AIRPORT LAND USE COMMISSION
RIVERSIDE COUNTY
AGENDA

Riverside County Administration Center
4080 Lemon Street, 1st Floor Board Chambers
Riverside, California

County Administrative Center
4080 Lemon St, 14th Floor
Riverside, CA 92501
(951) 955-5132

www.rcaluc.org

SPECIAL MEETING
Friday 10:00 A.M., July 1, 2016

NOTE: If you wish to speak, please complete a "SPEAKER IDENTIFICATION FORM" and give it to the Secretary. The purpose of the public hearing is to allow interested parties to express their concerns. Comments shall be limited to 5 minutes and to matters relevant to the item under consideration. Please do not repeat information already given. If you have no additional information, but wish to be on record, simply give your name and address and state that you agree with the previous speaker(s). Also please be aware that the indicated staff recommendation shown below may differ from that presented to the Commission during the public hearing.

Non-exempt materials related to an item on this agenda submitted to the Airport Land Use Commission or its staff after distribution of the agenda packet are available for public inspection in the Airport Land Use Commission's office located at 4080 Lemon Street, 14th Floor, Riverside, CA 92501 during normal business hours.

In compliance with the Americans with Disabilities Act, if any accommodations are needed, please contact Barbara Santos at (951) 955-5132 or E-mail at basantos@rctlma.org. Request should be made at least 48 hours or as soon as possible prior to the scheduled meeting.

1.0 **INTRODUCTIONS**

1.1 CALL TO ORDER

1.2 SALUTE TO FLAG

1.3 ROLL CALL

2.0 **PUBLIC HEARING:**

BLYTHE AIRPORT

2.1 ZAP1011BL16 – NRG Energy (NRG Renew DG Holdings LLC) (Representative: James Kelly) – County Case No.: CUP 03728 (Conditional Use Permit). The applicant proposes amendments to the conditions of approval applied by ALUC in its finding of conditional consistency for ZAP1005BL09, which initially applied to a 100 megawatt (MW) solar photovoltaic facility on 640 acres on the grounds of Blythe Airport. The applicant proposes a reduced-scale 20 MW project on 156 acres with modifications to Condition 1B relating to glare, Condition 5 relating to Compatibility Zone B1 and underground installation of electric lines, Condition 9 relating to the maximum height and elevation above mean sea level of the electric lines, which would extend southerly along Butch Avenue, easterly along Riverside Avenue, and southerly along Buck Boulevard, and Condition 11 requiring ALUC review of changes in coordinates of the array, electric lines, and maintenance building. Specifically, to allow poles with a maximum height of 51.5 feet and maximum elevation of 442 feet above mean sea level northerly of the east-west runway and easterly of the north-south runway (Airport Compatibility Zones C, D, B1 and A of the Blythe Airport Influence Area – no array in A or B1, no poles in A). ALUC Staff Planner: John Guerin at (951) 955-0982, or e-mail at jguerin@rctlma.org

Staff Recommendation: CONSISTENT

3.0 **ORAL COMMUNICATION ON ANY MATTER NOT ON THE AGENDA**

4.0 **COMMISSIONER'S COMMENTS**

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COUNTY OF RIVERSIDE
AIRPORT LAND USE COMMISSION

STAFF REPORT

AGENDA ITEM: 2.1

HEARING DATE: July 1, 2016

CASE NUMBER: ZAP1011BL16 – NRG Energy (NRG Renew DG Holdings, LLC) (Representative: James Kelly)

APPROVING JURISDICTION: County of Riverside

JURISDICTION CASE NO: CUP03728 (Conditional Use Permit No. 3728)

MAJOR ISSUES: The increased height of electrical lines within Compatibility Zone B1 affects the cumulative impact of the proliferation of lines in the area surrounding Blythe Airport. Additionally, use of the Solar Glare Hazard Analysis Tool indicates that the proposed project will result in glare at the landing threshold and at distances less than one-half mile from the runway. However, this is a previously approved project.

RECOMMENDATION: Staff recommends a finding of CONSISTENCY for the proposed project, subject to the conditions specified herein.

PROJECT DESCRIPTION:

The applicant proposes amendments to the conditions of approval applied by ALUC in its finding of conditional consistency for ZAP1005BL09, which initially applied to a 100 megawatt (MW) solar photovoltaic facility on 640 acres on the grounds of Blythe Airport. The applicant is proposing a reduced-scale 20 MW project on 156 acres with modifications to Condition 1b relating to glare, Condition 5 relating to Compatibility Zone B1 and underground installation of electric lines, Condition 9 relating to the maximum height and elevation above mean sea level of the electric lines (which would extend southerly along Butch Avenue and easterly along Riverside Avenue, tying in to an existing electric line at the corner of Riverside Avenue and Buck Boulevard), and Condition 11 requiring ALUC review of changes in coordinates of the array, electric lines, and maintenance building. Specifically, the applicant requests that poles be allowed with a maximum height of 51.5 feet and a maximum elevation (at top point) of 442 feet above mean sea level.

PROJECT LOCATION:

The solar photovoltaic facility would be located on the grounds of Blythe Airport, northerly of the east-west runway and easterly of the north-south runway. The electric lines would be located along the westerly side of Butch Avenue and the northerly side of Riverside Avenue.

LAND USE PLAN: 2004 Blythe Airport Land Use Compatibility Plan

a. Airport Influence Area:	Blythe
b. Land Use Policy:	Airport Compatibility Zones C, D, B1, and A (no arrays in A or B1; no poles in A)
c. Noise Levels:	From below 55 to above 65 CNEL

BACKGROUND:

Prohibited Uses: Hazards to flight are prohibited in all Compatibility Zones. At the time that the original proposal for solar photovoltaic development on the airport grounds was presented for ALUC consideration, considerable discussion among the Commissioners was engendered regarding the impacts of proposed electric lines and glare. The applicant at that time was a different energy firm. That applicant was proposing to extend electric lines directly south from the project's southeasterly boundary. A portion of that line would have intersected the extended runway centerline of the east-west runway just beyond the easterly end of Compatibility Zone A. The Commission found that proposal unacceptable and required undergrounding. As an alternative, the Commission permitted the applicant to choose "Option C," whereby the electric line could extend south along Butch Avenue, east along Riverside Avenue, and south along Buck Boulevard. At the time, staff was under the impression that this route would not include land within Compatibility Zone B1. However, the north-south segment of this route extending from the southeasterly corner of the array to the intersection of Butch and Riverside Avenues (5 poles) includes a sliver of land in the northwesterly portion of Compatibility Zone B1. The 20 poles along Riverside Avenue are within Compatibility Zones B1 and C, but are parallel to the extended runway centerline.

"Option C," as originally approved, would have allowed the new electric line to continue southerly along Buck Boulevard from its intersection with Riverside Avenue to Hobsonway, traversing Compatibility Zones C and D. However, this routing would cross the extended runway centerline of the east-west runway (albeit at a greater distance from the runway terminus than at the original applicant's proposed location). Since that time, the present applicant has received assurance that the project's electric lines can be connected to an existing Southern California Edison line at the corner of Riverside Avenue and Buck Boulevard. (As of the writing of this report, staff is awaiting additional information from the applicant team regarding the heights of existing electric lines in this area.) Thus, while this alignment would place electric lines and poles within Compatibility Zone B1, it would not involve the establishment of a new line crossing the extended runway centerline of the east-west runway.

In order to clarify the record, since a request has been made to amend conditions, staff proposes that Condition No. 5 be amended to read as follows:

"Any new electrical ~~transmission or distribution~~ line segments for this project *that would extend across the extended runway centerline of the east-west runway at Blythe Airport* ~~located within Airport Compatibility Zone B1~~ shall be installed underground. This requirement specifically applies to the segments of the *initially* proposed 30kV line (approximately 1,500 feet in length) paralleling the easterly boundary of Airport Compatibility Zone A.

As an alternative to underground installation of this 30kV line, the applicant may select the route alignment ~~depicted as Option C (a line~~ proceeding southerly along Butch, then easterly along Riverside, *connecting with* ~~then southerly along Buck to~~ *an* existing *electric line* ~~transmission lines)~~ *at the intersection of Riverside Avenue and Buck Boulevard, as depicted* on ~~Figure 1~~ *the aerial photo* exhibit *labeled "BLYTHE II SOLAR PROJECT Project Layout Approved By CUP"* ~~prepared by The Holt Group~~ on file with this application. ~~, as the Option C alignment does not extend into Airport Compatibility Zone B1.~~ "

Part 77: The original applicant for ZAP1005BL09 had proposed 16 electric poles with a maximum height of 19 feet along a route extending directly south from the southeasterly corner of the project, with a maximum elevation of 416 feet above mean sea level at top point. Condition No. 9 limited the maximum height of the "transmission line towers/poles" to 19 feet above ground level and maximum elevation above mean sea level to 416 feet at top point. The original aeronautical studies by the Federal Aviation Administration Obstruction Evaluation Service were based on the initial proposed route of the original applicant. However, the source of the information that 19-foot poles would be workable for this project is not clear. The present applicant obtained "Determinations of No Hazard to Air Navigation" for 23 electric poles with a maximum height of 50 feet and a maximum elevation of 442 feet above mean sea level. Two additional poles at the easterly end of the line would have a maximum height of 51.5 feet.

Staff recommends that Condition No. 9 be amended to read as follows:

"The maximum height of the ~~transmission line~~ *electric line* towers/poles shall not exceed ~~nineteen (19)~~ *fifty (50)* feet above ground level, *except for two poles that may be up to 51.5 feet above ground level,* and the maximum elevation above mean sea level shall not exceed the elevations as referenced in Table 1 of the FAA letter dated ~~August 4, 2010~~ *January 15, 2016.* Such elevation shall not exceed ~~416~~ *442* feet above mean sea level."

Glare: Condition 1(b) of ZAP1005BL09 prohibited "any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport." At the time that ALUC issued its finding of consistency for ZAP1005BL09, the Federal Aviation Administration's Solar Glare Hazard Analysis Tool (SGHAT) had not been disseminated. As part of a federal review, the potential for glare was analyzed using the SGHAT. The analysis revealed that the project would result in glare at the landing threshold and within one-half mile of that threshold.

Southbound pilots approaching Runway 17 would experience glare at the runway threshold between 4:00 and 6:00 P.M. standard time from mid-September through mid-March, at a one-quarter mile distance between 4:00 and 5:15 P.M. from mid-October through late February, and at a half-mile distance between 4:00 and 5:00 P.M. from mid-November through mid-January.

Westbound pilots approaching Runway 26 would experience glare at the threshold from early May to the end of July between 7:00 P.M. and 8:00 P.M. daylight time, ata three-quarter mile distance between 5:30 and 6:30 A.M. daylight time from mid-May through mid-July, at a one mile distance between 5:30 and 6:30 A.M. daylight time from the beginning of May to mid-August, at a 1¼ mile distance between 5:45 and 6:45 A.M. daylight time from mid-April to late August, at 1½ mile and 1¾ mile distances between 5:45 and 6:45 A.M. daylight time from early April to late August, and at a 2 mile distance between 5:30 and 7:00 A.M. daylight time from early April to early September.

Northbound pilots approaching Runway 35 would experience glare at the runway threshold between 7:00 and 8:00 P.M. daylight time from late April through mid-August and at a one-quarter mile distance between 7:30 and 8:00 P.M. daylight time from late May through mid-July.

Eastbound pilots approaching Runway 8 would experience glare at the runway threshold and at a one-quarter mile distance between 6:30 and 8:00 P.M. daylight time from late March through mid-September, at a one-half mile distance between 6:30 and 7:30 P.M. daylight time from mid-March to the end of May and also between 6:30 and 8:00 P.M. daylight time from mid-July to late September, at a three-quarter mile distance between 6:30 and 7:30 P.M. daylight time from mid-March through mid-May and between 6:30 and 7:45 P.M. daylight time from mid-July to late September, at a one mile distance between 6:30 and 7:30 P.M. daylight time from mid-March through mid-May and between 6:15and 7:30 P.M. daylight time from late July to late September, at 1¼ mile and 1½ mile distances between 6:30 and 7:30 P.M. daylight time from mid-March through early May and between 6:15 and 7:30 P.M. daylight time from the beginning of August through late September, at a 1¾ mile distance between 6:30 and 7:15 P.M. daylight time from mid-March to the end of April, and between 6:15 and 7:30 P.M. daylight time from early August through late September, and at a 2 mile distance between 6:30 and 7:15 P.M. daylight time from mid-March to the end of April, and between 6:15 and 7:15 P.M. daylight time from mid-August through late September.

