

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

MINUTES OF MEETING

Date: Tuesday, October 15, 2013

Time: 10:30 a.m.

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

Present: Lindsey Kimura, Public Member, Chairperson  
Peter Akamu, Industry Member, Vice Chairperson  
Matt Brady, Industry Member  
Randal Hiraki, Industry Member  
Morris Kaneshiro, Industry Member  
Randall Kaya, Public Member  
Vernon Ta'a, Public Member  
Rodney J. Tam, Deputy Attorney General  
Charlene L.K. Tamanaha, Executive Officer  
Christine Rutkowski, Executive Officer  
Christine Hironaka, Secretary

Excused: None

Guests: Brian Achong – Greenpath Technologies, Inc.  
Roger Acosta – RA's Electric  
Guy Akasaki – Commercial Roofing Hawaii/Greenpath Tech.  
Shannon Alivado – General Contractors Association  
Curtis Anderson – American Electric  
Wayne Asam – Greenpath Technologies, Inc.  
John Berdner – Enphase Energy, Inc.  
Dan Black – Vivint Solar  
Roger Bungcayao – Roger's Electric  
Jim Cahill – Solar City  
Kaleo Chang – Walter's Electric  
Kam Ching  
Rodney Chong – Department of Planning & Permitting (“DPP”) Inspector  
Leslie Cole-Brooks – Hawaii Solar Energy Association (“HSEA”)  
Roy DeLyon – MNU Energy  
Toni Figueroa – Laborer's Local 368  
Darren Furumoto – Risoruce Energy  
Robert Fusco – DPP Inspector  
Thomas Hall – Solar Specialty Group (“SSG”)  
Ron Hooson – Solar Inspectors Hawaii  
Ray Hose' – American Electric  
Glenn Ida – Plumbers Union Local 675

David Jones – Sunetric  
Aaron Kirk – Sunetric  
Peter Lee – Hawaii Laborers Employers Cooperation & Education Trust  
    (“LECET”)  
Keali’i Lopez – Director, Department of Commerce & Consumer Affairs  
Daria Loy-Goto – Regulated Industries Complaints Office (“RICO”)  
Ryan McCauley – Tritium 3  
Cindy McMillan – PRP  
David Meloney – Just Electric  
Paul Mikami – DPP Inspector  
Terrance Ng – Tri Electric  
James Perreira – C & J Solar Solution  
Gary Ralston – Hawaiian Island Solar  
Rick Rapozo  
Rick Reed – Inter-Island Solar Supply  
Gregg Serikaku – Plumbing and Mechanical Contractors Association  
    (“PAMCA”)  
Roland Shackelford – Renewable Energy Services  
Michael Shizuru – Shizuru Electric  
Jamie Skenderian – SolarWorld  
James Sparkman – Mercury  
Ryan Takahashi – Hawaii Electricians Market Enhancement Program  
    (“HEMEP”)  
Leonard Tanaka – T & T Electric Inc.  
Maurice Torigoe – M. Torigoe Plumbing  
Russ Winkleman – Sunetric/HSEA  
Andrew Yani – Bonterra Solar  
Jon Yoshimura – Solar City  
Gerald Yuh – Capital Electric

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 10:40 a.m.

Additions/  
Revisions to  
the Agenda: It was moved by Mr. Kaya, seconded by Mr. Brady and unanimously carried to approve the following additions and deletions to the agenda:

Introduction of New Board Member – Delete

Applications – Addition

a. ELECTRICIANS

1) Journey Worker Electrician ("EJ")

ALMEIDA, Eric A  
ARISTA, Charles N  
BAUMGART, Mark  
CASTILLO, John  
EGDAMIN, Brandon K  
MCDONALD, Dan  
MOMOHARA, Jason K  
NAWATANI, Stanley S  
SELLEN, Anthony  
SHIMABUKURO, Kyle  
TAKEKAWA, Travis G K  
ULU, Joshua F  
WILLIAMS, Marcel  
YOSHIKAWA, JR, Rodney S

2) Supervising Electrician ("ES")

NIEDERER, William A  
PLZAK, Curtis J

3) Journey Worker Industrial Electrician ("EJI")

QUEJA, Rolando, S

b. PLUMBERS

1) Journey Worker Plumber ("PJ")

ARADANAS, Randy  
COBAR, Dennis S  
DUNLAP, Roy  
KIM, Jason  
MACKENZIE, Kevin J  
ONAGA, Brian T  
REYES, Leighton K  
SILVA, Latin R N

2) Master Plumber ("PM")

TAYLOR, Jarrad T

Approval of  
the Minutes:

It was moved by Mr. Kaya, seconded by Mr. Brady and unanimously carried to approve the minutes of the August 6, 2013 Board meeting as circulated.

