

Exhibit D

(Planning Commission)

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BEFORE THE PLANNING COMMISSION
OF THE
COUNTY OF KAUAI

-----)
In The Matter Of The Application) USE PERMIT NO.
of) U-2016-5
SOLARCITY CORPORATION, a Delaware) CLASS IV ZONING
corporation, for a Use Permit, a) PERMIT NO.
Class IV Zoning Permit, and a) Z-IV-2016-5
Special Permit for real property) SPECIAL PERMIT NO.
situated at Kapaia, Hanamaulu,) SP-2016-2
Lihue, Kauai, Hawaii, identified)
by Kauai Tax Map Key No.)
(4) 3-8-002:002 (por.).)
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PUBLIC HEARING,

Taken at Lihue Civic Center, Moikeha Building, Meeting
Room 2A-2B, 4444 Rice Street, Lihue, Kauai, Hawaii
96766, commencing at 10:12 a.m. on October 27, 2015,
pursuant to Notice.

REPORTED BY:

TERRI R. HANSON, CSR 482

Registered Professional Reporter

1 APPEARANCES

2

3 COMMISSION MEMBERS:

4 Angela Anderson, Chair

5 Sean Mahoney, Vice Chair

6 Louis Abrams

7 Roy Ho

8 Wayne Katayama

9

10 ALSO PRESENT:

11 Michael Dahilig, Planning Director

12 Kaaina Hull, Deputy Planning Director

13 Jodi Sayegusa, Attorney

14

15 For SolarCity Corporation:

16 MICHAEL J. BELLES, ESQ.

17 MAX W.J. GRAHAM, JR., ESQ.

18 Belles Graham Proudfoot Wilson & Chun, LLP

19 Watumull Plaza

20 Suite 202

21 4334 Rice Street

22 Lihue, Hawaii 96766

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EXHIBITS:

Identified Received

SolarCity Corporation:

1 - 30	9	11
31 - PowerPoint Presentation	20	21

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HEARING

CHAIR ANDERSON: Call this meeting to order. Have a roll call.

MR. DAHILIG: Commiss- -- Vice Chair Mahoney.

MR. MAHONEY: Here.

MR. DAHILIG: Commissioner Katayama.

MR. KATAYAMA: Here.

MR. DAHILIG: Commissioner Abrams.

MR. ABRAMS: Here.

MR. DAHILIG: Commissioner Mendonca. Commission Kaewe. Commissioner Ho.

MR. HO: Here.

MR. DAHILIG: Chair Anderson.

CHAIR ANDERSON: Here.

MR. DAHILIG: We have five members present, Madam Chair.

CHAIR ANDERSON: Now, approval of the agenda, this is for the 9:01 or soon thereafter.

MR. DAHILIG: The department would recommend approving the agenda as is.

CHAIR ANDERSON: Do I have a motion?

COMMISSION MEMBER: Move to approve.

COMMISSION MEMBER: Second.

CHAIR ANDERSON: Any discussion? All those

1 in favor. (Ayes.) Any opposed? Motion carries.

2 MR. DAHILIG: Madam Chair, we are in
3 receipt of items for the record. The department doesn't
4 have any additional items in general for this agenda.

5 Item E is public comment. We have an agency
6 hearing E1. This is new agency hearing on Class IV
7 Zoning Permit Z-IV-2016-5, Use Permit U-2016-5, and
8 Special Permit SP-2016-2 to permit the construction and
9 operation of a solar power facility on a parcel located
10 at Kapaia. The facility is proposed to be located
11 approximately 900 feet southwest of the Ehiku Street and
12 Maalo Road intersection, further identified as Tax Map
13 Key 3-8-2, Parcel 2, and being a portion of a parcel
14 containing a total area of 5,341.493 acres.

15 The application is SolarCity, their report was
16 received by the clerk of the commission on 10/17/15.

17 Madam Chair, the department requests opening
18 the agency hearing at this time.

19 CHAIR ANDERSON: If anyone in the public
20 would like to give testimony on this agenda item, please
21 step forward.

22 MR. DAHILIG: Madam Chair, I do not have
23 anybody signed up, and given the lack of other public
24 testif- -- public testimony for this agency, the
25 department would recommend closing the agency hearing at

1 this time.

2 CHAIR ANDERSON: Do I have a motion to
3 close the agency hearing?

4 COMMISSION MEMBER: So move.

5 COMMISSION MEMBER: Second.

6 CHAIR ANDERSON: Discussion? All those in
7 favor. (Ayes.) Any opposed? Motion carries.

8 MR. DAHILIG: Madam Chair, we are now on
9 action on the above-referenced item relating to that
10 permit that the hearing was on. I guess the department
11 is ready for its presentation.

12 CHAIR ANDERSON: Okay. It is now time for
13 the presentation of the evidence on this matter. These
14 proceedings are being transcribed by a court reporter
15 for the purposes of transmittal to the Land Use
16 Commission. Given the dual jurisdiction of the
17 application with the Land Use Commission, all items for
18 the record must be received by both of the commissions.
19 Transcripts will be automatically produced for this
20 reason. Does either party require review of the
21 transcript before transmittal of the Land Use
22 Commission?

23 MR. DAHILIG: No, Madam Chair.

24 CHAIR ANDERSON: Okay. Will the petitioner
25 please step forward.

1 MR. BELLES: Good morning, Madam Chair,
2 Members of the Planning Commission. I'm here on behalf
3 of SolarCity, the applicant. And I want to begin by
4 thanking all of you for allowing us to testify at this
5 time, breaking with your regular agenda and allowing us
6 to do our presentation. Hopefully we won't go beyond
7 lunch today. I know you have the outlines, so we'll do
8 our best with six witnesses to wind everything up in a
9 couple of hours.

10 I would also like to thank very much the work
11 of Planning Director Mike Dahilig and the Deputy
12 Planning Director Kaaina Hull for all the work they've
13 put into this thing. Within the last 30 days just to
14 get this queued up for public hearing today has been an
15 extraordinary amount of help. I mean, just as recently
16 as of yesterday, we went through a great deal of the
17 detail to try and have this be as seamless as possible
18 for all and work without being too technical.

19 And that leads me into an apology, and the
20 reason for that is you're going to see a presentation
21 today that is quasi-judicial in every sense of the
22 phrase, and it's more technical than most proceedings
23 you've ever been involved in except contested cases
24 perhaps. And that's why we have a court reporter here
25 today. Her name is Terri Hanson, and she's here because

1 hopefully within a couple of days after these
2 proceedings are closed, she'll be in a position to
3 transcribe the entire record, put it together with
4 whatever documents you receive for the record, and that
5 then will be transmitted to the state Land Use
6 Commission for final action.

7 And I would liken what you're doing today to a
8 zoning amendment. You're all familiar with that.
9 You're advisory in that capacity. You give a
10 recommendation to the county council, and they as the
11 legislative body then takes final action, but your
12 recommendation is not binding on them.

13 So, too, with the state Land Use Commission.
14 This entire record will be transmitted to them. And
15 based on the record, they'll either decide to approve
16 it, approve it with conditions or deny it. And one of
17 reasons why it could be rather mind numbing, and I'll
18 give that right up front, is that we have to follow
19 certain procedures that we don't in public hearings
20 where it's less formal, and we don't have to follow the
21 technical procedures like swearing in witnesses, having
22 a court reporter and all that extraordinary. But not to
23 fear. We'll get through this. And the truth is no one
24 sitting in this room has done this before.

25 So it's kind of new for all of us, so I think

1 by working together we'll get to the end with the proper
2 result and whatever the commission ultimately decides.

3 We have identified 30 exhibits, which does
4 include the staff report.

5 CHAIR ANDERSON: Can I have you hold off on
6 that.

7 MR. BELLES: All right.

8 CHAIR ANDERSON: Just for the record, the
9 question initially was asked regarding requiring
10 transcripts prior to the transmittal to the land use.
11 So if you can just please state your position on that
12 now.

13 MR. BELLES: We have no objections.

14 CHAIR ANDERSON: Okay. Thank you. And
15 then I also want to set forth to the commissioners, does
16 any commissioner require the transcript prior -- of this
17 proceeding prior to it being transmitted to the Land Use
18 Commission?

19 MR. KATAYAMA: No.

20 MR. BELLES: If I may, Madam Chair.

21 CHAIR ANDERSON: Yes.

22 MR. BELLES: I have a qualification or an
23 explanation. This is not something where you have today
24 and you'll never see the transcript again. The
25 intention was assuming, and that's a big assumption,

1 that the Planning Commission take action today with
2 intent and close the public hearing, that the transcript
3 would be made available to the entire commission. And
4 that if our tentative timelines hold, we would be
5 looking at the transcript for your approval on November
6 the 10th. Director, does that fulfill your intention?

7 MR. DAHILIG: Yes, yes.

8 MR. BELLES: So again, it's not use it or
9 lose it today. There will be an opportunity for you to
10 review the transcript. And if there are any changes,
11 you know, you believe should be made, then you'll have
12 that opportunity on November 10th, assuming we close it
13 today.

14 CHAIR ANDERSON: Okay. Thank you for that
15 clarification. And now at this time does the petitioner
16 and the department stipulate that any evidence be
17 included in the record?