However, in all cases, the glare would result in a "low potential for temporary after-image" (green level). In order to acknowledge that there would be some glare, but not beyond the level that the Federal Aviation Administration has ruled acceptable, the applicant is proposing that Condition 1b be revised to simply prohibit "any use that would result in an ocular impact that would compromise the safety of air traffic at the airport."

Other Items: The applicant also requests relief from the requirement that amendments to the specific coordinates, heights, and top point elevations (other than reduction in height or elevation) be reviewed by ALUC, on the basis that "exact coordinates may change slightly during construction to allow for minor adjustments in the field."

Discussion: Normally, ALUC would not support solar projects that result in glare at the threshold or within one-half mile, which is the situation here. However, this is an on-airport project. Staff is proposing that Condition No. 4 include additional detail as to procedures to follow in the event of a Glare Incident. Staff is also recommending minor modifications to the text of Condition Nos. 6, 8, and 12.

RECOMMENDED CONDITIONS *(NEW TEXT IN ITALICS;* ~~DELETED TEXT IN STRIKETHROUGH~~**:**

1. The following uses shall be prohibited:

   (a) Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.

   (b) Any use *that would result in an ocular impact that would compromise the safety of air traffic at the airport.* ~~which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.~~

   (c) Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area.

   (d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

2. Any outdoor lighting installed shall be hooded and shielded to prevent either the spillage of lumens or reflection into the sky.

3. If the panels are mounted on a framework, said framework shall have a flat or matte finish so as to minimize reflection of sunlight.

4. In the event that any incidence of glare or electrical interference affecting the safety of air navigation occurs as a result of project operation, the permittee shall be required to take all measures necessary to eliminate such glare or interference. *In the event that airport operator is notified of a Glare Incident (as defined below), airport operator shall notify the project operator of such Glare Incident in writing, and within 30 days of such notice project operator shall conduct an investigation of the Glare Incident and promptly submit the results of such investigation to the airport operator. If such investigation confirms occurrence of a Glare Incident, project operator shall develop a proposed remedy to prevent reoccurrence of*

the Glare Incident, which investigation and remedy shall be subject to airport operator's reasonable review and approval. Project operator shall notify airport operator of the implementation date of such remedy, and if airport operator within 30 days of such date receives notification of a new Glare Incident, airport operator and project operator shall repeat the process described herein. Upon either (i) airport operator's approval of project operator's investigation concluding no occurrence of a Glare Incident, or (ii) no receipt of notification of a Glare Incident by project operator within 30 days of project operator's implementation of a remedy, such Glare Incident shall be considered resolved for the purpose of project operator's compliance with the requirements of this Condition. Glare Incident is defined as the occurrence of glint, glare or flash from the project that results in a flight accident, jeopardizes the safe operation of a flight or results in a specific safety complaint from a pilot to the airport operator or federal, state or county authorities responsible for the safety of air navigation.

5. Any new electrical ~~transmission or distribution~~ line segments for this project *that would extend across the extended runway centerline of the east-west runway at Blythe Airport* ~~located within Airport Compatibility Zone B1~~ shall be installed underground. This requirement specifically applies to the segments of the *initially* proposed 30kV line (approximately 1,500 feet in length) paralleling the easterly boundary of Airport Compatibility Zone A.

   As an alternative to underground installation of this 30kV line, the applicant may select the route alignment ~~depicted as Option C (a line~~ proceeding southerly along Butch, then easterly along Riverside, *connecting with* ~~then southerly along Buck to~~ *an* existing *electric line* ~~transmission lines)~~ *at the intersection of Riverside Avenue and Buck Boulevard, as depicted* on ~~Figure 1~~ *the aerial photo* exhibit *labeled "BLYTHE II SOLAR PROJECT Project Layout Approved By CUP"* ~~prepared by The Holt Group~~ on file with this application. ~~, as the Option C alignment does not extend into Airport Compatibility Zone B1.~~

6. **The Federal Aviation Administration (FAA) has issued its Final Determination letter for Aeronautical Study Nos. *2015-AWP-2329-NRA through 2015-AWP-2351-NRA* ~~201—AWP-150-NRA, 2010-AWP-196-NRA through 2010-AWP-216-NRA, and 2010-AWP-459-NRA~~, and has indicated no objections to the construction of the proposed project. The letter does not state that either marking or lighting of the array and/or the proposed *electric* ~~transmission~~ line towers would be necessary for aviation safety. However, if marking and/or lighting for aviation safety are accomplished on a voluntary basis, such marking and/or lighting shall be installed and maintained in accordance with FAA Advisory Circular 70/7460-1 K Change 2.**

7. **The permittee shall comply with the requirements set forth in FAA Advisory Circular 150/5370-2E, "Operational Safety on Airports During Construction."**

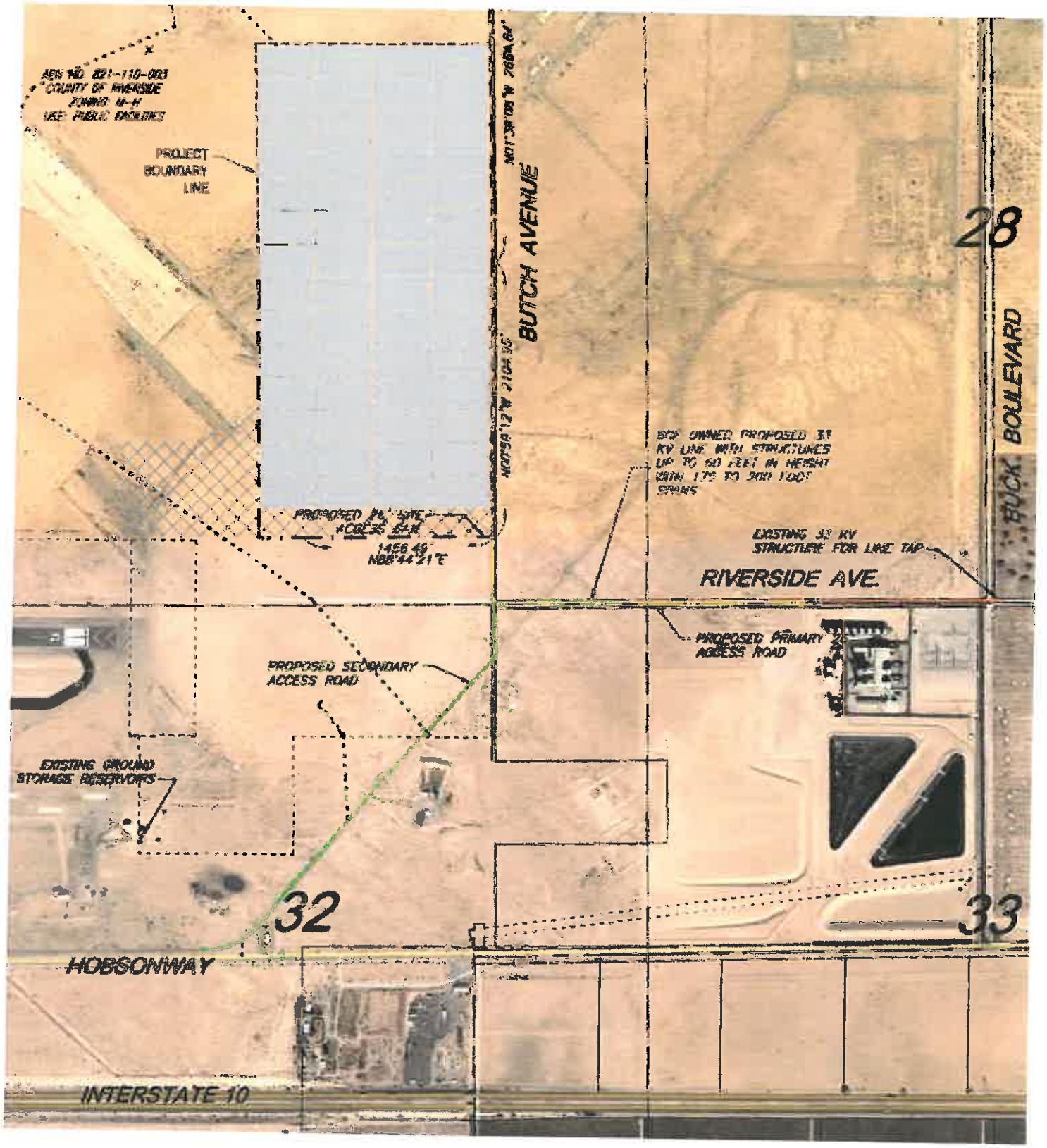
8. **The maximum height of the array (solar photovoltaic panels, trackers, inverters, and wires), excluding structures and *electric* ~~transmission~~ line towers, shall not exceed ten (10) feet above ground level, and the maximum elevation above sea level shall not exceed 406 feet above mean sea level.**

9. **The maximum height of the *electric* ~~transmission~~ line towers/poles shall not exceed ~~nineteen (19)~~ *fifty (50)* feet above ground level, *except for two poles that may be up to 51.5 feet above ground level,* and the maximum elevation above mean sea level shall not exceed the elevations as referenced in Table 1 of the FAA letter dated ~~August 4, 2010~~ *January 15, 2016.* Such elevation shall not exceed ~~416~~ *442* feet above mean sea level.**

10. **The maximum height of the maintenance building shall not exceed twenty-five (25) feet above ground level, and the maximum elevation above mean sea level shall not exceed 421 feet above mean sea level.**

11. **The specific coordinates, heights, and top point elevations of the proposed array, *electric* ~~transmission~~ line towers/poles, and maintenance building shall not be amended without further review by the Airport Land Use Commission and the Federal Aviation Administration; provided, however, that reduction in building, *array, or pole* height or elevation *and/or adjustments in the location of the array and/or maintenance building by less than 50 feet of horizontal distance (as long as the adjustment does not place panels or structures in a more restrictive Compatibility Zone)*shall not require further review by the Airport Land Use Commission.**

12. **Temporary construction equipment used during actual construction of the project shall not exceed the height of the proposed maintenance building *or the height of the structure being constructed, whichever is greater,* unless separate notice is provided to the Federal Aviation Administration through the Form 7460-1 process.**



BLYTHE II SOLAR PROJECT
Project Layout Approved by CUP

June 14, 2016

John Guerin
Principal Planner
Riverside County Airport Land Use Commission
4080 Lemon Street
Riverside, CA 92502

RE: NRG Solar Blythe II LLC Solar Project – Conditional Use Permit 3728
Amendment to 08/10/10 ALUC Letter Conditions

Mr. Guerin,

NRG Solar Blythe II LLC received approval of a Conditional Use Permit ("CUP") by the Riverside County Board of Supervisors on January 26, 2016 approving the construction and use of a 20 megawatt ("MW") solar plant on approximately 156 acres of land on the southeast portion of the Blythe Municipal Airport to be leased from the Riverside County Economic Development Agency ("EDA").

This project was originally reviewed and approved in 2010 as a proposed 100 MW solar plant on 829 acres of land to be leased from EDA. At that time, the County project number was Plot Plan No. 24616 and the project was originally reviewed by ALUC as ZAP1005BL09.

Since that time, the project has been reduced in size to a 20 MW solar plant on approximately 156 acres of land. In addition to the CUP approved by Riverside County in January 2016, the project also went through an extensive review under the National Environmental Policy Act ("NEPA") process led by the Federal Aviation Administration ("FAA"). The FAA NEPA process resulted in a Finding of No Significant Impact ("FONSI") issued in May 2016 and the project has started preliminary construction activity to meet an online date of October 2016.