Executive Officer's  
Report

- a. Introduction of Christine Rutkowski, Interim Executive Officer assigned to the Board.

The Executive Officer introduced Christine Rutkowski as the interim Executive Officer assigned to the Board of Electricians and Plumbers. Ms. Rutkowski has been with the Department of Commerce and Consumer Affairs for 30 years and has 13 years of experience as an executive officer. Ms. Tamanaha advised the Board of her new position as the Supervising Executive Officer, and explained that while she will not be directly involved with the daily operations of the Board, she will be closely working with Ms. Rutkowski in her supervisory capacity.

- b. 2014 Meeting Schedule

The 2014 Meeting Schedule was distributed to the Board members. The meeting dates for 2014 are as follows:

February 11  
April 15  
June 17  
August 19  
October 21  
December 16

Dates are always subject to change based upon Board member availability.

- c. OIP – Quick Review: Who Board Members Can Talk To and When

The Executive Officer explained that the Quick Review helps Board members understand what they can talk about outside meetings and with whom. She asked members to please review the three-part series.

- d. Ethics Advisory 2013-03: Board Member Applying for Position Selected, Hired or Otherwise Subject to Approval by the Board.

The Executive Officer reported that the advisory is from the Hawaii State Ethics Commission informing Board members that the Commission construes the fair treatment provision to prohibit per se, a Board member from applying for a position to be hired, selected or approved by the Board while he or she is serving on the Board. Further, the provision requires a Board member to resign from the board no later than when he decides to apply for a position that is hired, selected or approved by the board.

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

Electricians' Exam (administered September 2013)

	<u>EJ</u>	<u>ES</u>	<u>EJI</u>	<u>ESI</u>	<u>EJS</u>	<u>ESS</u>	<u>EM</u>
Exams Administered	64	11	2	0	22	0	2
Successful	46	5	2	0	16	0	1
Unsuccessful	18	6	0	0	6	0	1

Plumber's Exam (administered September 2013)

	<u>PJ</u>	<u>PM</u>
Exams Administered	21	2
Successful	11	1
Unsuccessful	10	1

**Chairperson Kimura joined the meeting at 10:48 a.m. and announced he was taking the agenda out of order to address the Hawaiian Electricians Market Enhancement Program ("HEMEP") letter.**

Scope: c. Hawaii Electricians Market Enhancement Program letter regarding Photovoltaic Installations and Scope of Work for Journey Worker Specialty Electrician (Deferred from the August 6, 2013 meeting).

Chairperson Kimura stated that the Board was asked to determine if the entire photovoltaic installation should be done by a licensed electrician.

Ryan Takahashi of HEMEP reiterated that at the last meeting he reminded the Board that in 2009 the Board determined that any grounding and bonding must be performed by a licensed electrician. Mr. Takahashi also stated that many companies are not doing this because of lack of enforcement and with his conversations with RICO, there seems to be a misunderstanding of the 2009 decision. Mr. Takahashi stated that he was disappointed in Deputy Attorney General Tam's statement that the C-60 contractors would be put out of business because that is not his intent. He merely wants C-60s to be in compliance with HRS 448E. He feels the issue is bigger than just an enforcement problem and is requesting that the Board be explicit in its explanation that photovoltaic installations should be performed by persons licensed in accordance with HRS 448E. The definition of electrical wiring is already defined in the Hawaii Administrative Rules and a photovoltaic system clearly fall within that definition.

Mr. Takahashi held up 2 poster boards with the following information that he felt supported his argument that a photovoltaic system falls within the definition of "electrical work" and "electrical

wiring” and therefore requires a licensed electrician to perform the work.

A photovoltaic system (informally, PV system) is an arrangement of components designed to supply usable electric power for a variety of purposes, using the Sun (or, less commonly, other light sources) as the power source.

A photovoltaic array (also called a solar array) consists of multiple photovoltaic modules, casually referred to as solar panels, to convert solar radiation (sunlight) into usable direct current (DC) electricity. A photovoltaic system for residential, commercial, or industrial energy supply normally contains an array of photovoltaic (PV) modules, one or more DC to alternating current (AC) power converters (also known as inverters), a racking system that supports the solar modules, electrical wiring and interconnections, and mounting for other components.

#### **HAWAII ADMINISTRATIVE RULES §16-80-3 DEFINITIONS**

“Electrical work” means the installation, alteration, reconstruction, or repair of electrical wiring.

“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 of and purpose of the National Electrical Code, as adopted by each county.