18 MR. BELLES: Based on our prior
19 discussions, the applicant stipulates to all the items
20 identified in the exhibit list, 1 through 30, to be part
21 of the record, and we'd ask that the commission accept
22 it for the record.

23 MR. DAHILIG: We would concur, Madam Chair.

24 CHAIR ANDERSON: And what I have before me
25 is applicant's exhibit list and Exhibit 1 through 30. I

1 can provide this -- I have one copy, not a copy for all
2 the commission.

3 Do I have a motion from the commission to
4 receive these items for the record.

5 COMMISSION MEMBER: Madam Chair, move to
6 receive the items for the record.

7 COMMISSION MEMBER: Second.

8 CHAIR ANDERSON: Discussion? All those in
9 favor. (Ayes.) Any opposed? Items are received.

10 MR. BELLES: Thank you.

11 CHAIR ANDERSON: And does the applicant
12 have any witnesses?

13 MR. BELLES: Yes, Madam Chair. We have six
14 witnesses today. And I refer you entirely if you want
15 to follow the normal procedure in terms of having the
16 Planning Department staff read its report or portions of
17 the report, and then we can follow with the applicant
18 making its presentation.

19 CHAIR ANDERSON: Okay.

20 MR. DAHILIG: Madam Chair, the department
21 has no witnesses.

22 CHAIR ANDERSON: Thank you. We will go
23 ahead with the presentation of the evidence.

24 MR. BELLES: Thank you, Madam Chair. I
25 would like to call forward Bob Rudd and Danny Valdez,

1 please.

2 CHAIR ANDERSON: If we can have --

3 MR. DAHILIG: Yeah, just pursuant to --
4 pursuant to Rule 1-67 evidence -- procedural evidence is
5 actually the department presents evidence first. So
6 we'll need to move our records into the record, first.

7 MR. BELLES: Okay. One other item on that,
8 Madam Chair, due to all of us, if you could please swear
9 in all the witnesses.

10 CHAIR ANDERSON: Of course. And so just to
11 clarify.

12 MR. DAHILIG: Madam Chair, given that the
13 department is having the direc- -- the deputy director
14 present the evidence, it would probably be prudent if
15 the deputy director be sworn in under oath before the
16 presentation.

17 CHAIR ANDERSON: So if I can have the
18 deputy director please stand.

19
20 KAAINA HULL,
21 after having been first duly sworn,
22 testified as follows:

23
24 MR. HULL: I do.

25 CHAIR ANDERSON: You've now been sworn in.

1 Thank you.

2 MR. HULL: The director's report was
3 transmitted and received by the Planning Commission so
4 --

5 CHAIR ANDERSON: If you can please state
6 your name.

7 MR. HULL: Sorry.

8 CHAIR ANDERSON: For the record.

9 MR. HULL: For the record, Deputy Director
10 Kaaiana Hull. The director's report has been transmitted
11 and received by the Planning Commission for the record.
12 And so because it is, I'm just going to read from the
13 condensed version of the report.

14 CHAIR ANDERSON: You may summarize.

15 MR. HULL: The applicant proposed the
16 construction of approximately 17-megawatt solar
17 generation facility on the subject property. In
18 addition to the solar panel arrays, a 13-megawatt
19 battery energy storage system and related
20 interconnection and ancillary facilities are also
21 proposed.

22 The solar facility will be ground mounted --

23 THE COURT REPORTER: All right. Okay. Can
24 you -- can you just kind of slow down just a little bit
25 and speak a little more clearer.

1 MR. HULL: Sorry about that.

2 THE COURT REPORTER: Thank you.

3 MR. HULL: The solar facility will be
4 ground mounted and we will be approximately 6 and a half
5 feet in height at it's highest point. Each panel is
6 roughly 1.6 inches in width by 3.2 feet in length.
7 Approximately 54,000 panels are proposed to be
8 installed, and the panels will be spaced to allow
9 infiltration of runoff for sheet flow. The total
10 surface area of the panels will be approximately
11 45.85 acres.

12 The subject site is located in Kapaia, and the
13 facility is to be located 900 feet southwest of the
14 Ehiku Street and Maalo Road intersection. There are no
15 existing structures at the subject site. The site was
16 previously used for agriculture purposes. The zoning
17 area has always been agriculture and open zoning
18 districts. These lands are either vacant or primarily
19 used for agriculture purposes. The closest residential
20 structures are located within the residential R-4 and
21 R-6 zoning district, which is located approximately 0.85
22 miles east of the project site.

23 Concerning the use permit application, the
24 solar facility is permissible in the agricultural zoning
25 district with a use permit, and the overall parcel will

1 remain predominantly free of development, and the
2 proposed structure will function in conjunction with the
3 overall agriculture use of the parcel.

4 It is not going to interfere with other
5 agriculture uses that are generally allowed within the
6 agriculture zoning district. And following the
7 anticipated 25- to 30-year life and operation of the
8 solar facility, all equipment will either be retrofitted
9 with new equipment or will be removed and the site will
10 be restored to its pre-construction condition.

11 Concerning the special permit, the use permit
12 will not be -- the use will not be contrary to the
13 objectives sought to be accomplished by HRS 205 and
14 205(a) and that SLUC rules. The residual portions of
15 the site will be leased for pasture purposes at a rate
16 or rates less than 50 percent below the fair market
17 value.

18 As previously stated, the proposed use will not
19 interfere with other agricultural uses that are
20 generally allowed within the agriculture district.

21 The desired use will not adversely affect
22 surrounding properties particularly given that the
23 nearest residential structure is approximately 0.85
24 miles away.

25 The use will not unreasonably burden public

1 agencies to provide roads, streets, sewers, water,
2 drainage and school improvements and police or fire
3 protection.

4 Concerning the unusual conditions, trends and
5 needs that have arisen, district boundaries and
6 regulations were established as stated by the applicant.
7 The state has recently recommended a need to promote
8 alternative energy including solar energy production.
9 Such facilities require large tracts of land as compared
10 to the state land use, urban or rural districts. These
11 large tracts are predominantly located in the state land
12 use agricultural district. Providing such usage will
13 not prevent or adversely impact agriculture uses in the
14 surrounding area. They are recognized as necessary and
15 permissible in an agriculture district.

16 And finally, the land on which the proposed use
17 is sought is unsuited for those uses permitted within
18 the district as proposed in the application. It would
19 raising opportunity -- grazing opportunities, the site
20 will be used for agriculture production.

21 That concludes are evaluation. We can hold off
22 the conclusion and the recommendation until after.

23 CHAIR ANDERSON: Thank you. Is there cross
24 on the presentation from Mr. Hull?

25 MR. BELLES: No cross-examination. And

1 thank you for an excellent report.

2 CHAIR ANDERSON: Thank you. Mr. Hull, you
3 may step down.

4 MR. DAHILIG: Madam Chair, department rests
5 at this time. We will reserve comment for after the
6 proceeding as per the deputy director's suggestion on
7 the commission's approval.

8 CHAIR ANDERSON: And you may proceed on
9 your presentation.

10 MR. BELLES: And, Madam Chair, for purposes
11 of swearing in the witnesses, it might be best if you do
12 it en masse or you can do it one at a time. Because
13 there are six of us.

14 CHAIR ANDERSON: We will go ahead and do it
15 one at a time.

16 MR. BELLES: Okay. The first witness will
17 be Mr. Bob Rudd. He is with SolarCity. He's the
18 director of project development and energy storage. He
19 will be talking about the overview of what is being
20 proposed today and specifically about the technology
21 that will be a first for Kauai. I'll turn it over to
22 Mr. Rudd.

23 CHAIR ANDERSON: Mr. Rudd can go ahead and
24 sit over there. We'll make that the witness stand.

25 MR. BELLES: All right. Thank you so much.

1 CHAIR ANDERSON: Can you raise your right
2 hand.

3
4 ROBERT W. RUDD,
5 after having been first duly sworn,
6 testified as follows:

7
8 MR. RUDD: I do.

9 CHAIR ANDERSON: So please -- okay. You
10 may be seated.

11 MR. RUDD: Great. Thank you very much and
12 thank you very much for the Planning Commission for --

13 MR. BELLES: Turn on that mic.

14 MR. RUDD: Yeah, there we go.

15 CHAIR ANDERSON: And please state your name
16 for the record.

17 MR. RUDD: My name is Bob Rudd. I'm our
18 director of project development and energy storage at
19 SolarCity.

20 I want to start by thanking the Planning
21 Commission. We're really excited about this project.
22 It's been in the works for a couple of years now with
23 KIUC. And so today is really a testament to a lot of
24 that work. So before we jump right in and I start
25 talking a lot, we actually did prepare a video, an

1 aerial video rendering of the project that I thought
2 would give a good overview for everyone, and I think
3 it's queued up on the -- on the projector here.

4 MR. DAHILIG: Okay. Piece of cake.

5 MR. RUDD: Sorry to make you move. So I'll
6 narrate here as we go through. So what we're looking at
7 here is zooming in from over Lihue Airport. We're going
8 to pause here for a second. And what you'll see is
9 first the -- oh, press play. It pauses automatically.

10 So this is the existing Kapaia Power Station,
11 and you'll see that the solar PV and battery storage
12 arrays is located immediately adjacent to that power
13 station, which would certainly help the setback from
14 other use cases. There we go.