As part of the Conditions of Approval for the current CUP, the County included a letter issued by ALUC on August 10, 2010 pertaining to the originally proposed project. In order to clear the current CUP conditions of approval to proceed with issuance of the building permit, we request amendment to the language of certain conditions in the 2010 ALUC letter.

In addition to the application being submitted for review along with this letter, we are providing the Glare Study reviewed by FAA as part of their Finding of No Significant Impact, the FAA determination of No Hazards for a transmission line with poles 50 feet above ground level on Butch Boulevard and Riverside Avenue, a site plan of the project and transmission line which also shows existing transmission poles in this area for context, and a figure showing Blythe Airport Horizontal Surface with ground elevation and the proposed transmission line route.

Specifically, we request amendment to the language of Conditions 1, 9 and 11 as further explained below.

Condition 1

Condition 1(b) states that "Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport" would be prohibited.

As part of the FAA NEPA review and Finding of No Significant Impact, the potential for glare from the project was analyzed using the Solar Glare Hazard Analysis Tool (SGHAT) developed by Sandia National Laboratories and in accordance with FAA policy. The analysis concluded that the project would not result in an ocular impact that would compromise the safety of air traffic at the airport.

We therefore propose that the language of Condition 1(b) about reflected sunlight be removed and replaced with a condition consistent with the required finding of the FAA glare analysis that would prohibit "any use that would result in an ocular impact that would compromise the safety of air traffic at the airport."

Included for review is the Glare Analysis that was conducted as part of the FAA NEPA review and subsequent Finding of No Significant Impact.

Condition 9

Condition 9 states that "The maximum height of the transmission line towers/poles shall not exceed nineteen (19) feet above ground level, and the maximum elevation above mean sea level shall not exceed the elevation as referenced in Table 1 of the FAA letter dated August 4, 2010. Such elevation shall not exceed 416 feet above mean sea level."

Southern California Edison ("SCE") is the electric utility responsible for designing, constructing and owning the transmission line that connects the solar plant to the SCE electrical system. SCE has now completed their design for the above-ground transmission line. It still follows the route previously approved in ALUC's 2010 letter proceeding southerly along Butch Boulevard and then easterly along Riverside Avenue. However, the tower heights designed in accordance with SCE's system parameters exceed the 19 feet written in Condition 9, which was drafted prior to the towers being designed.

The towers as designed would not exceed 50 feet above ground level on Butch Blvd or most of Riverside Avenue. The FAA reviewed 23 tower locations at 50 feet above ground level along Butch Boulevard and Riverside Avenue and all of these locations received Determinations of No Hazard. There are two poles designed by SCE that would be 51.5 feet above ground level but they would be located at the eastern end of the line in an area where the ground elevation is approximately 50 feet lower than it is at the western part of the line. Therefore, these two poles would not exceed airspace height limitations and would be consistent with the Part 77 requirements for a Determination of No Hazard by FAA.

We therefore request that the language in this condition be amended to state the maximum height of the transmission line towers/poles shall not exceed 50 feet above ground level, unless approved by FAA as appropriate under a Determination of No Hazard.

Included for review and consideration are the Determinations of No Hazard from January 15, 2016. Also, included is an exhibit that shows existing transmission poles in this area and provides the context that the poles proposed for this project are shorter than many poles that already exist in this area.

Condition 11

Condition 11 states the specific coordinates, heights, and top point elevations of the proposed array, transmission line towers/poles, and maintenance building shall not be amended without further review by the Airport Land Use Commission and the Federal Aviation Administration; provided, however, that reduction in building height or elevation shall not require further review by the Airport Land Use Commission."

Since the exact coordinates may change slightly during construction to allow for minor adjustments in the field, we request that this language be amended to allow that any minor amendments would be allowed without additional review by ALUC as long as they are refiled as appropriate and approved as appropriate by the FAA.

We appreciate your timely review of these materials and look forward to the special hearing on July 1st to consider approval of these amendments to the 2010 letter conditions.

Regards,

James Kelly
NRG Energy, Inc.
5790 Fleet Street, Suite 200
Carlsbad, CA 92008
760-450-6031
james.kelly@nrg.com

Federal Aviation Administration

January 15, 2016

TO:
NRG Solar Blythe II LLC
Attn: Donna McClay
5790 Fleet Street
Suite 200
Carlsbad, CA 92008
donna.mcclay@nrg.com

CC:
COUNTY OF RIVERSIDE
3403 10TH STREET, SUITE 500
RIVERSIDE, CA 92501
Dshippy@rivcoeda.org

CC:
NRG Renew LLC
Attn: Donna McClay
5790 Fleet Street
Suite 200
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donna.mcclay@nrgenergy.com

RE: *(See attached Table 1 for referenced case(s))*
FINAL DETERMINATION

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2015-AWP-2329-NRA	2015-AWP-2125-NRA	BLYTHE, CA	33-37-12.00N	114-41-52.63W	50	442
2015-AWP-2330-NRA	2015-AWP-2126-NRA	BLYTHE, CA	33-37-10.81N	114-41-50.50W	50	441
2015-AWP-2331-NRA		BLYTHE, CA	33-37-09.80N	114-41-48.85W	50	441
2015-AWP-2332-NRA	2015-AWP-2128-NRA	BLYTHE, CA	33-37-09.18N	114-41-47.89W	50	441
2015-AWP-2333-NRA	2015-AWP-2129-NRA	BLYTHE, CA	33-37-07.60N	114-41-47.77W	50	440
2015-AWP-2334-NRA	2015-AWP-2130-NRA	BLYTHE, CA	33-37-05.55N	114-41-47.56W	50	439
2015-AWP-2335-NRA	2015-AWP-2131-NRA	BLYTHE, CA	33-37-03.92N	114-41-47.51W	50	435
2015-AWP-2336-NRA	2015-AWP-2132-NRA	BLYTHE, CA	33-37-02.67N	114-41-47.41W	50	433
2015-AWP-2337-NRA	2015-AWP-2133-NRA	BLYTHE, CA	33-37-02.67N	114-41-45.41W	50	432
2015-AWP-2338-NRA	2015-AWP-2134-NRA	BLYTHE, CA	33-37-02.67N	114-41-44.23W	50	432
2015-AWP-2339-NRA	2015-AWP-2135-NRA	BLYTHE, CA	33-37-02.67N	114-41-42.51W	50	428
2015-AWP-2340-NRA	2015-AWP-2136-NRA	BLYTHE, CA	33-37-02.67N	114-41-40.26W	50	424
2015-AWP-2341-NRA	2015-AWP-2137-NRA	BLYTHE, CA	33-37-02.67N	114-41-37.75W	50	428
2015-AWP-2342-NRA	2015-AWP-2138-NRA	BLYTHE, CA	33-37-02.67N	114-41-34.29W	50	420
2015-AWP-2343-NRA	2015-AWP-2139-NRA	BLYTHE, CA	33-37-02.67N	114-41-29.83W	50	412
2015-AWP-2344-NRA	2015-AWP-2140-NRA	BLYTHE, CA	33-37-02.67N	114-41-26.31W	50	405
2015-AWP-2345-NRA	2015-AWP-2141-NRA	BLYTHE, CA	33-37-02.67N	114-41-23.71W	50	400

2015-AWP-2346-NRA	2015-AWP-2142-NRA	BLYTHE, CA	33-37-02.67N	114-41-20.57W	50	395
2015-AWP-2347-NRA	2015-AWP-2143-NRA	BLYTHE, CA	33-37-02.67N	114-41-17.35W	50	389
2015-AWP-2348-NRA	2015-AWP-2144-NRA	BLYTHE, CA	33-37-02.67N	114-41-13.84W	50	387
2015-AWP-2349-NRA	2015-AWP-2145-NRA	BLYTHE, CA	33-37-02.67N	114-41-13.84W	50	387
2015-AWP-2350-NRA	2015-AWP-2146-NRA	BLYTHE, CA	33-37-02.67N	114-41-06.52W	50	387
2015-AWP-2351-NRA	2015-AWP-2147-NRA	BLYTHE, CA	33-37-02.67N	114-41-01.71W	50	387

Description: Blythe II Gen-tie Pole #1

We do not object with conditions to the construction described in this proposal provided:

You comply with the requirements set forth in FAA Advisory Circular 150/5370-2, "Operational Safety on Airports During Construction."

The proponent is required to coordinate all associated activities with the Airport Manager/Airport Traffic Control Tower (ATCT) 5 business days prior to the beginning of the project.

This determination is subject to review if disruption to FAA Operations should occur.

Even though No Obstruction Lighting/Marking is required they are recommended if applicable. (Advisory Circular 70/7460-1, Obstruction Marking and Lighting

A separate notice to the FAA is required for any construction equipment, such as temporary cranes, whose working limits would exceed the height and lateral dimensions of your proposal.

This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

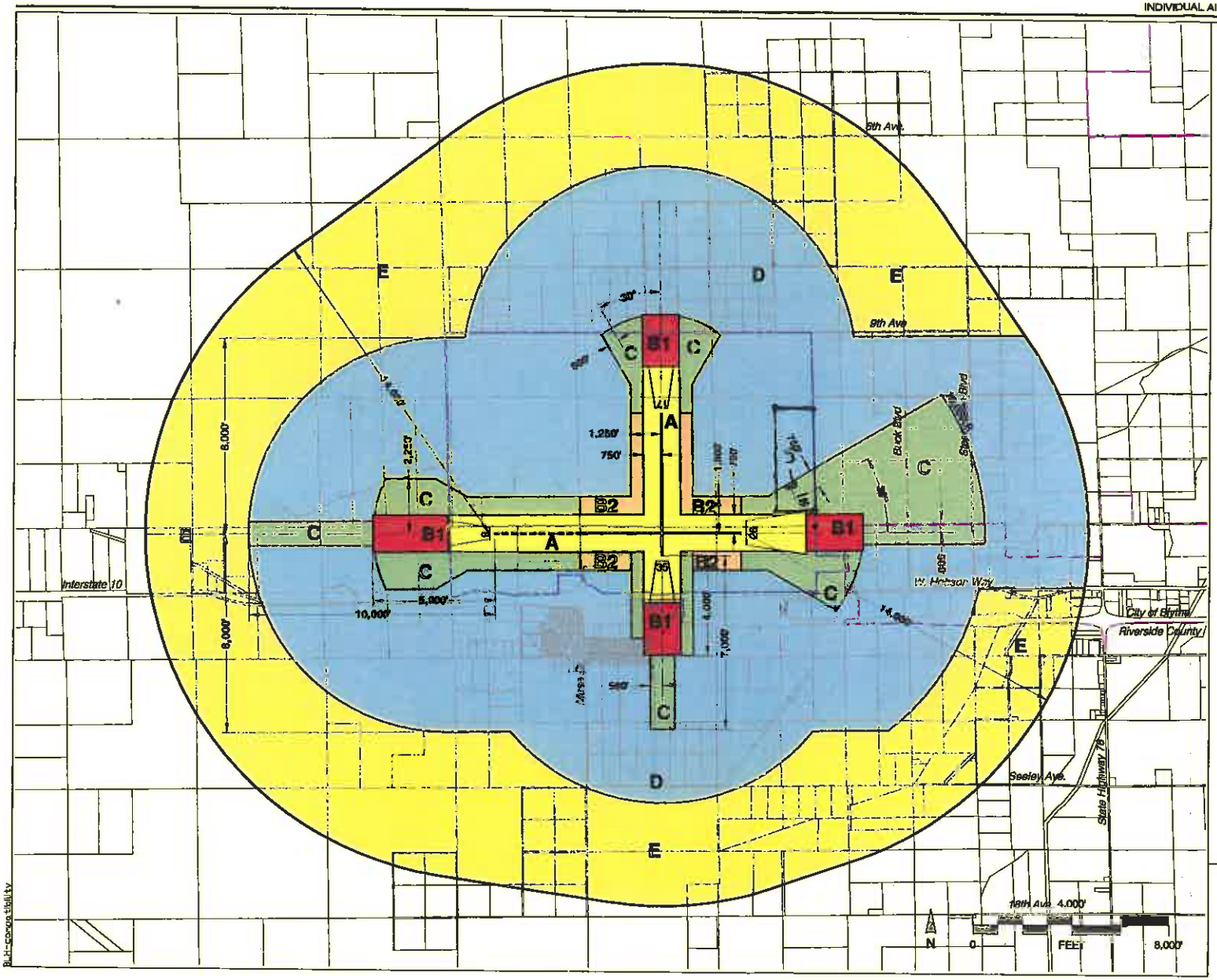
In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

This determination expires on July 15, 2017 unless:
(a) extended, revised or terminated by the issuing office.
(b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for the completion of construction, or the date the FCC denies the application.