Rick Rapozo, stated that he has 26 years of experience as a licensed electrician and has been the lead electrician on hundreds of photovoltaic installations within the last 3 years. He said he only does a portion of the work and most of the time he is not present during the installations. The problem has increased during the last 7-8 months where he is constantly being sent back to completed jobs to troubleshoot installation problems. The problems are often not in his control and when the contractor fixes one problem, another problem is created. A common complaint is that the breaker is malfunctioning but in actuality the problem is with the wiring of the panels. Chairperson Kimura asked Mr. Rapozo “How many times has this occurred?” Mr. Rapozo responded 20-25 times out of 1,000 jobs.

Mr. Akamu asked the City and County inspectors, “During an electrical inspection, if a deficiency is found in the system, who does the inspector call?” Mr. Fusco responded, “The C-13 contractor”. Mr. Hiraki asked if the permit is then pulled. Mr.

Fusco responded that the job is usually done before the permit is even issued.

Jon Yoshimura presented a video on the installation process used by Solar City. He stated that Solar City tries to make the installation safe and easy and that there may be other variations of the process. However the Board can get an idea of the installation process. He added that Solar City supports the status quo whereby the electrician performs the grounding and bonding and those who drop/install the panels are not licensed electricians.

Chairperson Kimura requested that Mr. Yoshimura pause his video and asked the guests for more information on micro inverters. Ralph Kriss stated that the UL listed inverter system will not put out power until wired to the house. No bonding or grounding is required until all the panels are connected at the end of the rail. A licensed electrician is required but there are many parts of the installation that does not require licensed electricians. The inverter must be hooked up with the house power. It is all "plug and play".

Gerald Yuh, licensed electrician and contractor, formerly with the IBEW added that the "plug and play" system is an independent power generating system that generates 7 – 8 amps of electricity and that only a contractor with a C-13 license is allowed to pull permits for photovoltaic systems. A contractor with a C-60 license is not licensed to pull the electrical permit and to employ licensed journey worker electricians.

James Sparkman responded that a contractor with a C-60 or C-61 license can currently pull permits under the scope of the C-60. The scope of his license allows him to assemble and install photovoltaic panels, batteries, controls and related low voltage DC wiring.

John Berdner from Enphase Energy, expert to the International Electrotechnical Commission ("IEC") added that micro inverters are safe to the touch and has no exposed voltage, are internally grounded, outdoor rated and are like any home plugs. A journey worker electrician is required for any modification of cable termination. If no modifications are required, unlicensed workers are able to install the system because it's plug and play.

Jon Yoshimura added that most of the work is roof work and a C-13 contractor later connects the power.

Aaron Kirk from Sunetric stated that his company hires licensed electricians to do the electrical work and roof installers to avoid the liability of leaky roofs. Safety is their number one priority and the electrician does the work from the junction box.

Ryan Takahashi informed the Board that the Massachusetts Board of State Examiners of Electricians only allows licensed electricians to install racks and panels.

Andrew Yani from Hawaii Solar Energy Association and Bonterra Solar said his company hires several contractors. There was no licensed electrician on his own roof during the installation process. Will there be enough licensed electricians and C-13 contractors on roofs and do they want to be there?

Mr. Ta'a requested that Mr. Yoshimura continue his video presentation and Mr. Yoshimura completed his presentation.

Rodney Chong, DPP electrical inspector stated that every time a panel is attached grounding and bonding occurs. He added that 95% of contractors now use rails and grounding should be done by licensed electricians. Mr. Hiraki asked the inspectors "How do you inspect sockets?" Mr. Chong responded "We cannot inspect all the sockets or work." Mr. Kriss opined that the C-60 or C-61 contractor will install rails and modules for the C-13 contractor. Not many C-13 contractors want to do roof work. He feels if the Board sticks with the current position that grounding or bonding requires a licensed journey worker electrician it will cover all types of installations, systems, and new technology.

Kaleo Chang from Walter's Electric, Inc. asked "What stops installers from being properly licensed?" A licensed C-60 contractor said that he is licensed to do photovoltaic installations and that he is under the impression that the Contractors License Board licenses C-60 contractors to do electrical wiring. The Executive Officer stated that this is incorrect and only C-13s with licensed journey worker electricians can perform the electrical work required and the Board has no jurisdiction over the scope of work of a C-60 which is determined by the Contractors License Board.

Jamie Skenderian from Solar World informed the Board that his company monitors the installation program and for the rack based system, the C-13 contractor comes in after the C-60 contractor installs the racks on the roof. Bonding and grounding is not an issue since manufacturers have created weeb clips. The photovoltaic industry is made up of both C-13 and C-60 and it should remain as is.