15 So here a more zoomed-in view of the existing
16 Kapaia Power Station, the interconnection route to our
17 project area and the PV and battery storage arrays as
18 well as the fence line that would enclose our site.

19 I'm going to zoom in here. While it's doing
20 that, I just -- I really wanted to highlight again the
21 location of this project. We find it hard to think that
22 there would be a more ideal location both given the
23 existing land use as well as the proximity to the power
24 station and the distance from any other potential
25 residences. We really did look in a number of different

1 locations and determined that given all factors, that
2 this would really be an ideal project site.

3 And you can see per scale, the system being
4 built here is very low profile as referenced by the
5 bodies. So there it is. All right. So we can turn the
6 lights back on. All right. So I'm going to continue --

7 MR. BELLES: Before we proceed.

8 MR. RUDD: Yes.

9 MR. BELLES: As a matter of procedure,
10 again, can we accept for the record -- or receive for
11 the record the PowerPoint presentation. It would be
12 provided to the court reporter in a form that is made
13 part of the record and transmitted to the members of
14 this commission.

15 MR. DAHILIG: The department would have no
16 objection.

17 MR. BELLES: Thank you.

18 CHAIR ANDERSON: Okay. Based on the
19 request, we have a motion to receive the PowerPoint
20 presentation as a -- do we have an exhibit number? Do
21 you want to reference it?

22 MR. BELLES: We can make it Exhibit 31.

23 MR. DAHILIG: No objection.

24 COMMISSION MEMBER: Move to accept the
25 PowerPoint presentation.

1 COMMISSION MEMBER: Second.

2 CHAIR ANDERSON: Any discussion? All those
3 in favor. (Ayes.) Any opposed? Motion carries.

4 MR. RUDD: Okay. Thank you very much. So
5 I'm going to give a pretty high-level overview of the
6 project. Some of this is the pretty high level, but we
7 can go deeper as the meeting goes on.

8 So the project application covers a total of
9 50 acres. The current footprint, as you see here,
10 actually only occupies approximately 46 and a half
11 acres. So we've got some padding there of about three
12 and a half acres if any unforeseen conditions were to
13 arise in the future, we'd still remain in that
14 application area.

15 Of the occupied space with the current design,
16 approximately 46 acres is the actual solar PV array, and
17 it's only 0.65 acres that would be a battery array. So
18 the battery array is substantially smaller than one
19 might expect. And last but not least, this 50 acres
20 represents less than one percent of the parcel in
21 question.

22 In terms of land usage and ownership, it's
23 owned by Grove Farm, previously used for sugarcane
24 operations, which we feel lends itself well for a
25 development of this type. We have a very good

1 relationship with Grove Farm. SolarCity previously
2 completed the Koloa solar project, otherwise referred to
3 as KRS II, on Grove Farm land. And really the usage of
4 this Kapaia site with Grove Farm land is built on our
5 strong relationship from the original project. And when
6 we were looking at this site, it was our understanding
7 that it would be the last crop. And so it was an ideal
8 opportunity to move in with a project like this.

9 In terms of the project itself, it's
10 13 megawatts AC, and approximately a larger DC system.
11 It's relatively low profile. The panels themselves will
12 be approximately 77 inches off of the ground, and the
13 battery energy storage system will be no more than about
14 86 inches. So a very low profile.

15 The battery storage system itself will be at
16 13 megawatts, 52-megawatt hour battery. And the project
17 as a whole will actually be owned and financed by
18 SolarCity, and we will be selling energy to KIUC under a
19 power purchase agreement.

20 A key thing to note there is that under that
21 proposed structure, SolarCity really bears all
22 performance risk, and KIUC is obligated to purchase the
23 energy that they receive the benefit from.

24 To our knowledge this is the first firm
25 dispatchable solar project anywhere in the world where

1 solar power is being used to lower the evening peak, and
2 so a very innovative and leadership being shown by Kauai
3 there.

4 And in terms of the sort of timeline and some
5 of the benefits this project will receive, there's a
6 federal investment tax credit that sunsets at the end of
7 next year, which is pretty paramount to the economics of
8 the project and part of -- a big driver in the reason
9 that we're moving forward on the timeline that we are.

10 In terms of the interconnection, as you saw on
11 the video, it's very close to the Kapaia Power Station.
12 The interconnection line will be almost primarily on
13 KIUC land with a limited amount onto our parcel and will
14 connect to the existing substation at the Kapaia Power
15 Station. So it's a known substation upgrade.

16 Last but not least I was going to talk a little
17 bit about the battery storage technology and welcome
18 questions further in the presentation as I expect there
19 may be some. We'll be using lithium-ion technology,
20 which is a highly proven technology. It's in your iPads
21 and your cell phones. Our most -- our experience to
22 date has been primarily Tesla Motors, and our intention
23 is to use them for this project, and so I'll be talking
24 a bit about their battery.

25 We can see here in -- I don't know the exhibit

1 number, but --

2 MR. BELLES: Six.

3 MR. RUDD: In Exhibit 6 is an image of the
4 Tesla Motors' battery and a rendering of how it looks
5 when aggregated in scale. What you're looking at is
6 what we refer to as a pack. A pack is approximately the
7 size of a refrigerator and is the sort of building block
8 of the system. Each pack is approximately 100 kilowatt
9 hours. And so we would have about 520 of those packs
10 that would represent the battery storage array. And
11 then for each 10 pack, there is a single 250-kilowatt
12 inverter. As you see in Exhibit 6, there's six packs
13 and then a much smaller inverter, and then four packs
14 next to it. That's really the building block of the
15 system.

16 Now, within the packs themselves, we have what
17 we call pods, and the pods are basically trays that look
18 kind of a like an enclosed laptop that are the batteries
19 that stack up on the back side of that door. Each of
20 the pods is sealed -- sealed within the three hour and a
21 half thermal jacketing inside of it that wraps around
22 the cells which are really the sort of engine of the
23 battery. And the reason I highlight that is because the
24 sort of thermal redundancies that are built into this
25 system compared to others.

1 There's just basically within -- within each
2 pod you have cells that look really like AA batteries,
3 and then surrounding all of those you have thermal
4 jacketing which is liquid cooling in each of the
5 individual pods. And then inside of the pack you have
6 additional -- you have the pods that comprise the pack,
7 and call it -- we're using the same words so many times.

8 But that's a little bit about the hardware.
9 What we feel really differentiates this technology is
10 the self where it manages it. So any battery of this
11 scale utilizes what's called a battery management system
12 or BMS. In this case, the Tesla BMS has been deployed
13 in over 80,000 electric vehicles that to date have
14 logged over one billion miles driven. And so in terms
15 of field track record, we think it's really second to
16 none.

17 And important to highlight these -- the
18 application when you're cycling and managing a battery
19 for electrical vehicle applications is somewhat erratic
20 and some could argue potentially even violent on the
21 battery. And when you take the levels of safety and
22 redundancy that the battery management system has
23 developed for the electrical vehicle, and you take that
24 same battery pack that's used to going at 100 miles an
25 hour on the highway and you put it on a concrete pad and

1 you cycle it in a very sort of like a sign wave, the
2 levels of redundancy inherent in the BMS from the
3 electric vehicle application become that much more
4 robust when you're sort of cycling the battery in a much
5 less aggressive manner. So that's the high level of the
6 battery itself.

7 In terms of decommissioning at the end of life,
8 it is our obligation as owner of the system and our
9 license with Grove Farm to remove the system, remove the
10 battery system and the solar system at the end of the
11 term and restore the site to existing conditions --
12 preexisting conditions.

13 And in terms of our motivation to do that,
14 particularly on the battery side, there is a significant
15 amount of salvage value in this equipment. And our
16 partner, Tesla Motors, has a full life cycle facility in
17 Reno, Nevada, referred to as the gigafactory that is
18 capable of taking in those used parts, salvaging the
19 materials, and then repurposing it for future batteries.
20 So we have both sort of legal and economic motivations
21 to decommission the system and repurpose the site.

22 And with that, I'm pretty much done.

23 CHAIR ANDERSON: Okay.

24 MR. BELLES: Madam Chair, I'll leave it to
25 your discretion again. Did you want to have a question

1 and answer after each witness or did you want to save
2 the question and answer until we have all the six
3 witnesses?

4 CHAIR ANDERSON: We'll have the question
5 and answer for the commission with each witness.

6 MR. BELLES: Okay.

7 CHAIR ANDERSON: Does the commission have
8 any question -- or questions for this witness.

9 MR. DAHILIG: Just for the record, Madam
10 Chair, we do not have any cross-examination for this
11 witness.

12 MR. HO: Is there a danger of fire in the
13 battery storage area?

14 MR. RUDD: I expected we would hear this
15 question, in no small part to some of the recent
16 experiences on Oahu would be -- I guess it's not recent.
17 It was a couple years ago now, but with the Kahuku farm.

18 So I think to address that, there's really two
19 ways to answer it. One, how do you make sure that there
20 won't be a fire in the first place?

21 And secondly, what happens if there is a fire?

22 So with us going back to the battery management
23 system and what we -- there's types of -- there's layers
24 of redundancy build in. Within each of the pods that
25 I've referenced, we're constantly measuring voltage and

1 temperature. And what happens in a battery fire is that
2 if the voltage gets too high, and as a result
3 temperature goes up, and it creates what's called a
4 thermal runaway event.