NOTE: Request for extension of the effective period of this determination must be obtained at least 15 days prior to expiration date specified in this letter.

If you have any questions concerning this determination contact Lloyd E. Lewis (310) 725-3650 lloyd.e.lewis@faa.gov.

Lloyd E. Lewis
DivUser



Legend

Compatibility Zones

- Airport Influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C
- Zone D
- Zone E

Boundary Lines

- Airport Property Line
- City Limits

Note

Airport influence boundary measured from a point 200 feet beyond runway ends in accordance with FAA airspace protection criteria (FAR Part 77). All other dimensions measured from runway ends and centerlines.

See Chapter 2, Table 2A for compatibility criteria associated with this map.

Riverside County
Airport Land Use Commission

Riverside County
Airport Land Use Compatibility Plan
Policy Document

(Adopted October 2004)

Map BL-1

Compatibility Map

Blythe Airport

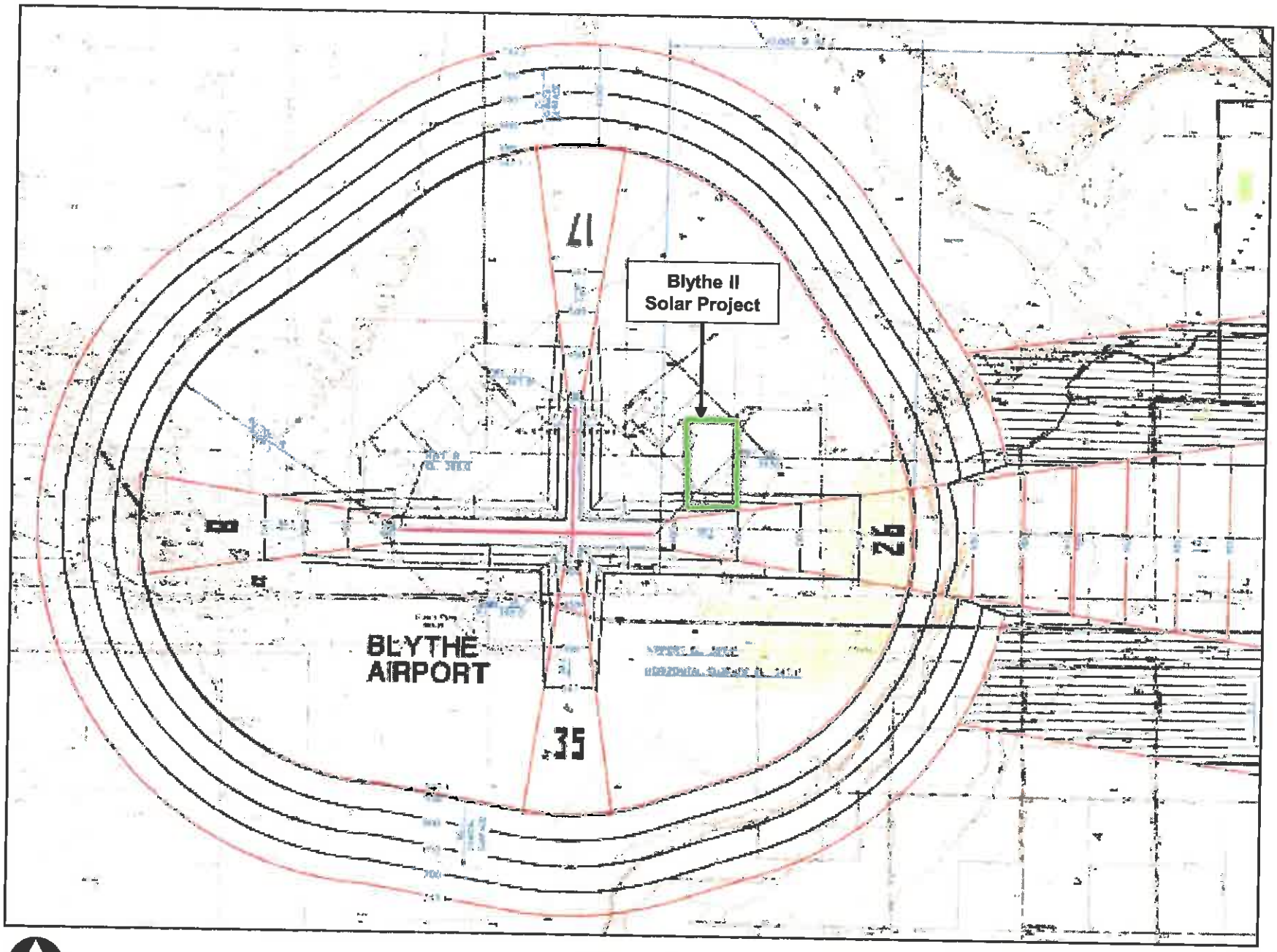
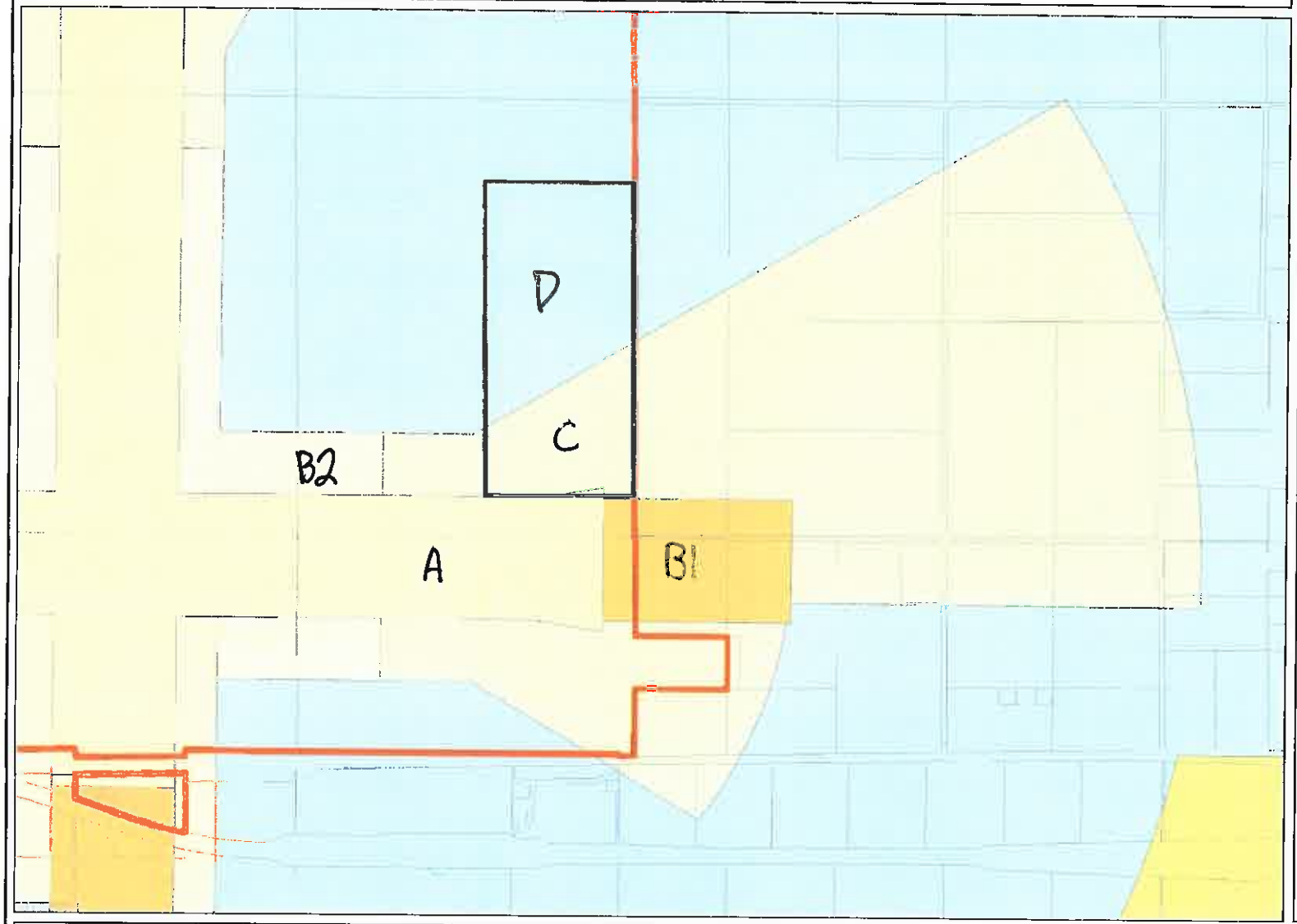


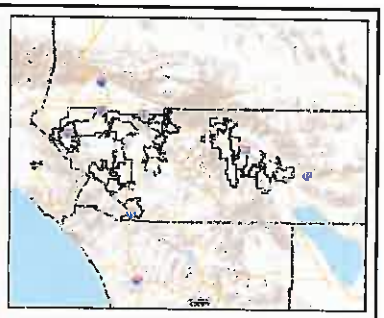
Figure 1

Blythe II Solar Project

Project Location Relative to Blythe Airport Runways

My Map





Legend

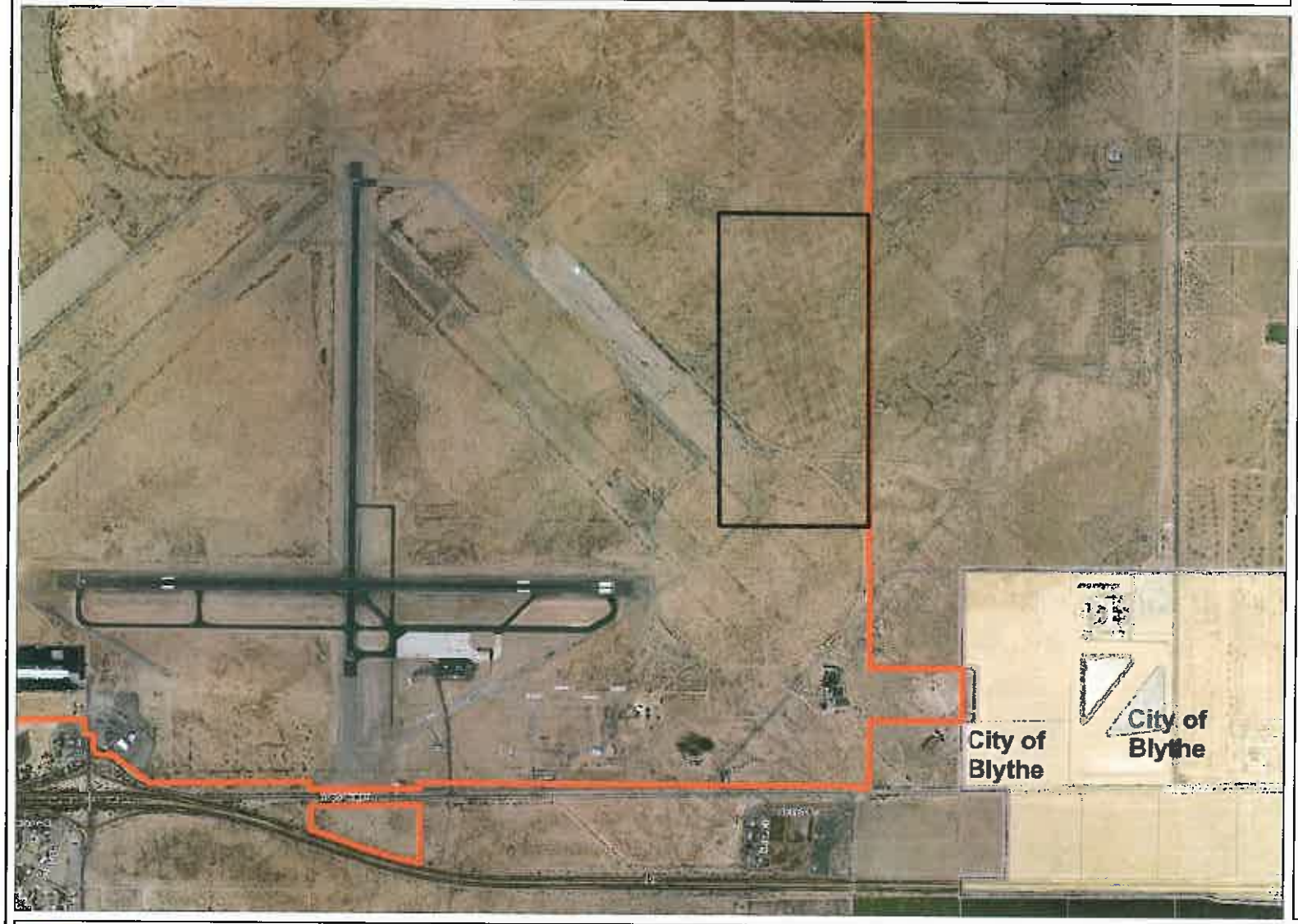
- Airports
- Airport Compatibility
  - OTHER ZONE
  - A
  - A-EXC1
  - B1
  - B1-APZ I
  - B1-APZ I-EXC1
  - B1-APZ II
  - B1-APZ II-EXC1
  - B1-EXC1
  - B2
  - B2-EXC1
  - C
  - C1
  - C1-EXC1
  - C1-EXC3
  - C1-EXC4
  - C1-HIGHT
  - C2
  - C2-EXC1
  - C2-EXC2
  - C2-EXC3
  - C2-EXC5
  - C2-EXC6
  - C2-HIGHT
  - C2-HIGHT-EXC1