David Lovelace, former instructor for IBEW informed the Board that the weeb clips should be installed by a licensed electrician because if the clips are not installed correctly, there may be a safety issue and that grounding and bonding is addressed in the NEC.



Ray Hose', president of American Electric added that this is clearly work for the C-13 and journey worker electricians and should be doing all the electrical work for an electrical generating system.

Roland Shackelford of Renewable Energy Services informed the Board that on Hawaii island he could not find C-13 contractors to do installations. His workers train the licensed journey electricians on the photovoltaic installation. The C-60 contractor would install the systems on the roof by doing the mechanical bolting of the rails and the C-13 contractor would do the bonding connection.

Andrew Yani, President of the HSEA Board of Directors informed the Board that HSEA represents up to 70 companies and that installation is not a practice of electricians and that the C-60 contractor would be liable if he does not hire a licensed C-13 contractor. Leslie Cole-Brooks, Executive Director of HSEA stated that the 32,000 photovoltaic systems that generate 237 megawatts of energy has an excellent safety record and that it would have a major financial impact on the industry and consumer if the scope for the C-60 contractor is reduced.

Chairperson Kimura reminded all that the safety issue is the topic of concern with regard to photovoltaic system installations.

Mr. Kaneshiro asked "How often does the grounding issue change in the code?" Paul Mikami, DPP inspector responded that the code is reviewed every 3 years.

Roland Shackelford stated that C-60 contractors must also attend specific training for equipment and system installations.

Deputy Attorney General Tam asked if anyone has been injured from any photovoltaic system installation. David Meloney of Just Electric said he knew of a home that caught fire due to roofing that penetrated a wire. Someone stated that roof penetrations are subject to the inspection process and there are electricians who don't know how to install photovoltaic systems and that he would prefer a contractor with a C-60 license to do the installation. Kam Ching from Walter's Electric said that he was not trained by a C-60 contractor but was self-trained by attending seminars put on by distributors and that the C-13 contractor is responsible at the end of the job.

Guy Akasaki, board member of the Contractors License Board said that there have been many changes in the photovoltaic industry in the last 10 years. For instance, Suntech went out of business and is now back and technology has changed so much that there are now photovoltaic systems that are now part of the

roofing membrane. The C-60 contractor can do the installation of the racking but the C-13 contractor must do the bonding and grounding. There are tremendous changes in the industry. There are new items such as photovoltaic systems in the glass panes of windows. Guy Akasaki added that the roof becomes the racking system. New technology will add other trades to the mix, however the demarcation of electrical work that requires a journey worker electrician is the grounding and bonding.

Ben Parish from Eco Solar stated that data sheets state that qualified personnel must do the installation.

Maurice Torigoe added that the different trades must work together. The C-60 contractor can do certain portions and a C-13 is required to do the wiring.

Mr. Ta'a thanked all the guests for their testimonies because as a consumer he is very concerned about the safety issue in the installation process and needs to fact find to be able to opine on this matter.

Executive Session: It was moved by Mr. Brady, seconded by Mr. Kaneshiro, 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 12:37 p.m.

#### **EXECUTIVE SESSION**

It was moved by Mr. Kaneshiro, seconded by Mr. Brady, and unanimously carried to reconvene to the Board's regular order of business at 2:15 p.m.

Due to time constraints and the departure of Mr. Kimura, Mr. Kaya and Mr. Ta'a at 2:15 p.m., the discussion regarding the HEMEP letter will be continued on:

Tuesday, November 5, 2013  
9:30 a.m.  
King Kalakaua Conference Room.

**Vice Chairperson Akamu announced that he was returning to the order of the agenda.**

Scope: a. Pono Home letter asking if a license is needed to check/diagnose leaks in toilets, faucets, showers, and landscaping. (Deferred from the August 6, 2013 meeting)

The Board reviewed the inquiry as to whether a plumber's license is required to check for leaks in toilets, faucets, showers or to

change showerheads and faucet aerators to more water efficient models.

It was moved by Mr. Brady, seconded by Mr. Kaneshiro and unanimously carried that based solely on the information provided in the letter that a plumber's license is not required to check for leaks in toilets, faucets and showers nor is it required to change showerheads or faucet aerators.

b. Email from John Sorrell regarding hiring and training unlicensed workers to install wireless alarm systems.

The Board reviewed the alarm systems presented in the email to determine whether a journey worker specialty electrician's license is required for installation

It was moved by Mr. Kaneshiro, seconded by Mr. Brady and unanimously carried that based solely on the information provided in the email, the Board reaffirms its April 12 and August 16, 2011 determinations that an electrician's license (i.e., a journey worker specialty ("EJS"), supervising specialty ("ESS"), journey worker industrial ("EJI"), supervising industrial ("ESI"), journey worker ("EJ") or supervising electrician ("ES")) is required (even if its one wire) to hard wire/connect the wiring on the control panel/keypad, terminal/transformer of a residential fire/burglar alarm system.

d. Tritium 3 letter asking if a licensed electrician is required to perform maintenance and repairs on photovoltaic inverter systems.

