, Industry Member, Vice Chairperson
Matt Brady, Industry Member
Randal Hiraki, Industry Member
Phillip Lucero, Industry Member
Randall Kaya, Public Member
Vernon Ta'a, Public Member
Rodney J. Tam, Deputy Attorney General
Christine Rutkowski, Executive Officer
Christine Hironaka, Secretary

Excused: None.

Guests: Shannon Alivado – General Contractors Association
Jim Cahill – Solar City
Leslie Cole-Brooks – Hawaii Solar Energy Association (“HSEA”)
Thomas Hall - SSG
Dustin Hoskins – Solar City
Al Itamoto – Electrical Contractors Association of Hawaii (“ECAH”)
Peter H.M. Lee - Hawaii Laborers Employers Cooperation & Education
Trust (“LECET”)
Eduardo Manuel – Solar City
Joe Saturnia – Island Pacific Energy
Troy Silva – Hawaii Electricians Market Enhancement Program
 (“HEMEP”)
Ryan Takahashi – HEMEP

Agenda: The agenda for this meeting was filed with the Office of the Lieutenant Governor, as required by section 92-7(b), Hawaii Revised Statutes (“HRS”).

Call to Order: There being a quorum present, Vice Chairperson Akamu called the meeting to order at 11:40 a.m.

Additions/
Revisions to
the Agenda:

None.

Approval of
the Minutes:

Vice Chairperson Akamu asked the Board members if there are any amendments to the minutes of October 21, 2014. Mr. Ta'a responded that on page 2, first paragraph, the minutes should reflect "...to defer the approval of the minutes of the August 19, 2014 Board meeting to the December 16, 2014 meeting." It was moved by Mr. Brady, seconded by Mr. Kaya, and unanimously carried to approve the minutes of the August 19, 2014 meeting and the October 21, 2014 meeting as amended in the December 16, 2014 meeting minutes.

Executive Officer's
Report

- a. 2015 Legislation

The Executive Officer asked the guests to please inform the Board if they are aware of any 2015 legislation that will affect HRS Chapter 448E.

Examinations:

- a. The Executive Officer distributed the following results of the Electricians' and Plumbers' examination:

Electricians' Exam (administered November 2014)

	<u>EJ</u>	<u>ES</u>	<u>EJI</u>	<u>ESI</u>	<u>EJS</u>	<u>ESS</u>	<u>EM</u>
Exams Administered	30	9	0	0	0	0	1
Successful	19	6	0	0	0	0	1
Unsuccessful	11	3	0	0	0	0	0

Applications:

It was moved by Mr. Kaya, seconded by Mr. Brady, and unanimously carried to approve to **approve/defer/deny** the following applications as noted.

- a. ELECTRICIANS

1. Journey Worker Electrician ("EJ") – Approved

ADKINS, Ernest
CHING, Jayson
HARIHARAN, Anand K.
HASHIMOTO, Kaohu
HO, Bronson
LANG, Cory
MALCZEWSKI, Benjamin
MEANS, Richard P.
PEARSON, Mark
PEDRINA, Justin
PENTON, Jeffery

REES, Jacob
WILSON, Robert

2. Supervising Electrician (“ES”) – Approved

EMSLEY, Allen
HURWITZ, Jason
NAKAMURA, Kelly
STOUT, Timothy
WARREN, Robert

3. Journey Worker Industrial Electrician (“EJI”) - Approved

None.

4. Supervising Industrial Electrician (“ESI”) - Approved

None.

5. Journey Worker Specialty Electrician (“EJS”) - Approved

None.

6. Supervising Specialty Electrician (“ESS”)

None.

7. Maintenance Electrician (“EM”)

AGUSTIN, Anthony

b. PLUMBERS

1. Journey Worker Plumber (“PJ”) – Approved

CAMARA, Charles
HAZZARD, Cooper
KNIGHT, Kristopher
LOW, Charlsen
LUM, Robinson
MARTIN, Gregory
RAMOS, Nicholas
RYDER, Brandon
SPROAT, Gaman
TSUKAMOTO, Kyle

2. Master Plumber (“PM”) – Approved

SILVA, Bryson

c. DEFERRED APPLICATIONS

NUSSBAUM, Daniel (EJ)
POLLARD, Barton (EJ)
SHIMAOKA, Kaleolani (EJ)
STAMM, Joshua (PJ)

d. DENIALS

None.

e. RENEWALS

None.

f. RATIFICATION

It was moved by Mr. Kaya, seconded by Mr. Brady and unanimously carried to ratify the approval of the following application and date of approval:

Journey Worker Electrician (EJ) – 10/21/14

GUECK, Steven
ILDEFONSO, Matthew
NISHIMURA, Scott
PAVAO, Shawn
VELLALOS, Jeremy

Supervising Electrician (ES) – 10/21/14

DASCOULIAS, Nicholas

Journey Worker Plumber (PJ) – 10/21/14

GLIDEWELL, Dusky

Mr. Kaya left the meeting at 11:23 a.m.

Unfinished
Business:

a. Proposed Rule Revisions - HAR Title 16 Chapter 80, "Electrical Work" as pertains to Photovoltaic installations.

The Executive Officer asked the Board and guests for comments on the October 20, 2014 Hawaii Solar Energy Association ("HSEA") recommended amendments to the informal interpretation adopted by the Board on April 15, 2014 and comments submitted by Leslie Cole-Brooks as follows:

SOLAR PHOTOVOLTAIC SYSTEMS

This general interpretation would apply to all types of solar PV systems:

- (a) For solar photovoltaic systems, a licensed journey worker electrician or supervising electrician shall be required to:
 - (1) Perform all bonding and grounding work on such systems, ~~(including but not limited to WEEBs or Washer, Electrical Equipment Bonding)~~; (excluding WEEBs or other types of wireless, integrated, or plug type bonding);

Photovoltaic Installations Significantly Simplified and Improved

On October 14, 2009, BEP issued an informal interpretation that stated that once there is any grounding to be done with regards to PV installation, it must be performed by and EJ or ES. HSEA contends that due to considerable improvements in PV equipment and installation, this 2009 decision should be reexamined and should not be used as a basis upon which BEP continues to define the scope of work for PV installation through its informal interpretation issued April 15, 2014. Listed below are several key improvements that highlight the potential inapplicability of the 2009 decision, and a need to update installation regulations that reflect current improvements in technology.