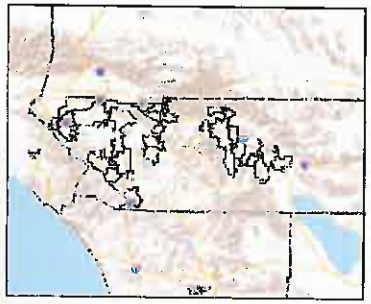
0 2,214 4,428 Feet

REPORT PRINTED ON... 6/21/2016 3:21:08 PM

Notes

My Map





Legend

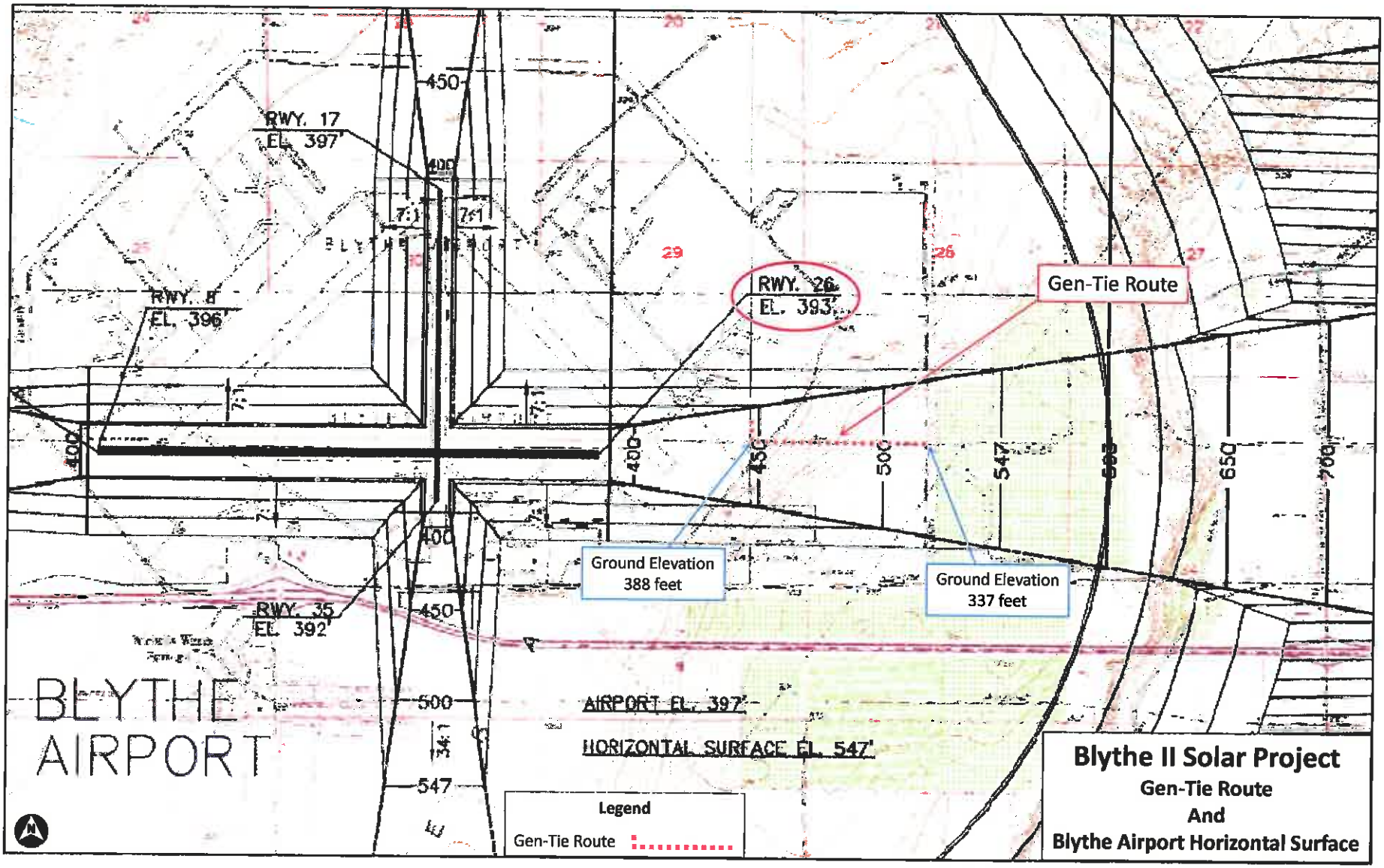
- Airports
- City Boundaries
- Cities
- roadsanno
- highways
  - HWY
  - INTERCHANGE
  - INTERSTATE
  - OFFRAMP
  - ONRAMP
  - USHWY
- roads
  - Major Roads
  - Arterial
  - Collector
  - Residential
- counties
- cities
- hydrographylines
- waterbodies
  - Lakes
  - Rivers

RCIT

0 2,214 4,428 Feet

REPORT PRINTED ON... 6/21/2016 3:24:55 PM

Notes


RWY. 17
EL. 397'
RWY. 8
EL. 396'
RWY. 26
EL. 393'
RWY. 35
EL. 392'
Gen-Tie Route
Ground Elevation
388 feet
Ground Elevation
337 feet
BLYTHE
AIRPORT
AIRPORT EL. 397'
HORIZONTAL SURFACE EL. 547'
Legend
Gen-Tie Route
Blythe II Solar Project
Gen-Tie Route
And
Blythe Airport Horizontal Surface

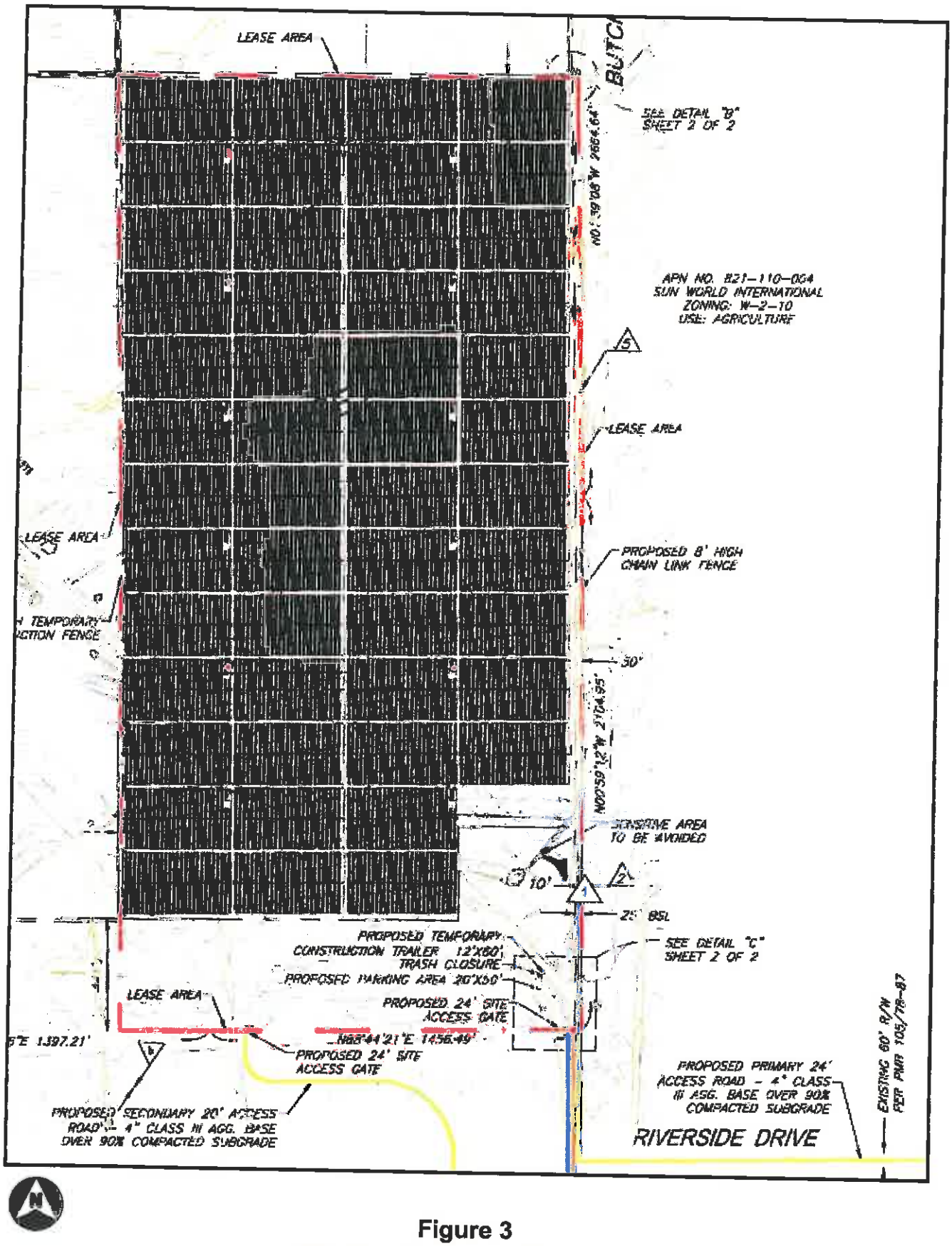
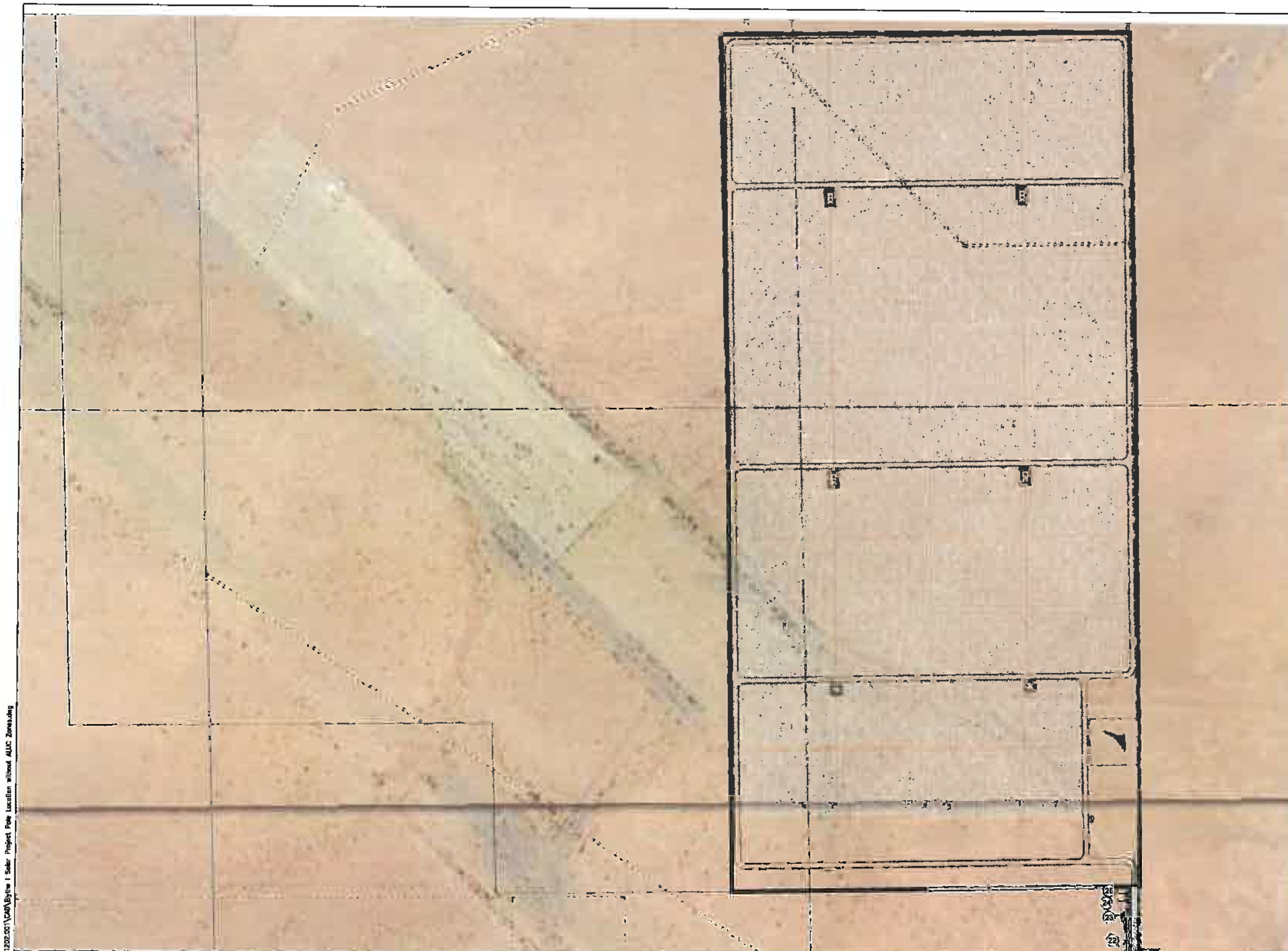