It was moved by Mr. Kaneshiro, seconded by Mr. Brady and unanimously carried to defer the Tritium 3 letter asking if a licensed electrician is required to perform maintenance and repairs on photovoltaic inverter systems.

**Vice Chairperson Akamu announced that he was taking the agenda out of order to address Unfinished Business.**

Unfinished Business: a. Rule Revisions

i. Local 675/PAMCA Proposal to Amend HAR §§16-80-2 and 16-80-3 (deferred from the June 18, 2013 meeting).

Shannon Alivado respectfully requested that the Board remove this agenda item as it is false notice to the public.

The Executive Officer informed the Board and members of the public that this item, if removed, may always be added back if the proponents have something to present to the Board.

It was moved by Mr. Kaneshiro, seconded by Mr. Akamu and unanimously carried to remove this item from the agenda until such time the proponents have something to present to the Board.

b. Proposed 2014 Legislation

None.

c. Act 35, SLH 2010

The Executive Officer reported that the University of Hawaii Community College has reviewed the course outlines and curriculum overview to assure minimum compliance under HRS chapter 448E-5 and that the following have addressed the appropriate program of study:

- North Alabama Electrical Joint Apprenticeship and Training Committee (JATC)
- Pacific Electrical Contractors Association Hawaii Electrical Works (PECA-HEW) Training Fund

The Executive Officer informed the Board that she received notification from the IBEW that they will submit the national JATC training curricula for approval by the Honolulu Community College. Applicants must still provide verification of their OJT hours (5 years and 10,000 hours).

Other Business: a. RICO's Electricians and Plumbers Advisory Committee list and Addendum Language for the 2014 term.

It was moved by Mr. Brady, seconded by Mr. Hiraki and unanimously carried to approve to accept RICO's Electricians and Plumber Advisory Committee list and Addendum Language for the 2014 term as follows:

Robert M. Fernandez  
Tracy M. Hayashi  
Richard J. Jose  
Damien T.K. Kim  
Harold P. McDermott Jr.  
Paul Y. Mikami  
Alan M. Nakamura  
Ray Y. Shimabuku  
Steve T. Watanabe

The RICO Electricians & Plumbers Advisory Committee List also includes any additional interim appointees that RICO deems necessary to aid in its investigations.

**Vice Chairperson Akamu announced that he was returning to the order of the agenda.**

Applications:

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

a. ELECTRICIANS

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

ALMEIDA, Eric A  
APPLETON, Matthew  
ARISTA, Charles N

BALCHOWSKY, Max A - The Board felt the applicant qualifies for an EJ license and has approved the applicant to sit for the EJ examination, however deferred the applicant's application for an ES license.

BAUMGART, Mark

CARR, Michael J - The Board felt the applicant qualifies for an EJ license and has approved the applicant to sit for the EJ examination, however deferred the applicant's application for an ES license.

CASTILLO, John  
CHRISTMAN, John  
D'ALESSIO, Joseph  
DAQUIP, Dennis A  
EGDAMIN, Brandon K  
FONTANILLA, Alex  
KADEKAWA, Jon C  
KAJIHIRO, Brandon K  
KAM, Chad K  
KAMARK, Renny S  
KAWAMOTO, Kevin A

KLEIN, Daniel F – The Board felt the applicant qualifies for an EJ license and has approved the applicant to sit for the EJ examination, however deferred the applicant's application for an ES license.

KNAPPENBERGER, Loren L T  
LANHAM, Roy E  
LEAVY, Anthony L  
MCDONALD, Dan  
MOMOHARA, Jason K  
NAKATA, Davyne K

NAWATANI, Stanley S  
NIEDERER, William A - The Board felt the applicant qualifies for an EJ license and has approved the applicant to sit for the EJ examination, however deferred the applicant's application for an ES license.