5 What we've designed into the battery management
6 system is that at the second that the voltage or the
7 temperature hits a specific threshold, that battery pod
8 is disconnected as are all other pods upon that
9 individual inverter. So if you look at Exhibit 6 and
10 you see those 10 boxes, if one pod within one of those
11 packs was to reach a specific temperature point, that
12 entire 10-pack system would disconnect automatically and
13 naturally would begin cooling because it has this liquid
14 cooling thermal jacketing within that system. So
15 there's multiple layers of redundancy to make sure that
16 there's an extremely low probability that a fire ever
17 would occur.

18 Now, when you look at -- when you look at
19 comparing our project to, say, the Kahuku project and
20 what happened there, I think there's a few key
21 differences that I'd like to highlight.

22 One is really the track record of the system
23 being deployed. As I mentioned, we have 80,000 electric
24 vehicles with a billion miles logged here. At the time
25 I think that battery was, you know, really one of the

1 first deployments were tested there. So the track
2 record was very, very limited.

3 Secondly, the way that our system is
4 architected, each of these packs is outdoor open, and so
5 it's not in a building enclosure, and each of them has
6 their own redundant thermal systems.

7 Whereas, our understanding of the Kahuku system
8 is that it was basically all in a shipping container
9 that was then retrofitted to act like an air conditioned
10 space which has a single point of failure as a result.
11 So really a sort of -- and completely different
12 architecture between our two systems, ours being open
13 air and theirs being enclosed.

14 And then third is really around the company
15 sort of offering the product and standing behind the
16 product. You know, in that case, it was a
17 venture-backed company that in some way argued had
18 little -- nothing to lose at that point in their growth.
19 Whereas, our companies are both publicly traded, very
20 high profile, and you can trust that we are going to be
21 having a very close eye on managing safety and all other
22 elements of this project.

23 MR. HO: When one pad shuts down, goes
24 offline, does it affect the other pads -- pods?

25 MR. RUDD: So what would happen is, so if

1 you look at Exhibit 6 here, sort of in the bottom
2 middle, you'll see six packs and then a smaller box, and
3 then four packs right next to it. Do you see that?

4 MR. HO: Yes.

5 MR. RUDD: So that -- you can consider that
6 as sort of a one megawatt hour building block, and we'll
7 have 52 of those. And if one pod within that building
8 block were to reach a certain temperature, that one
9 megawatts hour building block would go down. The other
10 -- the other 51 megawatt hours would remain online.

11 Yeah. So does that answer the question?

12 MR. HO: Yes. Just one last one.

13 MR. RUDD: Yes, sir.

14 MR. HO: I'm sorry.

15 MR. RUDD: No, no problem.

16 MR. HO: Is there any radiation walking
17 around that unit there, any kind of electrical radiation
18 that people have to be aware of or should be aware of?

19 MR. RUDD: It's a good question. But, no,
20 sir, there's -- there's nothing to be concerned about.
21 This is the exact same technology that you have in your
22 cell phone that you walk around with in your pocket.
23 Granted it's a larger concentration of that same
24 technology, but there is no appreciable radiation
25 concerns that anybody would need to be aware -- be

1 concerned with.

2 CHAIR ANDERSON: Okay. If there's no
3 further questions --

4 MR. ABRAMS: I've got one. The
5 administration of the power that comes from these
6 battery bins, is that handled by KIUC? Is that how that
7 works? Could you explain that a little bit to me from
8 where the power is stored there.

9 MR. RUDD: Yes.

10 MR. ABRAMS: And then is drawn on and how
11 does that go about?

12 MR. RUDD: It's -- so you've really got two
13 systems here. You have a battery system that is capable
14 of delivering energy directly to the grid or storing it
15 into -- and you have a solar system capable of
16 delivering energy directly to the grid or otherwise
17 directing it to a battery system where it's stored for
18 delivery to the grid later in the day.

19 And so the sort of general intention of how
20 this will work, and I'll let Brad Rockwell speak to it a
21 little bit further, is there will be a small amount
22 taken directly to the grid during the morning peak, and
23 then -- from the solar system, and then all other energy
24 will go directly to the battery where it is stored to be
25 used later in the day, typically during the evening

1 peak. So all of that control and dispatch will be
2 managed by KIUC.

3 And SolarCity has performance obligations to
4 make sure that the solar system's doing what it's
5 supposed to, the battery system is doing what it's
6 capable of and supposed to do, and that the control
7 system for managing all that is working properly. And
8 so you can consider it we're providing a sort of
9 technology wrap on an asset and then handing over the
10 keys or the joystick to KIUC to manage it based on
11 island conditions.

12 MR. ABRAMS: Okay. And so, you know, we've
13 had a lot of power outages here, some of it I'm not sure
14 why. But so KIUC is the one who regulates the power, I
15 guess, contribution to the grid depending on its
16 voltage, or how do they go about doing that in order to
17 make sure there isn't fluctuations where we start
18 getting, you know, surges and brownouts? Who does -- is
19 that automatically done by these?

20 MR. RUDD: Yes.

21 MR. ABRAMS: As opposed to them manually or
22 working through their end?

23 MR. RUDD: Yes, sir. So they're -- I'll
24 let Brad Rockwell speak to this in a little bit more
25 detail. But at the highest level, because a lot of the

1 sort of grid system conditions that would drive any of
2 those -- any of those events is happening on the sort of
3 subsecond scale. We fundamentally have to program in
4 automatic, you know, sort of millisecond-level responses
5 to those types of conditions. So we're developing those
6 types of control automatic commands that would respond
7 regardless of any manual dispatch. But I'll let Brad
8 speak a little bit further on that.

9 MR. ABRAMS: Would Brad speak to the -- you
10 know, how batteries renew or you recharge or whatever,
11 that level? Would he be better to talk to him about
12 that?

13 MR. RUDD: I mean, I think I'm probably
14 best to talk about how the batteries themselves work,
15 and Brad would probably be best to talk how they're sort
16 of applied to the grid. So if you have a question about
17 how they recharge --

18 MR. ABRAMS: Yeah, it is. I mean --

19 MR. RUDD: Okay.

20 MR. ABRAMS: You know, to once where we
21 have them go -- you know, like my phone, it goes down to
22 40 percent, and I recharge it. I've been told various
23 different things, depending on the type of battery. You
24 know, the charge will take up to a hundred, otherwise it
25 may not fully take. And sometimes the batteries get

1 hotter and et cetera. So perhaps if you could go ahead
2 and explain that process of how these batteries do it,
3 and the lithium part of it is what I'm interested in,
4 too.

5 MR. RUDD: Sure. So I guess what I'll
6 maybe start with is how the battery is likely to be
7 cycled on a given day so that -- so we can take about
8 how we achieve that. So on any given day, the battery
9 is going to start before sunrise. It's going to start
10 empty. It will have been discharged the night before
11 during the evening peak to empty. So you can think of
12 it as a sort of reservoir waiting for the sun to come up
13 when grid otherwise couldn't -- wouldn't want solar
14 delivered to it to store it on a battery.

15 On the average day we expect that the battery
16 system will be full from solar in the early to
17 midafternoon hours. So, let's say roughly 3:00, let's
18 say. And that battery system is then going to sit full
19 and hold its charge until it's called on to discharge.
20 So that evening, later that evening, it will be
21 dispatched likely based on, you know, realtime
22 conditions from what we call a hundred percent state of
23 charge to zero percent state of charge. And in doing
24 so, will discharge 52 megawatt hours of energy.

25 Now, in terms of how we make sure that that

1 52 megawatt hours is there and that, you know, there's
2 no sort of technology failures, what we are obligated as
3 SolarCity to do is make sure that it does discharge 52
4 megawatt hours. And if not, then there's a penalty for
5 us. And how we protect that from meeting that penalty,
6 is that we actually build out excess capacity on the
7 concrete pads to be able to bring in additional battery
8 packs as needed to maintain that 52 megawatt hour
9 minimum.

10 So how it will work in practice, knowing that
11 batteries do naturally degrade, is that when we first
12 install the system, maybe the, you know, the equivalent
13 energy rating will be 54 megawatt hours instead of 52.
14 And as we cycle it over that first year, it will trail
15 down to that 52 minimum. And then as needed we'll bring
16 in additional packs. It would really only be a few of
17 them at a time that is within the existing footprint
18 that we're already talking about, and that would bring
19 it back up to above the -- above the level.

20 And so you create a little bit of a sawtooth
21 function. It would be as if you could sort of swap out
22 or add capacity to your phone battery every year. And
23 you would see that phone battery capacity sort of
24 degrade, and then you could swap it out and be back up
25 to where it was when you first bought it.

1 MR. ABRAMS: And are these batteries -- I'm
2 looking at this. Does it require direct sunlight or
3 just light in order to charge these batteries?

4 MR. RUDD: So the PV panels themselves
5 require actual sunlight.

6 CHAIR ANDERSON: Sunlight.

7 MR. RUDD: Photons, yes.

8 MR. ABRAMS: Photons. Okay. Thank you.

9 CHAIR ANDERSON: Are there any other
10 questions for the witness? You may step down.

11 MR. RUDD: Thank you very much.

12 MR. BELLES: Madam Chair, the next speaker
13 is Mr. Danny Valdez. I'd like to note that in his case
14 and the four other speakers who will be following him,
15 everyone was involved in the project that was referenced
16 earlier by Mr. Rudd, and that's the Koloa project, which
17 Mr. Abrams will remember.