Figure 3

Blythe II Solar Project

Proposed Site Layout



LEGEND

ALUC ZONE A - NO CONSTRUCTION (100% OPEN SPACE)
ALUC ZONE B1 - 30% OPEN SPACE
ALUC ZONE B2 - NO OPEN SPACE
ALUC ZONE C - 20% OPEN SPACE
ALUC ZONE D - 10% OPEN SPACE

200' 0' 200' 400' 600'
SCALE: 1"=200'

DWG FILE-> O:\(E) Centro\1202.001\CAD\Blythe I Solar Project Pole Location without ALUC Zones.dwg

The Holt Group
ENGINEERING · PLANNING · SURVEYING

201 E. Hobsonway	Blythe	California	92225
1601 N. Imperial Ave.	El Centro	California	92243
70-225 Highway 111, Suite D	Rancho Mirage	California	92270

(760) 922-4658
(760) 337-3883
(760) 325-5280

NO.	REVISIONS:	APPROVED	DATE

UNAUTHORIZED CHANGES & USES: The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

DESIGN BY: VG
DRAWN BY: VG
CHECKED BY: V G

BENCHMARK:

SCALE:

SEAL-ENGINEER

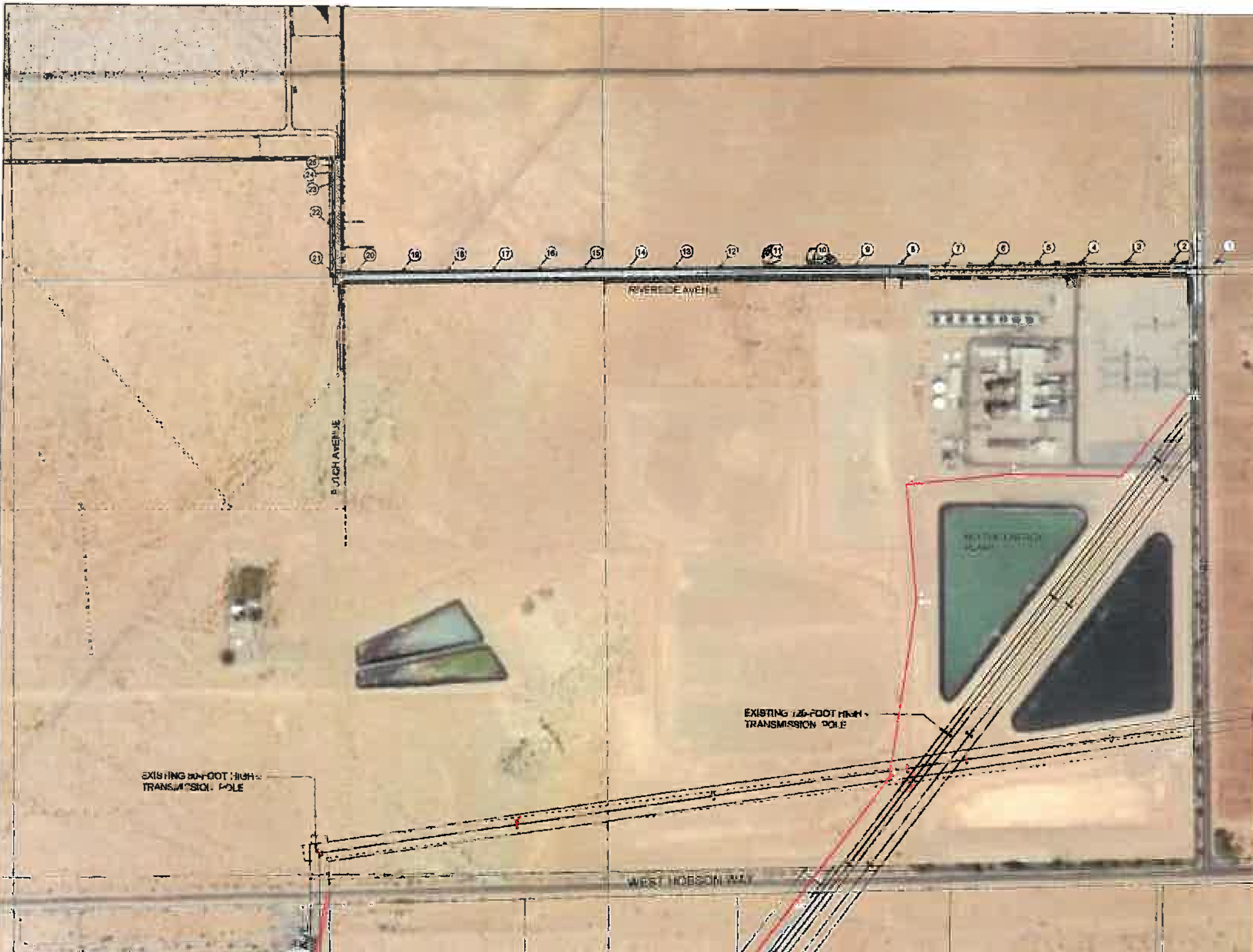
PREPARED UNDER THE DIRECT SUPERVISION OF:
ROBERT K. HOLT, P.E.
27943 R.C.E. NO.
08/03/2018 DATE
03/31/2018 REG. EXP.

BLYTHE II SOLAR PROJECT
WDID: 733C376130 6MP160067 8GR160069

SHEET CONTENT: POLE LOCATION EXHIBIT

LOCATION: 16480 RIVERSIDE AVE BLYTHE, CA
CLIENT: NEXTERA

SHEET 2
2 OF 2 SHEET
JOB NO. 1202.001



POLE HIGHT PROVIDED BY SCE = 51 FEET

POLE HIGHT PROVIDED BY SCE = 47.5 FEET

NOTE: THE POLE HEIGHT IS CALCULATED AS 10% OF THE LENGTH OF THE POLE - 2 FEET i.e. THE POLE LENGTH

ITEM NUMBER — POLE SCE IDENTIFICATION NUMBER — POLE LENGTH — NATIVE SURFACE ELEVATION AT POLE LOCATION

SCALE: 1"=200'

The Holt Group
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NO.	REVISIONS:	APPROVED	DATE

UNAUTHORIZED CHANGES & USES: The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

DESIGN BY: VG
DRAWN BY: VG
CHECKED BY: V G

BENCHMARK:
SCALE:

PREPARED UNDER THE DIRECT SUPERVISION OF:
ROBERT K. HOLT, P.E. — 27943 R.C.E. NO.
08/03/2016 DATE — 03/31/2018 REG. EXP.

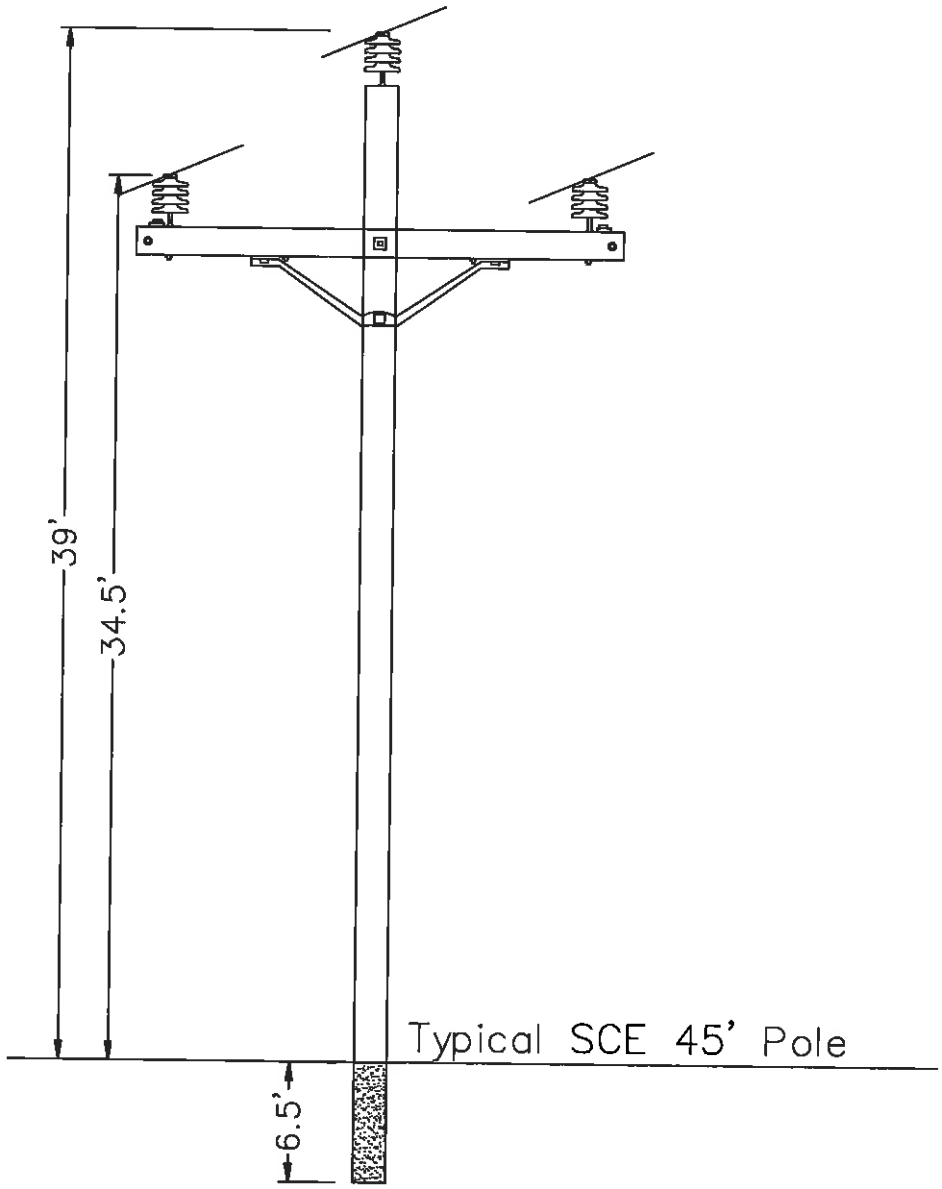
BLYTHE II SOLAR PROJECT
WDID: 733C376130 BMP160067 BGR160069

SHEET CONTENT: POLE LOCATION EXHIBIT

LOCATION: BLYTHE, CA
CLIENT: NEXTERA

SHEET 1
1 OF 2 SHEET
JOB NO. 1202.001

Typical SCE pole pofile
for raptor protection
construction



APPENDIX G

GLARE ANALYSIS

GLARE ANALYSIS
FOR
BLYTHE II PV SOLAR PROJECT
LOCATED AT THE
BLYTHE AIRPORT IN BLYTHE, CALIFORNIA

The Blythe II Solar Project is a proposed 20 MW photovoltaic (PV) solar project proposed to be located on approximately 156 acres of land at the Blythe Airport (BLH) near Blythe, California. **Figure 1** shows the location of the proposed solar project in relation to the airport and runways.