RAPOSAS, Ronald T  
RUTHERFORD, Andrew K  
SELLEN, Anthony  
SEMEATU, Steve P  
SHIMABUKURO, Kyle  
TAHERE, Francis K  
TAKEKAWA, Travis G K  
TALBOTT, Thomas L  
UDANI, Maurice U  
UDARBE, Joel A  
ULU, Joshua F  
WILLIAMS, Marcel  
YOSHIKAWA, JR, Rodney S

2. Supervising Electrician ("ES") – Approved

FISK, Dennis M  
MERRITT, II, Randal C  
OSTATNIK, Thomas  
PLZAK, Curtis J  
SMITH, Kenneth  
SMITH, Kevin

3. Journey Worker Industrial Electrician ("EJI") - Approved

QUEJA, Rolando S

4. Supervising Industrial Electrician ("ESI") - Approved

None

5. Journey Worker Specialty Electrician ("EJS") - Approved

CABO, JR., Dominador  
JACKS, Michael A  
LAO, Nhan T  
LEONOR, Leonardo B  
MURAKAMI, Kevin  
SIMPSON, Johnathan C  
SOUZA, Justin  
YOSHINAKA, Derrick T

6. Maintenance Electrician (“EM”)

FUKUDA, Galen K  
GELACIO, Mark D  
MABON, Corbin D

b. PLUMBERS

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

ARADANAS, Randy  
BAILEY, Fred  
BISHOP, Robert  
COBAR, Dennis S  
DIVAN, Cody W  
DOAKES, Daniel  
DUNLAP, Roy  
GIBBONEY, Bobby  
GRAFFIS, Richard H  
HEATH, Daniel M  
HERRERA, Alvaro  
JUGAS, Nathan A  
KAMAKAIWI, Ralph  
KEPHART, Kevin L  
KIM, Jason  
MACKENZIE, Kevin J  
ONAGA, Brian T  
RACODIO, JR., Paul D  
RENTAS, Miguel A  
REYES, Leighton K  
SILVA, Latin R N  
TSUDA, Colin Y

2. Master Plumber (“PM”) – Approved

BIDDLE, Samuel  
FORREST, Everett O  
FURMAN, Carl H  
TAYLOR, Jarrad T

c. DEFERRED APPLICATIONS

BALCHOWSKY, Max A (ES)  
CARR, Michael J (ES)  
CLARK, Nicholas (EJ)  
KLEIN, Daniel F (ES)  
KLEIN, Wesley S (EJ)  
NIEDERER, William A (ES)  
ROLDAN, Kevin D (PJ)

d. DENIALS

None.

e. RENEWALS

None

f. RATIFICATION

None

g. RESTORATION

Journey Worker Plumber – Deferred

NALUAI, Derek

The Board recessed the meeting at 3:00 p.m. and will reconvene on Tuesday, November 5, 2013 at the King Kalakaua Conference Room at 9:30 a.m. The meeting was recessed to give the Board more time to review the photovoltaic installation testimonies.



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

MINUTES OF THE CONTINUED OCTOBER 15, 2013 MEETING

Date: Tuesday, November 5, 2013

Time: 9:00 a.m.

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

Present: Lindsey Kimura, Public Member, Chairperson  
Peter Akamu, Industry Member, Vice Chairperson  
Matt Brady, Industry Member  
Randal Hiraki, Industry Member  
Morris Kaneshiro, Industry Member  
Randall Kaya, Public Member  
Vernon Ta'a, Public Member  
Rodney J. Tam, Deputy Attorney General  
Charlene L.K. Tamanaha, Executive Officer  
Christine Rutkowski, Executive Officer  
Christine Hironaka, Secretary

Excused: None

Guests: Guy Akasaki – Commercial Roofing Hawaii/Greenpath Tech.  
Shannon Alivado – General Contractors Association  
Jim Cahill – Solar City  
Aaron Cates – Sunetric  
Bill Chang – C&C Inspector  
Leslie Cole-Brooks – Hawaii Solar Energy Association ("HSEA")  
Curtis Crabbe  
Chris DeBono – Hawaii Energy Connection  
Darren Furumoto – Resource Energy  
Robert Fusco – C&C Inspector  
Thomas Hall – Solar Specialty Group ("SSG")  
Ron Hooson – HP Electric LLC  
Glenn Ida – Local 675  
Al Itamoto – ECAH  
Russell Kennedy – Ameresco Solar  
Aaron Kirk – Sunetric  
Al Lardizabal – Hawaii Laborer's Union  
Colin Lee – C&C Inspector  
Peter Lee – Hawaii Laborers Employers Cooperation & Education Trust  
("LECET")  
Brian Lee – C & J Solar  
Daria Loy-Goto – Regulated Industries Complaints Office ("RICO")

Gladys Marlene – Building Industry Association Hawaii (“BIA”)  
Paul Mikami – C&C Inspector  
James Perreira – C & J Solar  
David Samson – Hawaii Regional Council of Carpenters (“HRCC”)  
Scott Sparkman – Mercury Solar  
Ryan Takahashi – Hawaii Electricians Market Enhancement Program  
 (“HEMEP”)  
Andrew Yani – Hawaii Solar Energy Association (“HSEA”)  
Alan Yonan – Star Advertiser  
Lance Yoshimura – Carpenters  
Jon Yoshimura – Solar City

The Board reconvened its October 15, 2013 meeting at 9:46 a.m. on Tuesday, November 5, 2013.