18 MR. ABRAMS: Yes.

19 MR. BELLES: In Koloa, we made presentation
20 to the whole community association, some of the senior
21 members of the Planning Commission were before it came
22 before the Planning Commission and in approval for that
23 78-acre in Koloa, albeit different technology than what
24 we have today.

25 CHAIR ANDERSON: Thank you. Please stand

1 and raise your right hand.

2

3

DANIEL H. VALDEZ,

4

after having been first duly sworn,

5

testified as follows:

6

7

MR. VALDEZ: I do.

8

CHAIR ANDERSON: Thank you. You've been

9

sworn in.

10

MR. BELLES: Just for the record, Mr.

11

Valdez is the senior commercial project manager for

12

SolarCity.

13

MR. VALDEZ: For the record, Daniel Valdez.

14

So I just want to thank everyone for your time and kind

15

of just go into a brief description of the overall

16

construction process and how minimal the impact to the

17

land is going to be.

18

So the -- what we do, as you can see here in

19

Exhibit 5, I believe, which is here, on the left side of

20

the exhibit you'll see the racking structure in which

21

with these solar panels sit on. So what we do is we

22

take an I-beam and drive that into the ground so we're

23

not -- we're not disturbing, we're not excavating, we're

24

not removing soil or anything of that nature, using any

25

concrete. We drive these to a predetermined depth

1 dictated by the soils conditions.

2 And once we reach that depth, we then -- we
3 then build the rack on top of that structure. Excuse
4 me. On top of that post and build it out to, which you
5 will then see on the left side. And then that gets
6 first placed on top, which then the modules gets affixed
7 to those with four bolts. So there's -- everything is
8 bolted together and secure. And then, you know, once
9 everything's built out, it'll look like, I believe
10 that's Exhibit 4. It just creates the array.

11 And with driving these I-beams, the impervious
12 surface is less than one acre, when the modules
13 themselves are taking up around, I believe, 40 -- 45
14 acres. And the concrete pad for the batteries will be
15 encompassed with the impervious surface of the I-beams
16 will be less than two acres for the entire site.

17 And that really plays into how decommissioning
18 the site and the limited destruction to the site. We
19 will only have to remove those I-beams and those
20 concrete pads to then bring the site back to its
21 original conditions.

22 What we'll have to do is, and it's stated in
23 the application, is tying all of these arrays to one
24 another with minimal trenching and bringing all of those
25 battery packs over to the Kapaia power plant substation,

1 which we'll bring across the road and then into the
2 substation with additional equipment and controls for
3 KIUC to manage.

4 And that's -- the overall construction of this
5 is very, very minimal. It will take some time and, you
6 know, because we're so, I guess, far away from the
7 nearest resident, the noise disruption or disruption to
8 the community is going to be very minimal. And given
9 the site location and the choice of the site, that's one
10 of the main -- main reasons.

11 Are there any questions?

12 CHAIR ANDERSON: Okay. Call for questions.
13 Does the department have any cross?

14 MR. DAHILIG: No cross, Madam Chair.

15 CHAIR ANDERSON: Okay. And does the
16 commission have any questions for this witness?

17 MR. KATAYAMA: I have a question for the
18 department.

19 MR. BELLES: Check you mic.

20 MR. KATAYAMA. Is this project subject to
21 --

22 MR. BELLES: Check you mic.

23 MR. KATAYAMA: Is this project subject to
24 agricultural grading or do they have to go under the
25 grubbing and grading ordinance?

1 Are they a tenant or are they leasing land from
2 Grove Farm?

3 MR. DAHILIG: Good question. I would say
4 that --

5 MR. KATAYAMA: I don't need an answer, but
6 it's just sort of --

7 MR. DAHILIG: I think my belief is that you
8 cannot apply to USDA with a farm plan requesting to farm
9 solar. So because the farm plan is required in order to
10 fall outside of the grading and grubbing ordinance at
11 the county level, then the grading and grubbing code
12 would apply in this case.

13 MR. BELLES: And let me just complement
14 that statement by, yes, we intend to comply with the
15 grading ordinance of the County of Kauai. And
16 Mr. Esaki, the engineer for the project, will be the
17 next witness, and he can respond to that directly. And
18 the intent is to have a license with Grove Farm and with
19 SolarCity for the operation of the site.

20 MR. KATAYAMA: Thank you. For the witness,
21 no maintenance facilities required for this project,
22 there's none shown?

23 MR. VALDEZ: A permit maintenance facility?

24 MR. KATAYAMA: Storage.

25 MR. VALDEZ: So it's very small. But it is

1 shown above the battery packs. It's just a small
2 20-foot shipping container which will house spare
3 materials. As Bob was mentioning, maybe additional
4 battery packs or solar panels if needed.

5 MR. KATAYAMA: So no permanent structure?

6 MR. BELLES: It will be there for the life
7 of the project. So it is a structure, and that's why
8 it's shown on the site map.

9 MR. VALDEZ: Just a 20-foot shipping
10 container.

11 MR. KATAYAMA: Is that considered a
12 permanent structure or is that considered temporary?

13 MR. BELLES: We're erring on the side of
14 making sure that it's within the context of the permit
15 so nobody cries foul later on.

16 MR. KATAYAMA: Okay. Good. Thank you.

17 CHAIR ANDERSON: Any other questions for
18 Mr. Valdez?

19 MR. HO: Is it Danny?

20 MR. VALDEZ: Yes.

21 MR. HO: Did I read that somewhere you're
22 going to have grazing on that facility?

23 MR. VALDEZ: That is -- that is the
24 intention. To also bring the site back and basically
25 get full use out of the site, mowing and kind of doing

1 more -- bringing more equipment in isn't really
2 economical. So bringing in grazing or, you know, sheep
3 to come in and kind of do the mowing for us, it is the
4 intent, yes.

5 MR. ABRAMS: And so --

6 MR. VALDEZ: And that --

7 MR. ABRAMS: So it will be a fenced area?

8 MR. VALDEZ: Correct, correct. So there
9 will be a fence around the entire site. And similar --
10 well, actually it's being done in Koloa right now.
11 There's actually sheep maintaining all of the grass and
12 the weeds that are growing in Koloa.

13 MR. BELLES: And, Commissioner, I'll just
14 expand on that a bit. We have engaged in discussions
15 with Mr. Daryl Kaneshiro, who is currently engaged in
16 the operations in the Koloa site. So we are required by
17 state law to have a minimum required agricultural
18 activity on the property because it is an ag zone
19 property. So we will be doing that as required by law.
20 And again, the intent is to use Mr. Kaneshiro.

21 MR. ABRAMS: Is there water on the
22 property? Is there a waterline feed?

23 MR. VALDEZ: There are current -- there are
24 existing waterlines from the previous tenant.

25 CHAIR ANDERSON: Any other questions?

1 MR. ABRAMS: Who oversees from a government
2 agency the installations? Is it the building department
3 or?

4 MR. VALDEZ: Yes, yes.

5 MR. ABRAMS: It is?

6 MR. VALDEZ: Yes, that would be the
7 building department.

8 MR. ABRAMS: And have you had comments back
9 from the fire department? Are they requiring something
10 to be in place in event there might be a problem?

11 MR. VALDEZ: The application was sent out
12 to the fire department as a courtesy, and I did speak
13 with the fire prevention chief. And his concerns were
14 the battery and the potential for the thermal event and
15 also ensuring that we do comply with the NFPA, National
16 Fire Protection Administration, guidelines which are --
17 which we've implemented in Koloa. The -- just a fire
18 setback and making sure that there are no combustible
19 materials, which the grazing will take care of.

20 So just as long as we have a 20-foot buffer
21 from a structure, so from the back of the panels to the
22 fence, 20 feet, and then as long as there's no
23 combustibles underneath and around the arrays.

24 MR. ABRAMS: Okay.

25 CHAIR ANDERSON: Any further questions?

1 MR. MAHONEY: I have one question. What do
2 you think of like an estimated timeline of the
3 efficiency of this technology and the lifespan of these
4 panels? Is there any like estimate?

5 MR. VALDEZ: The panels themselves, I
6 believe, carry a 25-year performance guarantee. And
7 that's, you know, as Bob was mentioning, we do -- we are
8 obligated to basically provide the expected amount of
9 power to KIUC or else we end up paying for it.

10 MR. MAHONEY: Thank you.

11 CHAIR ANDERSON: Seeing there's no further
12 questions, so this witness may step down.

13 MR. VALDEZ: Thank you.

14 MR. BELLES: Thank you. The next witness
15 is Mr. Dennis Esaki. He's the president of Esaki
16 Engineering & Mapping, and he's here to talk about
17 compliance with county laws, rules and regulations
18 relative to construction and development of the project.
19 And as I had mentioned earlier, he was also intimately
20 involved in the development of the 70-acre solar site in
21 Koloa.