An analysis of potential glare hazards near airports is required by the Federal Aviation Administration (FAA). On October 23, 2013, the FAA published interim policy in the Federal Register for proposals by sponsors of federally obligated airports to construct solar energy systems on airport property (78-FR-63276). Airport sponsors and project proponents must comply with the procedures in this policy to demonstrate to the FAA that a proposed solar energy system will not result in an ocular impact that compromises the safety of the air transportation system at airports.

METHODOLOGY

FAA adopted the *Solar Glare Hazard Analysis Plot* shown in **Figure 2** below as the standard for measuring the ocular impact of any proposed solar energy system on an airport under FAA jurisdiction. To obtain FAA approval, the airport sponsor and proponent are required to demonstrate that the proposed solar energy system meets the following standards:

1. There would be no potential for glint or glare in the existing or planned Airport Traffic Control Tower (ATCT) cab, and
2. There would be no potential for glare or "low potential for after-image" (shown in green in Figure 2) along the final approach path for any existing landing threshold or future landing thresholds (including any planned interim phases of the landing thresholds) as shown on the current FAA-approved Airport Layout Plan (ALP). The final approach path is defined as two (2) miles from fifty (50) feet above the landing threshold using a standard three (3) degree glidepath.

Ocular impact must be analyzed over the entire calendar year in one (1) minute intervals from when the sun rises above the horizon until the sun sets below the horizon.

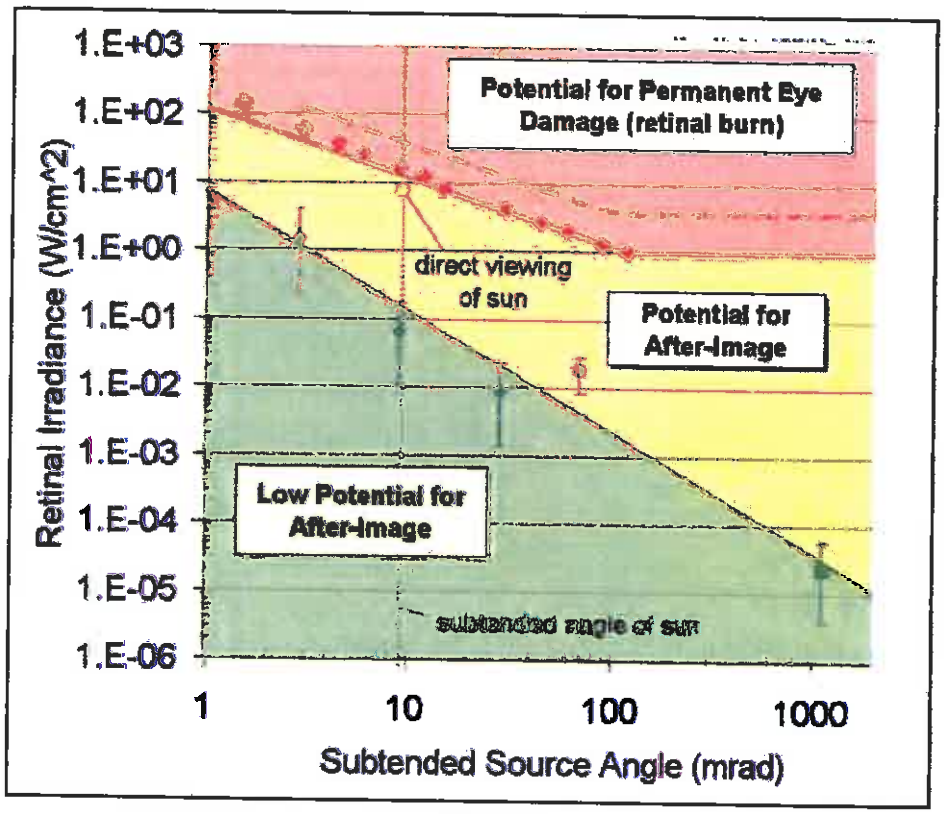


Figure 2
OCULAR HAZARD PLOT

To conduct the analysis to determine the potential for ocular impact, in cooperation with the DOE, the FAA is requiring the use of the *Solar Glare Hazard Analysis Tool* (SGHAT) developed by Sandia National Laboratories. If glare is found, the tool calculates the retinal irradiance and subtended source angle (size/distance) of the glare source to predict potential ocular hazards ranging from temporary afterimage to retinal burn. The results are presented in a simple, easy-to-interpret plot that specifies when glare will occur throughout the year, with color codes that are consistent with the hazard plot indicating the potential ocular hazard.

The SGHAT tool determines when and where solar glare can occur throughout the year from a user-specified PV array as viewed from user-prescribed observation points. The potential ocular impact from the observed glare is also determined.

The Blythe Airport does not have a control tower, so the glare hazard analysis for the Blythe II Solar Project focused on the approach path for the landing thresholds of each of the four runway approaches at the airport.

The following inputs were used to set up the SGHAT tool:

- The site layout plan for the Blythe II Solar Project (**Figure 3**) that includes PV panels with anti-reflective coating (ARC) and a single-axis tracking panel mounting system
- The six (6) outlying corners of the panel array were used to identify the geoposition of the project
- Four (4) points to identify each of the four (4) flight paths originating at the runway threshold paint bar at the end of each runway

The additional detailed inputs used in the analysis are shown on the pages of the Solar Glare Hazard Analysis Flight Path Report generated by the SGHAT tool that is included in **Attachment A.**

RESULTS

The analysis shows that glare from the Blythe II Solar Project could occur for each of the four runway approaches at the Blythe Airport but the potential glare hazard would be low (with low potential for after image) in all cases.

While the glare hazard would be low for each runway approach, the time of year, time of day, and the distances where glare could occur would be different of each runway because of its different orientation relative to the solar project. This is discussed below and shown graphically in **Attachment A**:

- Southbound Approach to BLH Runway 17 – Low intensity glare could be seen at the landing threshold and a half mile away during the late afternoon during winter months.
- Westbound Approach to BLH Runway 26 – Low intensity glare could be seen at the landing threshold during the late afternoon and at 0.75 to 2 miles in the early morning during summer months.
- Northbound Approach to BLH Runway 35 – Low intensity glare could be seen at the landing threshold and near during the late afternoon during summer months.
- Eastbound Approach to BLH Runway 8 – Low intensity glare could be seen at all approach distances during the late afternoon during summer months and during spring and fall.

CONCLUSION

The Blythe II Solar Project would generate low intensity glare. Because it will be built as a single-axis tracking project with panels that track the sun during the course of the day, the glare would be visible at any of the runway approaches at the Blythe Airport for only very short periods of time during the early morning and later afternoon and only during parts of the year.

Because the generated glare would be of low intensity and occur for only short periods, the Blythe II Solar Project would not create a significant glare hazard to pilots landing at all runways at the Blythe Airport. Therefore, the Project would not result in an ocular impact that would compromise the safety of air traffic at the airport.