Chairperson Kimura announced he was returning to the Hawaii Electricians Market Enhancement Program letter regarding Photovoltaic Installations and Scope of Work for Journey Worker Specialty Electrician and advised members and the public of the following ground rules for the meeting:

1. Testimony will only be accepted from individuals who did not testify at the last meeting.
2. Testifiers shall limit their testimony to five minutes.
3. Testifiers with similar sentiments previously heard should hold their comments.

Scope: c. Hawaii Electricians Market Enhancement Program letter regarding Photovoltaic Installations and Scope of Work for Journey Worker Specialty Electrician (Deferred from the August 6, 2013 meeting).

Curtis Crabbe stated he has been a journey worker electrician since 1983 on Molokai and is a nonunion member and in his opinion good workmanship is non-existent in the solar industry. The most important part of the installation is the grounding system and he ends up fixing solar projects because of shoddy workmanship. He has been solicited by solar contractors to sign off on work he has not installed. While he will not, there are other contractors aiding and abetting non-licensed activity for cash. There is a need to ensure quality workmanship on the job and therefore he feels all photovoltaic installations should be done by licensed electricians.

Lance Yoshimura of the Hawaii Carpenters Union informed the Board that the carpenter lays the base posts for solar farms. This proposal is taking away work from one labor union and giving it to another. The work should be spread among the trades with the expertise in each type of photovoltaic installation. Photovoltaic installation impacts many trades and therefore the Board must be cautious in its deliberation.

Scott Sparkman from Mercury Solar said that a C-60 contractor is already licensed, insured and trained in the safety issues for which an electrician may be trained. The C-60 knows more about the photovoltaic installation than does the licensed electrician.

Aaron Kirk, CEO from Sunetric stated that his company uses licensed electricians on all of their installations. He employs 11 journey worker electricians and 1 supervising journey worker electrician and requires all journey worker electricians at each job. Electricians also do shoddy work which is not a result of having the license but poorly trained employees. Most electricians do not have photovoltaic experience. His company has a 6 month training program for electricians and every job should have an employee with photovoltaic experience with a licensed electrician.

Guy Akasaki from Commercial Roofing Hawaii distributed a handout to the Board members of a Suntech facility in China with a building integrated photovoltaic system. The structure of the buildings house the photovoltaic panels. Technology is transforming the industry. Photovoltaic systems are in the roofing membrane and therefore is the roof itself. He was witness to a fire in the black box or junction box of a photovoltaic panel. The fire occurred because of a design defect in the junction box. He advised everyone to make sure their roof is fire rated before installing a photovoltaic system. Safety is more than installation it is also manufacturing. Mr. Brady stated that China has produced defective panels (REC). Mr. Akasaki responded that the panels were recalled because of faulty junction boxes and REC fixed the problem and they are selling their panels again. The industry is accelerating because this occurred 7 years ago. Aaron Kirk from Sunetric added that UL listed appliances have nothing to do with the discussion and that Hawaii has had 0 deaths, no property loss, and no injuries in photovoltaic installations. Mr. Akasaki responded that while technology is moving and so many variations are being introduced, bonding and grounding should always be done by the C-13/journey worker electrician licensees. Mr. Kirk added that different technology requires different skill sets and the licensed electrician is not trained in all areas and does not possess all skill sets necessary for varying photovoltaic systems. Mr. Akasaki concurred and opined that the demarcation of electrical work is the grounding and bonding. Wherever the grounding and bonding occurs is where the licensed journey worker electrician is required.

Thomas Hall stated that he was a licensed electrician in California and in the photovoltaic industry for 13 years. He saw a junction box fire due to an installation error. Inspectors are not able to get on the roof but systems need to be inspected. He also stated that he is a third party inspector in Honolulu.

Colin Lee, City & County inspector explained that he fought against Bill 51 regarding third party inspectors because the bill allows the third party inspector to go directly to the building inspector bypassing the electrical inspectors. The bill allows the contractor to hire a third party inspector to inspect their photovoltaic installations if the county is unable to inspect the job within the 5 days.