22 CHAIR ANDERSON: Can you please raise your
23 right hand.

24 /

25 /

1 DENNIS M. ESAKI,
2 after having been first duly sworn,
3 testified as follows:
4

5 MR. ESAKI: I do.

6 CHAIR ANDERSON: You've now been sworn in.
7 You may be seated. Please state your name for the
8 record.

9 MR. ESAKI: Dennis Esaki, President of
10 Esaki Surveying & Mapping, Inc. Should I go ahead?

11 As Mr. Belles has said, we've worked on the
12 Koloa solar facility. It was similar scope and ended up
13 with a project approved by all related agencies and
14 functioning properly.

15 We anticipate applying for grading and grubbing
16 permits as necessary. Best management practice the of
17 NPDS will be called out and must be followed during
18 construction. NPDS, National Pollutant Discharge
19 Systems, will be applied for before construction.

20 Some of the things that we'll be including will
21 be self-pads, stabilized construction entrance,
22 revegetation for erosion control, gravel bags as
23 necessary for silt control, temporary silt basin. There
24 will be a retention basin to retain any increased flow
25 on the property. The quality and quantity of water

1 leaving the property identified should be the same as
2 prior to construction.

3 CHAIR ANDERSON: Does the department have
4 any cross?

5 MR. DAHILIG: No cross, Madam Chair.

6 CHAIR ANDERSON: Further questions for this
7 witness? Seeing none. You may be seated.

8 MR. ESAKI: Thank you.

9 MR. BELLES: Only three remaining
10 witnesses, Madam Chair. The next witness is Brad
11 Rockwell, KIUC Power and Supply Management.

12 CHAIR ANDERSON: Please raise your right
13 hand.

14
15 BRAD W. ROCKWELL,
16 after having been first duly sworn,
17 testified as follows:

18

19 MR. ROCKWELL: I do.

20 CHAIR ANDERSON: You've been sworn in.
21 Please be seated and state your name for the record.

22 MR. ROCKWELL: Good morning. My name is
23 Brad Rockwell, Power Supply Manager for Kauai Island
24 Utility Cooperative. I just wanted to raise a few
25 points and then be open to any questions.

1 Obviously you're all familiar with our electric
2 cooperative here on the island. Just three years ago we
3 were -- our electricity supply on this island was 90
4 percent from oil. Today that number is down to
5 75 percent. By next year it's going to be 60 percent.
6 Much of that has come through solar, some biomass, the
7 green energy plant and some hydro, some legacy hydro.

8 This project, if it's approved and built and
9 online by the end of next year, gets us very close to
10 our board strategic target of 50 percent by 2023, albeit
11 seven years early. The result for all the Kauai
12 ratepayers has been and will continue to be lower and
13 more stable rates.

14 That said, as long as we have a significant
15 portion of our electricity supply coming from oil, and
16 certainly 50 percent is a significant portion, we're
17 going to be susceptible to high and/or volatile prices
18 that have historically been associated with oil.

19 That said, KIUC continues and will continue to
20 pursue this transformational shift of our electricity
21 supply in order to lower and stabilize rates and will
22 continue to look for innovative projects that are right
23 sized and right priced. Our approach has been and will
24 continue to be a portfolio approach where we look at
25 projects that are neither too small to be a waste of our

1 time nor too big to lock in current pricing when things
2 are changing so rapidly in the energy space. We want to
3 continue to diversify our supply and bring those values
4 to the member. This project is one of those. We're
5 very excited about it. The price is transformational.
6 To have a battery of this size at the price that many
7 other places, for example, on Oahu, they're doing just
8 solar with no battery at this kind of price. And we're
9 getting a significant battery resource along with it.

10 All that success in what we've been able to do
11 to transform our energy has largely been on the backs of
12 solar because other renewable sources have been sort of
13 challenged here on the island. What that's created is
14 that during the midday we have -- or we're getting close
15 to supply meeting the demand. So we either need to
16 create more demand, have one start driving electric
17 vehicles, for example, and charging them during the day
18 while we're at work or we need to figure out a way to
19 shift that solar energy. 'Cause I think, and we think,
20 solar is going to continue to be cheaper and cheaper,
21 and we're going to want to do more and more of it.
22 There's a lot of homes that still don't have it. We'd
23 like to be able to capture that, but we need to move it
24 to the nighttime. And so this is kind of the first big
25 project anywhere that's going to be doing that. And so

1 we're looking for ways to do that.

2 I'll just pause there and see if there's any
3 questions or anything specifically I can address from
4 KIUC.

5 CHAIR ANDERSON: Does the department have
6 any cross for this witness?

7 MR. DAHILIG: No cross, Madam Chair.

8 CHAIR ANDERSON: Are there questions from
9 the commission?

10 MR. HO: What is the cost per kilowatt hour
11 oil verses your battery power?

12 MR. ROCKWELL: This project?

13 MR. HO: Yeah.

14 MR. ROCKWELL: This project is priced at
15 \$145 per megawatt hour and has the potential to drop to
16 \$139 per megawatt hour depending on the final financing
17 structure. Currently our oil costs are around \$150,
18 depending on which units we're running. That's an
19 average. If you look at our oil generation costs during
20 the evening peak, which is when this project is going to
21 be supplying that 140 roughly dollar power, that cost is
22 over \$200. So you can see there's a difference there's.
23 There's a savings.

24 And that's at current oil prices. If oil were
25 to go back up to where it has been in recent years,

1 closer to a hundred dollars a barrel, that peak
2 generation cost would be about \$300, so about double the
3 cost of this.

4 MR. HO: What is the household savings?

5 MR. ROCKWELL: The household savings on
6 this project, because it sized about -- this is going to
7 be about six to seven percent of our annual energy. So
8 it's going to be close to a cent per KWH on the rate.
9 And the way I always explain it is roughly half your
10 retail rate is coming from the generation, what we --
11 you know, our fuel cost or our purchase power cost.

12 And so if you look at this project and say --
13 or if you look at the current rate, it's about 32 cents
14 a kilowatt hour. About half of that is 16 cents. And
15 you look at this project being 1/20th of our supply, you
16 can see how 1/20th of 16 cents is a little less than a
17 cent. So do people recognize that? I think they don't,
18 but it's real. It's really savings. And not only does
19 it reduce the rate, but it stabilizes it, 'cause it's
20 not volatile. This price is locked in and fixed. It's
21 not susceptible to oil volatility.

22 Can I address the outage issue that came up
23 earlier, I think, from Mr. Abrams?

24 MR. ABRAMS: Yeah.

25 MR. ROCKWELL: And certainly this year has

1 been a rough year for us on outages, and that was
2 largely due to the islandwide outage we had just another
3 New Year's Eve or right in New Year's on January 1st.
4 If you take that outage out of the numbers, we're pretty
5 much right on our historical average. And outages in
6 general, roughly half are caused by loss of generation.
7 You know, if the generator at the power plant has a
8 problem, it needs to shut down now to prevent potential
9 damage.

10 And since we're an island and we don't have a
11 tie to anybody else, what that means is we have to cut
12 power to customers in order to maintain supply and
13 demand. Large batteries like this, this one
14 specifically could potentially prevent outages during a
15 loss of generation 'cause the way we're designing this,
16 and it is kind of groundbreaking, is that when a
17 generator has to trip offline at Port Allen, for
18 example, this thing will sense it, and within a fraction
19 of a second it will be pushing power out, and so we
20 won't have to cut customers' power.

21 So at best this project could reduce our
22 islandwide out- -- you know, our island outages up to
23 50 percent. Will it be 50 percent? Probably not. I
24 mean, I think we'll still have some times when the
25 battery is not fully charged or, you know, other things

1 happen, and we will still have some low sheds, but it's
2 going to help significantly.

3 MR. ABRAMS: Question for that. The -- so
4 you could draw down on these while they were charging up
5 during the day?

6 MR. ROCKWELL: That's the plan. We're
7 going to try and design it so that it's modular so that
8 we can be accepting some charge and also putting out
9 some, yeah.

10 MR. ABRAMS: Thank you.

11 CHAIR ANDERSON: Okay. Any other
12 questions?

13 MR. KATAYAMA: From a very high load, you
14 said, you know, projects like this certainly fit well
15 into the strategical of decoupling from oil. I guess
16 from an educational point of view, as you look at
17 achieving more and more of these projects coming online
18 and in structuring your purchase power agreements, if we
19 continue to look at a voided cost, which becomes less
20 and less fuel with fossil fuel weighted, how does that
21 impact the ability -- the economic viability of these
22 kinds of projects or do you have to change the nature of
23 those PAs or does the consumer really not have the
24 benefit of this shift from fossil to renewable?

25 MR. ROCKWELL: Good question. You know,

1 and that's been a big problem throughout the state is
2 that a lot of what we're paying for solar energy that's
3 come online has been our cost, which is sort of an
4 historical thing that utilities do. They say, Well, if
5 you can supply me, and it's going to be cleaner, why
6 not I'll just pay you the same cost that I would have
7 had to pay for my oil prior to generation. But what
8 that does is we don't get the benefit of lower rates
9 that solar can bring. And now we're seeing that solar
10 can not only compete with oil, it can beat it
11 dramatically.

12 The PUC caught on to that a few years ago, the
13 Public Utility Commission. And we're actually not
14 allowed to have any future purchase power projects, any
15 contracts that are tied to the price of oil or indexed
16 off of oil in any way. So the only ones that do are
17 legacy purchase power agreements that if they were to
18 come up for renewal, we'd have to come up with some
19 alternative ways to price it.