Wireless WEEB Clips: in the past, panels were grounded to the rack by stringing a wire from panel to panel, a time consuming process which left wires exposed on the roof. Now, panels can be grounded to the rack via a WEEB clip. WEEB clips have no wires, are specifically engineered to fit onto the rack, and may only be installed in one direction. WEEB clips have been a considerable improvement in efficiency and safety in PV installation.

“Touch Safe” Panel Connections: in the past, panels were connected by wiring in an array. This is no longer the case. Now, all connections made between panels and inverters are made with “touch-safe” plugs. These plugs have no exposed wires, and have male/female connections so that they may be connected only one way. Plugging a panel into an inverter, for instance, is as simple as plugging in a home appliance. The same applies to plugging in inverters to each other—all connections are “touch safe.”

Integrated Grounding and Bonding: some panels come with grounding and bonding already integrated into the panel, which eliminates the extra step of bonding the panel to the rail or connecting the inverter to the panel.

No-Export Inverters: although PV panels are energy products that produce electricity, once connected to the inverter with a touch-safe plug, the inverter, under UL listed code, will not allow any electricity to be exported until the array is connected to a power source (the electrical grid). Thus, the array does not export power until the electrician connects the array to the junction box.

Therefore, HSEA believes that the 2009 informal ruling and the subsequent April 15, 2014 informal ruling on grounding and bonding with respect to PV installation does not reasonably reflect subsequent changes in PV technology. Of course, the EJ or ES is still involved in the PV installation, as he connects the grounding wire and connects the array to the junction box.

Dustin Hoskins from Solar City brought some WEEB samples and informed the Board that WEEB clips or wireless bonding and grounding are for one time use and testing of the WEEB clips is done by a licensed electrician. DAG Tam asked if a copper wire is used for each array. Mr. Hoskins responded that each panel is individually grounded. Mr. Brady asked "What would cause corrosion of the WEEB clips?" Mr. Hoskins replied that corrosion may occur if the clips were not made of stainless steel or old hardware. Mr. Brady also asked if all the equipment and models were UL listed. Mr. Hoskins informed the Board that the modules and standing systems are UL listed.

Mr. Itamoto stated that exempting the photovoltaic industry from having a licensed electrician perform all bonding and grounding work is dangerous because it may be applied to all types of bonding and grounding work.

It was moved by Mr. Kaya, seconded by Mr. Ta'a and unanimously carried to defer comment on the HSEA proposed amendment to the Board's informal interpretation until the Board is able to review the comments and proposed amendment.

Executive Session:

It was moved by Mr. Brady, seconded by Mr. Hiraki, and unanimously carried to enter into executive session pursuant to HRS sections 92-4 and 92-5, to consult with the Board's attorney on questions and issues pertaining to the Board's powers, duties, privileges, immunities and liabilities at 11:38 a.m.

EXECUTIVE SESSION

It was moved by Mr. Brady, seconded by Mr. Hiraki, and unanimously carried to reconvene to the Board's regular order of business at 12:45 p.m.

It was moved by Mr. Lucero, seconded by Mr. Brady, and unanimously carried not to accept the recommended amendments submitted by the HSEA to the informal interpretation adopted by the Board on April 15, 2014. The following is in response to the key improvements listed as reasons why the Board should update the installation regulations that reflect current improvements in technology:

1. Wireless WEEB clips are part of the bonding and grounding process and is electrical work.
2. "Touch Safe" connections require electrical work.
3. No license is required if the bonding and grounding is already integrated.
4. Electrical wiring is required for No-Export Inverters.

Vice Chairperson Akamu stressed that the Board's authority is granted to it under HRS Chapter 448E. He added that HRS Section 444-9.5, the Contractor's Licensing Law, provides a ratio of licensed to unlicensed electrical workers and plumbing workers; this may be a matter for the solar industry to consider.

DAG Tam informed the guests that the Board will start the formal rule making process that includes sending the proposed amendments to different State agencies for review and comments; and finally to the Governor for permission to hold a public hearing.

Act 35, SLH (2010)
Update Regarding
Electrical Academic
Coursework:

- a. University of Hawaii Honolulu Community College Approved Curricula.
 - IBEW Local 1186 Hawaii Electrician Training Fund IE-J
 - North Seattle College Electrical Training Program

The Executive Officer informed the Board and guests that the list of University of Hawaii Honolulu community College approved curriculums are on the Board's website under Important Announcements.

Announcement:

- a. Next Applications Committee Meeting

Tuesday February 10, 2015
9:30 a.m.
King Kalakaua Conference Room
335 Merchant Street, 1st Floor
Honolulu, HI 96813

b. Next Board Meeting

Tuesday, February 10, 2015
10:30 a.m.
King Kalakaua Conference Room
335 Merchant Street, 1st Floor
Honolulu, HI 96813

Adjournment: There being no further business to discuss, the meeting was adjourned at 12:58 p.m.

Review and approved by:

Taken by:

/s/Christine Rutkowski
Christine Rutkowski
Executive Officer

/s/Christine Hironaka
Christine Hironaka
Secretary

CR:ch

Minutes approved as is.

Minutes approved with changes; see minutes of _____