Robert Fusco, City & County inspector explained that he was involved with Bill 51 which was passed in response to consumer complaints incurred due to the lack of inspectors. Basically there is a 5 day waiting period in which all inspections must be done and all violations must be fixed. After 5 days a contractor can request a third party inspector. Inspectors can do a random check and issue violations. Third party inspectors submit their reports to the building chief bypassing the City & County electrical inspectors. The enforcement issue is a result of Bill 51. Mr. Kaya asked "Who pays for the third party inspector?" Mr. Fusco responded that the owner pays for the third party inspector. Mr. Hiraki stated that the electrician must fax the inspection request to the City & County which is bypassed by the third party inspector. Chairperson Kimura reminded the Board that this issue is not within the Board's jurisdiction. Scott Sparkman stated that the building department is overworked. There are not enough inspectors to ensure safety and the lack of inspections is causing a bottleneck. A C-60 contractor should also be able to call for inspections instead of only a C-13 contractor. Mr. Fusco responded that inspections are not quality control. Inspectors do not teach but enforce the NEC. Plug and play, if not plugged in properly, creates 4,000 degrees of DC volts of heat. An inspector has to trust work of qualified electricians if installations are installed before inspections. Installations may require rough-in inspections because anyone can install the railing. The Executive Officer indicated that the County could require a rough-in inspection of every photovoltaic installation because it is the County's call. Mr. Fusco responded that it would stop industry installations. Chairperson Kimura asked about inspection of micro inverters. It is something County inspectors would inspect if it were accessible. Mr. Fusco responded that micro inverters must be plugged in correctly and therefore he would rather see a licensed electrician on the roof at all times.

Jon Yoshimura from Solar City asked "Why is an all electrician crew needed on the job?" Daniel, also from Solar City opined that they will need 3 licensed electricians on the job which is unrealistic because electricians are not roofers. The photovoltaic industry is unique in that it involves different trades (e.g. roofers, glaziers, etc.).

Joe Saturnia stated that he has been a C-60 contractor since 2007 and he is concerned about public health, safety and general welfare but there has been no known safety issues regarding photovoltaic installations. He also stated that it is hard to see the justification in the proposed changes because the C-60 exam had electrical questions based upon the NEC. He questioned the scope of the C-60 and whether it would be changed. The Executive Officer reminded the guests that the scope of the C-60 contractor is for the Contractors License Board and not the Board of Electricians and Plumbers. Thus the C-60 scope is not up for discussion.

Bill Chang, City & County inspector informed the Board that a licensed electrician should do the grounding and bonding for weeb systems that punctures aluminum because it is difficult to inspect the system when everything is bolted together. An electrician working under a C-13 contractor would expedite the installation.

Shannon Alivado from the General Contractors Association asked, "If the Board agrees with the change in scope, will this be in conflict with the Contractors License Board's scope for C-60 and C-13 contractors?" Deputy Attorney General Tam responded that the issue of the C-60 scope will have to be taken to the Contractors License Board. The Executive Officer indicated that there should be no conflict because while the scope of the C-60 allows low voltage DC wiring, the C-60 must still be in compliance with Chapter 448E.

Deputy Attorney General Tam inquired as to who installs photovoltaic rooftop systems and siding and are building inspectors able to inspect these systems. Mr. Akamu stated that with integrated systems, grounding is still required and the electrician is still responsible for grounding and bonding. Thomas Hall stated that for a rooftop project, the installation is done by a roofer and the electrical connection is done by the electrician.

Executive Session: It was moved by Mr. Akamu, seconded by Mr. Akamu, 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 11:00 a.m.

#### **EXECUTIVE SESSION**

It was moved by Mr. Kaneshiro, seconded by Mr. Brady, and unanimously carried to reconvene to the Board's regular order of business at 1:26 p.m.

It was moved by Mr. Akamu, seconded by Mr. Brady and unanimously carried to defer the Hawaii Electricians Market Enhancement Program letter regarding Photovoltaic Installations and Scope of Work for Journey Worker Specialty Electrician to a future meeting.

- Announcement:
- a. Next Applications Committee Meeting  
Tuesday, December 17, 2013  
9:30 a.m.  
King Kalakaua Conference Room  
335 Merchant Street, 1<sup>st</sup> Floor  
Honolulu, HI 96813
  - b. Next Board Meeting  
Tuesday, December 17, 2013  
10:30 a.m.  
King Kalakaua Conference Room  
335 Merchant Street, 1<sup>st</sup> Floor  
Honolulu, HI 96813

Adjournment: There being no further business to discuss, the meeting was adjourned at 1:30 p.m.

Review and approved by:

/s/ Charlene L.K. Tamanaha  
Charlene L.K. Tamanaha  
Executive Officer

Taken by:

/s/ Christine Hironaka  
Christine Hironaka  
Secretary

CLKT:cmh  
12/5/13

- [ X ] Minutes approved as is.  
[ ] Minutes approved with changes; see minutes of \_\_\_\_\_.