20 MR. KATAYAMA: So I guess going back to
21 Commissioner Ho's original question is, where is the
22 consumer's economic benefit? Where do they realize
23 that? Is it in comp of a penny per megawatt hour? I
24 don't know if anybody's that sensitive.

25 MR. ROCKWELL: Right. And I think you're

1 right. I think for the average user, a penny, you know,
2 that's a few bucks a month, maybe a few tens of dollars
3 a year. But for businesses, for some of the larger
4 entities on the island, that's real money. You know,
5 you're talking hundreds, thousands potentially of
6 savings. And so, you know, aggregated up, it's
7 providing real money that stays here on Kauai.

8 And we'll continue to do more of these. So
9 maybe that less than a cent for this project becomes
10 more than a cent when we add in the others, and
11 eventually gets to a few cents.

12 MR. KATAYAMA: So the existing EPA with --
13 on this project is not linked to oil?

14 MR. ROCKWELL: Correct.

15 MR. KATAYAMA: And so it is an economic
16 sustainable project for rate for the project?

17 MR. ROCKWELL: Definitely.

18 MR. KATAYAMA: Okay. If there were no tax
19 credits, would that change?

20 MR. ROCKWELL: For sure. I mean, that's as
21 Mr. Rudd pointed out, this is -- the timing of this is
22 critical, and the whole reason we're trying to get this
23 in is to sort of beat the existing deadline on the
24 federal investment tax credit, which is set to sunset at
25 the end of 2016. So the project needs to be producing

1 electricity by then.

2 And at KIUC we're sort of on hold after this.
3 We're going to wait and see if congress can extend that.
4 You know, we don't have another project in the pipeline
5 because you can't really plan something 'cause without
6 that federal ITC of 30 percent, the numbers don't
7 necessarily work on these yet.

8 MR. KATAYAMA: Okay. Thank you.

9 MR. ABRAMS: I've got one last question.
10 The battery backup that you have, is the other solar
11 farms that you are working with, are they not like that
12 or do you have it so that it can handle all of that
13 power and contribute back? Is there going to be a need
14 for bringing them up to the ability to store power like
15 that or are they just sort of directly contributing to
16 the grid as they make electricity?

17 MR. ROCKWELL: A good question. Eventually
18 -- I mean, stor- -- the problem is adding storage by
19 itself to address a previously-installed solar project
20 is not economically viable. If you were just to add
21 storage, you can't count these investment tax credits
22 against it. The whole reason this one can get that ITC
23 is because it's coupled with a solar farm that's going
24 in, a new one.

25 So we'll continue to look. I mean, we have

1 some existing smaller-scale storage projects on the
2 island that we'll be looking at potentially repowering.
3 We're looking at from pump hydro storage. We're looking
4 -- we continue to look at different forms of
5 electrochemical storage. But the numbers are
6 challenging, you know, and we're adamant that we can't
7 increase our costs of electricity. So we've got to make
8 sure we do it at the right time.

9 MR. ABRAMS: And is this lithium-ion
10 storage be cutting edge of that or?

11 MR. ROCKWELL: You know, it's really --
12 it's what everyone's doing right now. And so just like
13 with anything, if you get the volume, the pricing comes
14 in, everyone gets comfortable with it. That's where the
15 market's at right now. There's a lot of other storage
16 technology certainly. A lot of them have much worse
17 efficiencies. They're not proven. You know, we don't
18 want to do science projects here on Kauai. We don't
19 have the time frankly with the small outfit that we
20 have, with a small team of engineers at Kauai Island
21 Utility Cooperative to do -- to get involved in pilot
22 projects and testing things out. We want things that
23 are bankable and that we know it provides solutions.

24 MR. ABRAMS: Okay. Thank you.

25 CHAIR ANDERSON: Okay. There's no further

1 questions. You may be seated.

2 MR. ROCKWELL: Thank you, Madam Chair.

3 MR. BELLES: Thank you, Madam Chair. The
4 next witness is David Shideler. He's the archeologist
5 with Cultural Surveys Hawaii. In his case, and in our
6 last witness' case, they both have filed previously with
7 the Planning Department comprehensive surveys and
8 studies that you'll have referenced. So we've only
9 asked them to provide a summary, but obviously they'll
10 be available to respond to any questions by the
11 commission.

12 CHAIR ANDERSON: Thank you. Please stand
13 and raise your right hand.

14
15 DAVID SHIDELER,
16 after having been first duly sworn,
17 testified as follows:

18
19 MR. SHIDELER: I do.

20 CHAIR ANDERSON: You've been sworn in. You
21 may the seated. Please state your name for the record.

22 MR. SHIDELER: David Shideler, archeologist
23 and project manager with Cultural Surveys Hawaii.
24 Aloha, kakuo. My curriculum vitae or resume is your
25 Exhibit No. 25, and our archeological inventory survey

1 study is your Exhibit No. 29. I'm speaking briefly to
2 our archeological inventory survey. Archeological
3 surveys begin with background research starting with an
4 analysis of what information is available and the
5 traditional Hawaiian utilization pattern, the ahupuaa,
6 in this case Hanamaulu.

7 In Hanamaulu, the traditional Hawaiian pattern
8 is documented by the approximately 20 land
9 commissioners, of course, the kuleanas there was very
10 much along the coast. Of course, Hanamaulu is named
11 after the bay and on the coast, and along the floodplain
12 of Hanamaulu Stream. That the kuleana, the land
13 commission, of course, only extended about a hundred
14 meters mauka of the Kapaia bridge on Kuhio Highway. So
15 it's very much a coastal section of where you have the
16 good bottom lands of Hanamaulu Stream and you have the
17 ability to irrigate off of the lower incline of coastal
18 Hanamaulu Stream, and that includes exposure at this
19 time, down in the stream bed. That we see no land
20 commission, or as no kuleana in the vicinity within half
21 a mile or so of the Kapaia solar photovoltaic battery
22 energy storage project.

23 Looking at, you know, historic maps, the major
24 feature of the history of this portion of Hanamaulu was
25 the Hanamaulu Plantation which was bought up by the

1 Lihue Plantation around 1900. Our documentation is that
2 the -- almost all or all of the project area was in
3 sugarcane cultivation, intensive commercial sugarcane
4 cultivation from 1900 to 1978.

5 Looking at the history of the Hanamaulu
6 Plantation, Hanamaulu Plantation had sugar lands
7 immediately adjacent to the project area in 1978.
8 Following the reciprocity treatment of 1876, sugarcane
9 plantations expanded very rapidly, and it is my belief
10 that the sugar planta- -- you know, that the project
11 area was in sugar plantations in 1880s. We know it was
12 in sugar until, you know, 1978. I don't happen to know,
13 but I believe it was in sugar until very close to Lihue
14 Plantation going out of business in 2000.

15 Our background research looking at aerial
16 photos and maps looks for any infrastructure. We were
17 aware that there was cane haul road within the
18 northeastern project area in 1951. That's still
19 drivable today, very much as it would have been
20 developed in 1951, just a cane haul road, no berms, no
21 drainage. That's still very drivable today. Probably
22 very much the same. So that's infrastructure of the
23 Lihue Plantation.

24 Under Hawaii Administrative Rules, that
25 qualifies as a potential historic property. So going

1 into the field, we anticipated there would be a historic
2 property. The Lihue Plantation infrastructure within
3 the field went -- I personally was involved in the
4 fieldwork with my long-time colleague Missy -- Nancy
5 Missy Kamai, a Native Hawaiian resident of Hanamaulu
6 ahupuaa.

7 We did an intensive survey of the project area,
8 found the cane haul road, found a ditch remnant. It
9 doesn't appear to have been an irrigation ditch. It may
10 have had an irrigation function, but to the drainage
11 ditch in the southern portion of the project area.

12 So we have very little in the way of concerns.
13 This is a good place to site infrastructure, far from
14 the coast where people live, not within the bottom lands
15 of the valleys where people live. It looks like a good
16 place for this type of development to me and to avoid
17 cultural resources and historic properties.

18 CHAIR ANDERSON: Okay. Does the department
19 have any questions for the witness?

20 MR. DAHILIG: No cross, Madam Chair.

21 CHAIR ANDERSON: Okay. Any questions from
22 the commission?

23 Can you identify the cane haul road on the
24 exhibits?

25 MR. SHIDELER: Yes. It's approximately

1 here (indicating). At least just a cane haul road, but
2 it shows up on 1950s maps. There were, of course, a
3 variety the roads to access the sugarcane fields. These
4 things have changed over time. This would have been a
5 more significant access road that can extend for 60
6 close on years.

7 MR. BELLES: And, Mr. Shideler, can you
8 please identify the exhibit number you were just
9 pointing to?

10 MR. SHIDELER: Exhibit 4.

11 CHAIR ANDERSON: You mentioned the cane
12 haul road was drivable at this time?

13 MR. SHIDELER: Yes.

14 CHAIR ANDERSON: Is -- so from Exhibit 4 it
15 looks like the solar panels will be covering the
16 existing cane haul road, is that the case?

17 MR. SHIDELER: I agree with you, yes.

18 CHAIR ANDERSON: Okay. And does that
19 existing cane haul road, do you know where that lets out
20 off of the property?

21 MR. SHIDELER: Where it lets off out of the
22 property?

23 CHAIR ANDERSON: Yes.

24 MR. SHIDELER: On both the south and north
25 sides. But, no, I actually don't know the termini of

1 the cane haul road.

2 CHAIR ANDERSON: Okay. Thank you. Are
3 there any other questions? You may be seated.

4 MR. BELLES: Madam Chair, the last witness
5 will be Reggie David. He's done the flora and fauna
6 study, which is your Exhibit 28. And again, he's been
7 asked to simply summarize the report and make himself
8 available for any questions the commission may have.

9 CHAIR ANDERSON: Okay. Please raise your
10 right hand.

11

12 REGINALD E. DAVID,
13 after having been first duly sworn,
14 testified as follows:

15

16 MR. DAVID: I do.

17 CHAIR ANDERSON: Okay. You have been sworn
18 in. Please sit down and state your name for the record.

19 MR. DAVID: Reginald David.

20 CHAIR ANDERSON: And if you could point to
21 the exhibit number that you'll be referring to.

22 MR. DAVID: The exhibit number for the
23 report we prepared is No. 28.

24 We conducted a bird, mammal and botanical
25 survey of the property on October 12th and 13th. This

1 land obviously has been in agriculture for over a
2 hundred years. We found 81 species of plants on the
3 property, two of them are considered to be native. One
4 -- both of them extremely common. One of them
5 is *Waltheria indica*, uhaloa, which is a common plant
6 along roadways in the areas that's disturbed. That's an
7 indigenous plant. It's not unique to Hawaii. It's
8 found throughout the Pacific.

9 The other species was hau, which was probably
10 used by Polynesians. That's not actually on the
11 development site, but it's immediately adjacent to it.

12 We recorded 25 experience of birds, two of
13 these are native species. One of them is the Pacific
14 Golden-Pluver or kolea, which is an indigenous migratory
15 bird, nests in the arctic, spends the winters in Hawaii
16 in the Pacific. It's an extremely common bird in the
17 winter months across the state.

18 And we also had some nene on the property that
19 had clearly been drawn into the seed corn that was on
20 the ground that was lying there after the last harvest.

21 It was an interesting site to survey because
22 there was so much corn on the ground that 75 percent of
23 the birds that we recorded were actually one or more
24 species of doves and pigeons, which is pretty unusual
25 for this island.

1 So what we found essentially affirms that this
2 has been in agriculture for a long time, and the usage
3 of the site by native species is going to vary depending
4 upon what resources are on the property.

5 CHAIR ANDERSON: Okay. Does the department
6 have any cross?

7 MR. DAHILIG: No cross, Madam Chair.

8 CHAIR ANDERSON: Any questions from the
9 commission? No. Okay. Seeing no questions, you may
10 step down.

11 MR. DAVID: Thank you, Madam Chair.

12 MR. DAHILIG: Madam Chair, the department
13 requests a recess given that was the last witness, our
14 court reporter probably needs a little break, too, so
15 take a recess?

16 CHAIR ANDERSON: We'll take a 10-minute
17 recess.

18 (Break from 11:31 to 11:43.)

19 CHAIR ANDERSON: Call this hearing back to
20 order. I believe where we left off was the final
21 witness. Is there anyone else you'd like to call?

22 MR. BELLES: No, Madam Chair. That's
23 concludes the presentation by SolarCity.

24 CHAIR ANDERSON: Okay. And do you rest at
25 this time?

1 MR. BELLES: Yes, I do.

2 CHAIR ANDERSON: Okay. We'll call the
3 department to gave their closing statements,
4 recommendations, conclusions.

5 MR. HULL: Good afternoon again, Chair.
6 Deputy Director Kaaina Hull, for the record.

7 Based on the foregoing findings and evaluation,
8 it is hereby concluded that the proposed solar utility
9 facility is appropriate and it is compatibility with
10 other uses on the property. The use should not be
11 detrimental to persons, property or the environment in
12 the surrounding area. The applicant should institute
13 the best management practices to ensure that the
14 operation of this facility does not generate impacts
15 that may affect the health, safety and welfare of those
16 surrounding -- those in the surrounding area of the
17 proposal.

18 Concerning the recommendation, the department
19 has bifurcated the recommendation. This is essentially
20 a two-part process because the Land Use Commission has
21 to have the final authority on the special permit.
22 However, this body has the final authority on the use
23 permit and Class IV zoning permit.

24 So concerning the use per- -- concerning the
25 use permit and Class IV zoning permit, based on the

1 foregoing evaluation and conclusion, it is hereby
2 recommended that the request to construct and operate a
3 solar utility facility on the Use Permit U-2016-5 and
4 Class IV Zoning Permit Z-IV-2016-5 be approved. And the
5 conditions that were transmitted to the Planning
6 Commission under the initial director report stand as
7 are.

8 CHAIR ANDERSON: Does the applicant agree
9 with the conditions as set forth in the director's
10 report?

11 MR. BELLES: Yes, we do agree.

12 CHAIR ANDERSON: And do you have any
13 conclusionary remarks or closing statements?

14 MR. BELLES: No, we do not. We'll let the
15 record stand as it is. Thank you.

16 CHAIR ANDERSON: Thank you. Does the
17 commission have any questions for the department or the
18 applicant, any further questions?

19 We can -- given the time frame for the lunch
20 hour, we can either deliberate on a motion or go into
21 recess. So I leave it to the commission in terms of the
22 timing.

23 MR. ABRAMS: Chair, I don't have any
24 problem with getting right into the motion and
25 deliberate it.

1 CHAIR ANDERSON: Okay. Do I have a motion?

2 MR. ABRAMS: Yes, I move that the Class IV
3 Zoning Permit Z-IV-2016-5 and Use Permit U-2016-5 be
4 approved as recommended by staff.

5 MR. MAHONEY: Second.

6 CHAIR ANDERSON: Okay. Any discussion?
7 Hearing no discussion, all those in favor. (Ayes.) Any
8 opposed? Motion carries. And then --

9 MR. ABRAMS: And I make a motion to
10 recommend approval of the -- hang on a second. Before I
11 get into that. We're not approving it, we're just
12 recommending.

13 MR. HULL: If I can interject for one
14 moment.

15 MR. ABRAMS: Yes.

16 MR. HULL: The department's second
17 recommendation for action would be --

18 MR. ABRAMS: The special permit?

19 MR. HULL: Yes. So the your recommendation
20 states, It is hereby recommended that the subject
21 request to construct and operate a solar utility
22 facility under Special Permit SP-2016-2 be recommended
23 to be approved to the state Land Use Commission with the
24 following conditions. And those conditions --

25 MR. ABRAMS: That was exactly what I was

1 going to say. So move.

2 MR. MAHONEY: Second.

3 CHAIR ANDERSON: Discussion? We'll go
4 ahead and make a roll call vote.

5 MR. DAHILIG: Madam Chair, the motion on
6 the floor is to recommend to the Land Use Commission the
7 approval of Special Permit SP-2016-2 as recommended
8 pursuant to the director's report without objection from
9 the applicant.

10 Vice Chair Mahoney.

11 MR. MAHONEY: Aye.

12 MR. DAHILIG: Commissioner Katayama.

13 MR. KATAYAMA: Aye.

14 MR. DAHILIG: Commission Abrams.

15 MR. ABRAMS: Aye.

16 MR. DAHILIG: Commissioner Ho.

17 MR. HO: Aye.

18 MR. DAHILIG: Chair Anderson.

19 CHAIR ANDERSON: Aye.

20 MR. DAHILIG: Five ayes, Madam Chair.

21 MR. BELLES: Madam Chair, if I may. I
22 would like to thank the entire commission, the Planning
23 Department staff for your cooperation and patience under
24 the new world order. Hopefully we don't have to do it
25 again, but it went a lot better than I expected. Thanks

1 to all of you.

2 CHAIR ANDERSON: Thank you. So at this
3 time we'll adjourn this meeting.

4 (Concluded at approximately 11:49 a.m.,
5 October 27, 2015.)

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1 STATE OF HAWAII)
) ss.
2 COUNTY OF KAUAI)

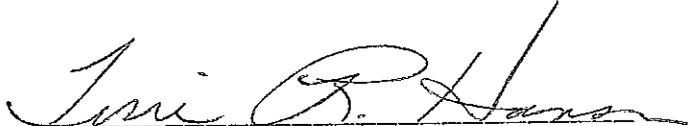
3 I, TERRI R. HANSON, RPR, CSR 482, do hereby
4 certify:

5 That on Tuesday, October 27, 2015, at 10:12 a.m.;
6 that the foregoing Public Hearing, In the Matter of the
Application of SolarCity Corporation, was held;

7 That the foregoing proceedings were taken down by
8 me in machine shorthand and were thereafter reduced to
9 typewritten form under my supervision; that the
10 foregoing 70-page transcript represents to the best of
my ability, a true and correct transcript of the
11 proceedings had in the foregoing matter.

12 I certify that I am not an attorney for any of
13 the parties hereto, nor in any way concerned with the
cause.

14 DATED this 29th day of October, 2015, in Kapaa,
15 Hawaii.

16 
17 TERRI R. HANSON, CSR 482
18 Registered Professional Reporter
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