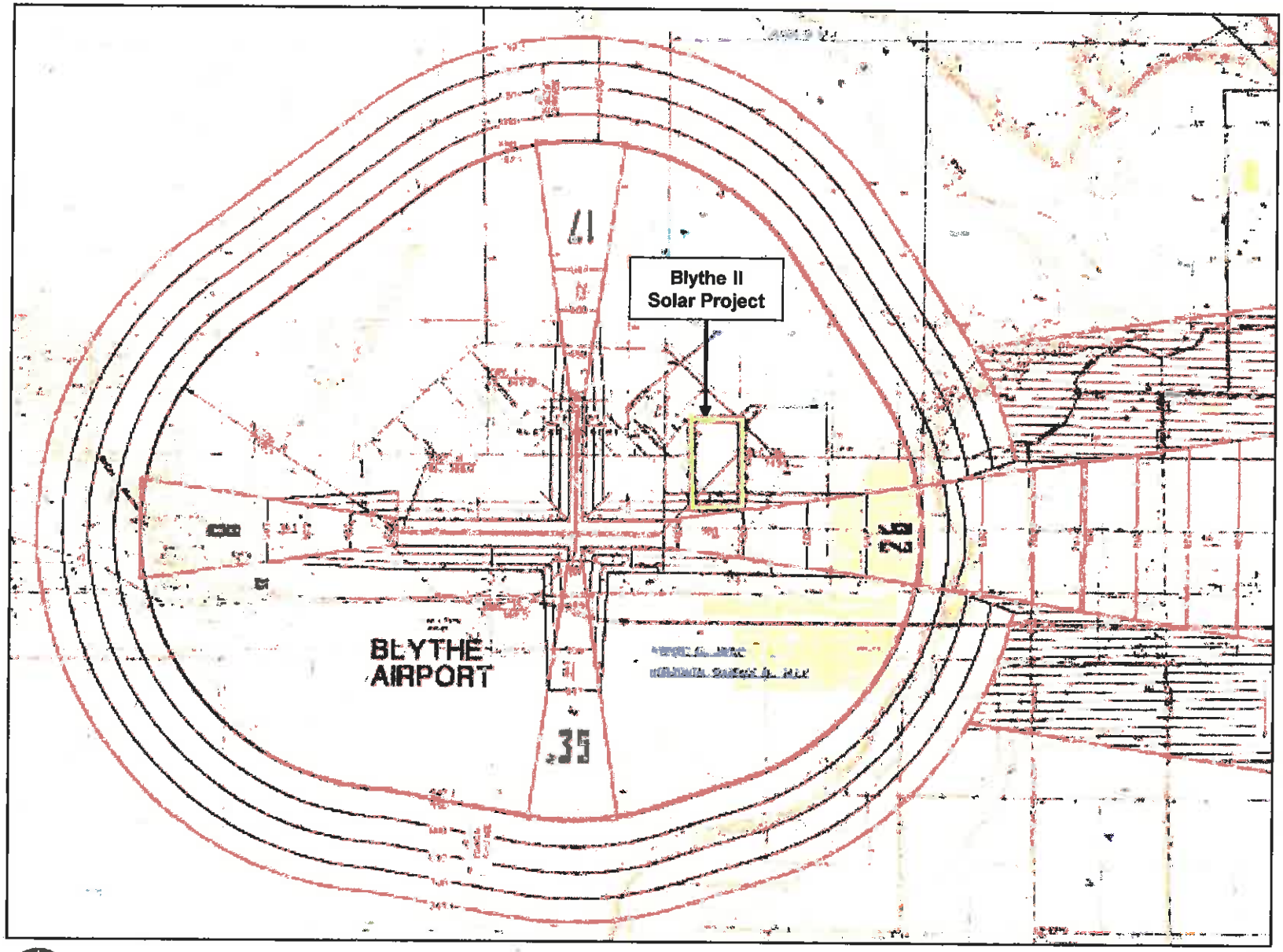


Figure 1

Blythe II Solar Project

Project Location Relative to Blythe Airport Runways

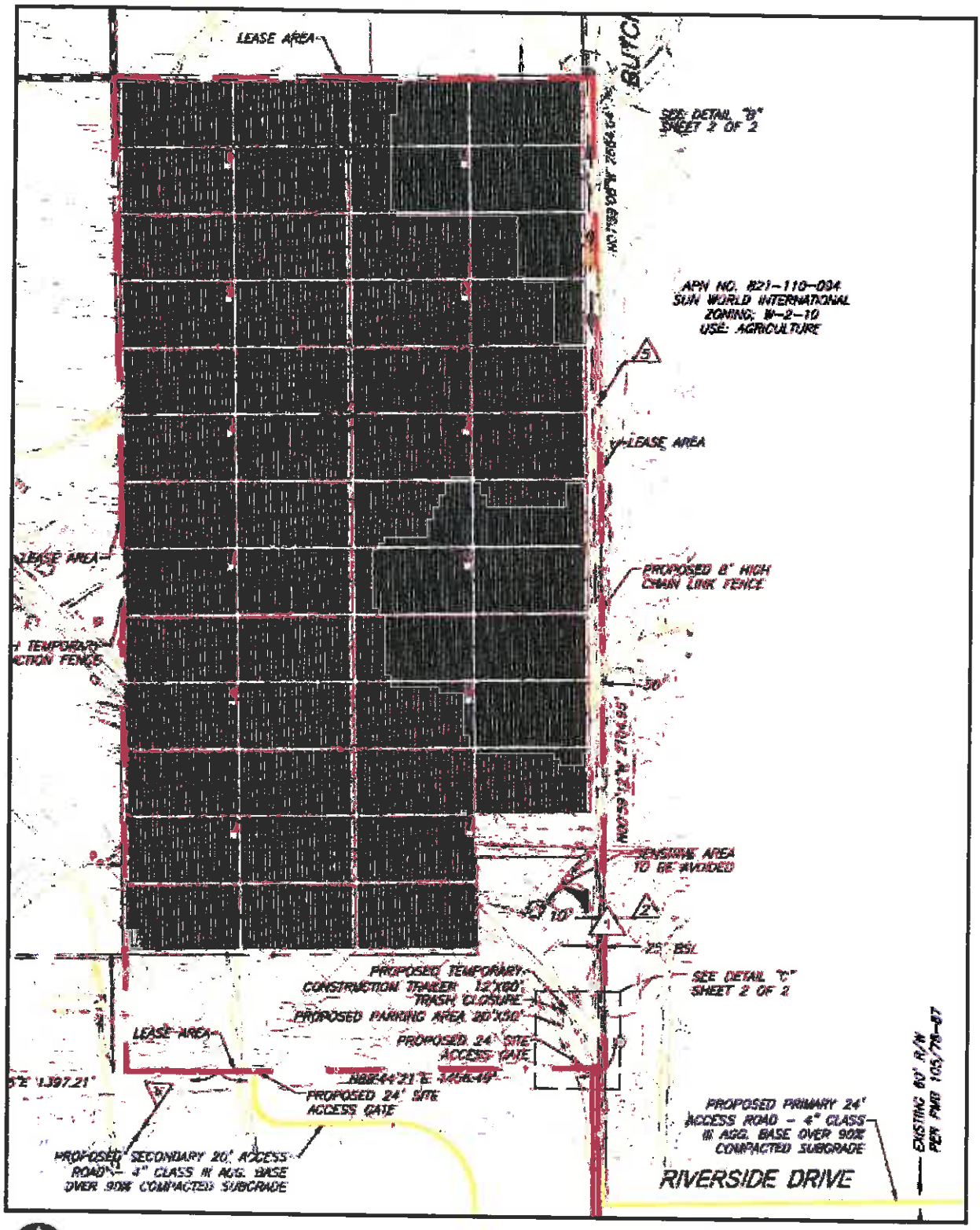


Figure 3

Blythe II Solar Project

Proposed Site Layout

ATTACHMENT 1

SOLAR GLARE HAZARD ANALYSIS FLIGHT PATH REPORT
FROM SGAHT TOOL

Solar Glare Hazard Analysis Flight Path Report

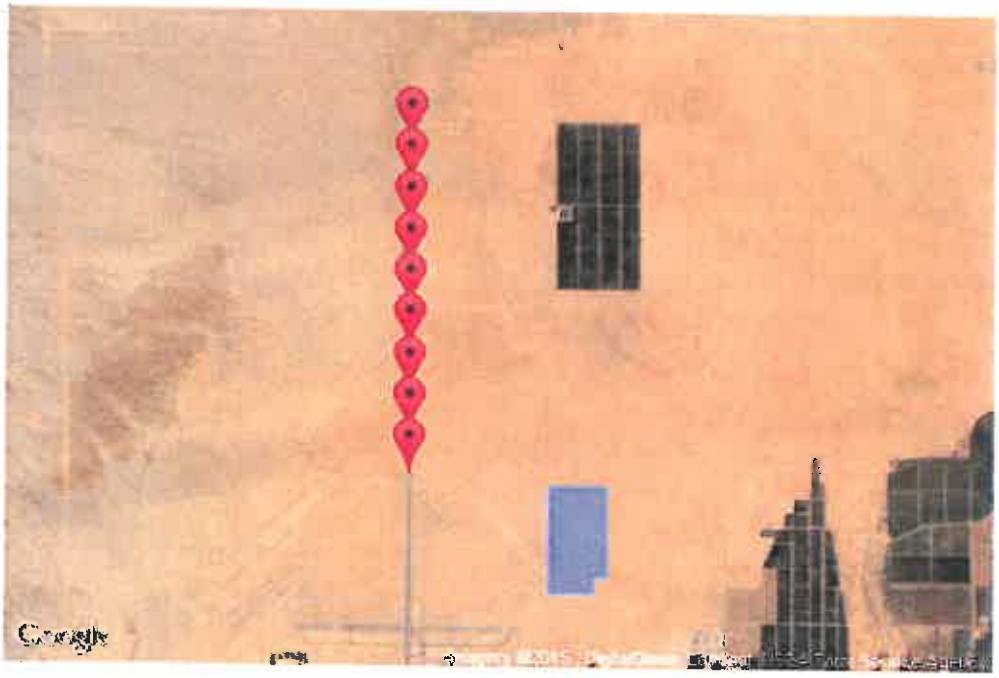
Generated April 9, 2015, 2:17 p.m.

Flight path: BLH Runway 17

Southbound Landing Approach

Glare found

Print



Analysis & PV array parameters

Analysis name	BLH Solar Site Part A
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	179.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	90.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-8.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002
Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	False
Slope error (mrad)	10.0

Flight path parameters

Direction (deg)	180.0

Glide slope (deg)	3.0
Consider pilot visibility from cockpit	True
Max downward viewing angle (deg)	30.0
Azimuthal viewing angle (deg)	180.0

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	33.619921217	-114.69771	391.82	6.0	397.82
2	33.62131	-114.69772	392.07	6.0	398.07
3	33.62133	-114.69629	391.61	6.0	397.61
4	33.62897	-114.69639	393.61	6.0	399.61
5	33.62896	-114.70204	395.25	6.0	401.25
6	33.61991	-114.70198	393.62	6.0	399.62

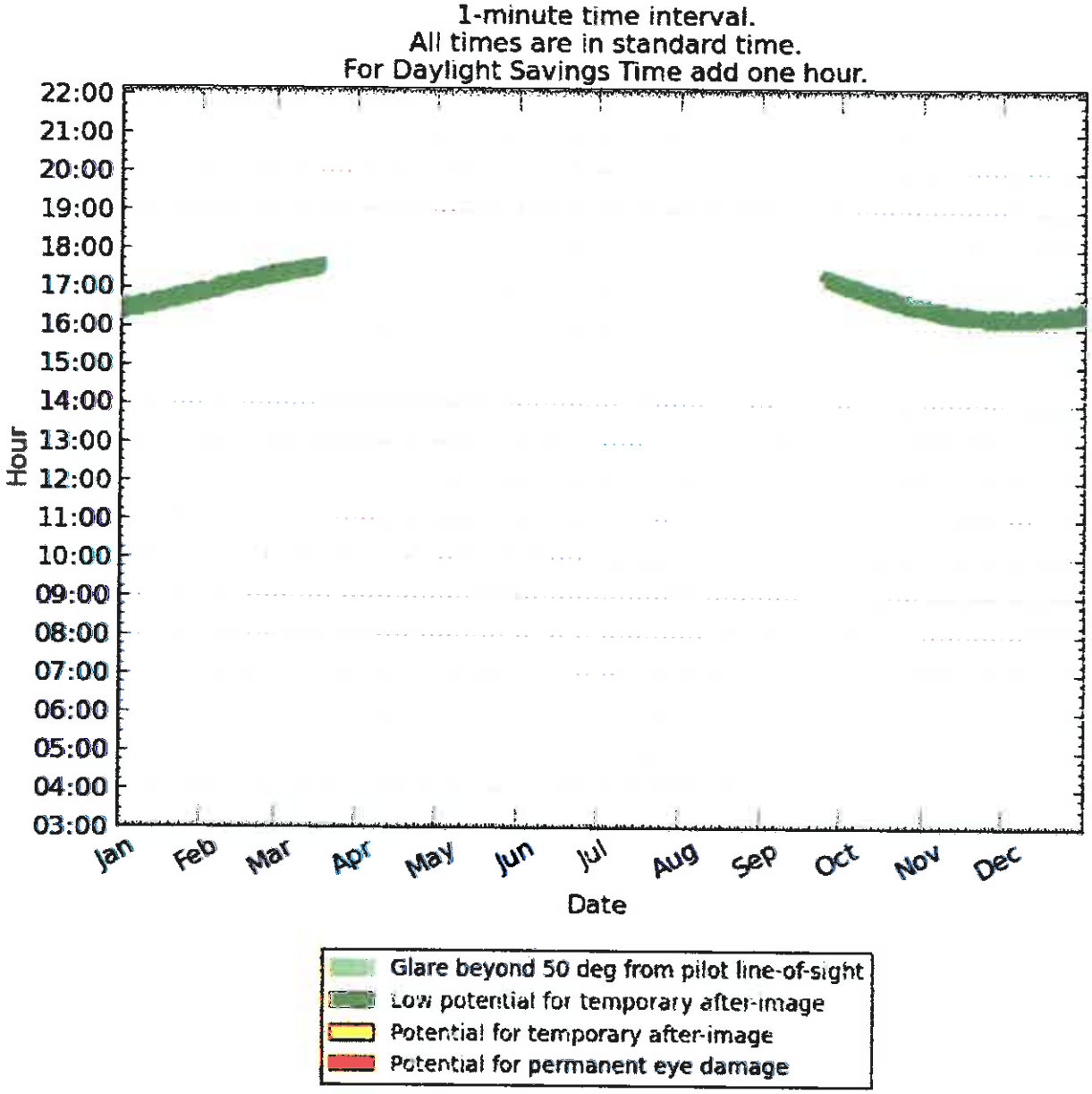
Flight Path Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)	Glare?
Threshold	33.6300193543	-114.716752142	397.55	50.0	Yes
1/4 mi	33.6336330978	-114.716752142	397.22	119.5	Yes
1/2 mi	33.6372468414	-114.716752142	399.19	186.72	Yes
3/4 mi	33.6408605849	-114.716752142	401.63	253.46	No
1 mi	33.6444743285	-114.716752142	404.77	319.49	No
1 1/4 mi	33.648088072	-114.716752142	407.09	386.35	No
1 1/2 mi	33.6517018156	-114.716752142	410.47	452.15	No
1 3/4 mi	33.6553155591	-114.716752142	414.41	517.4	No
2 mi	33.6589293027	-114.716752142	418.02	582.96	No

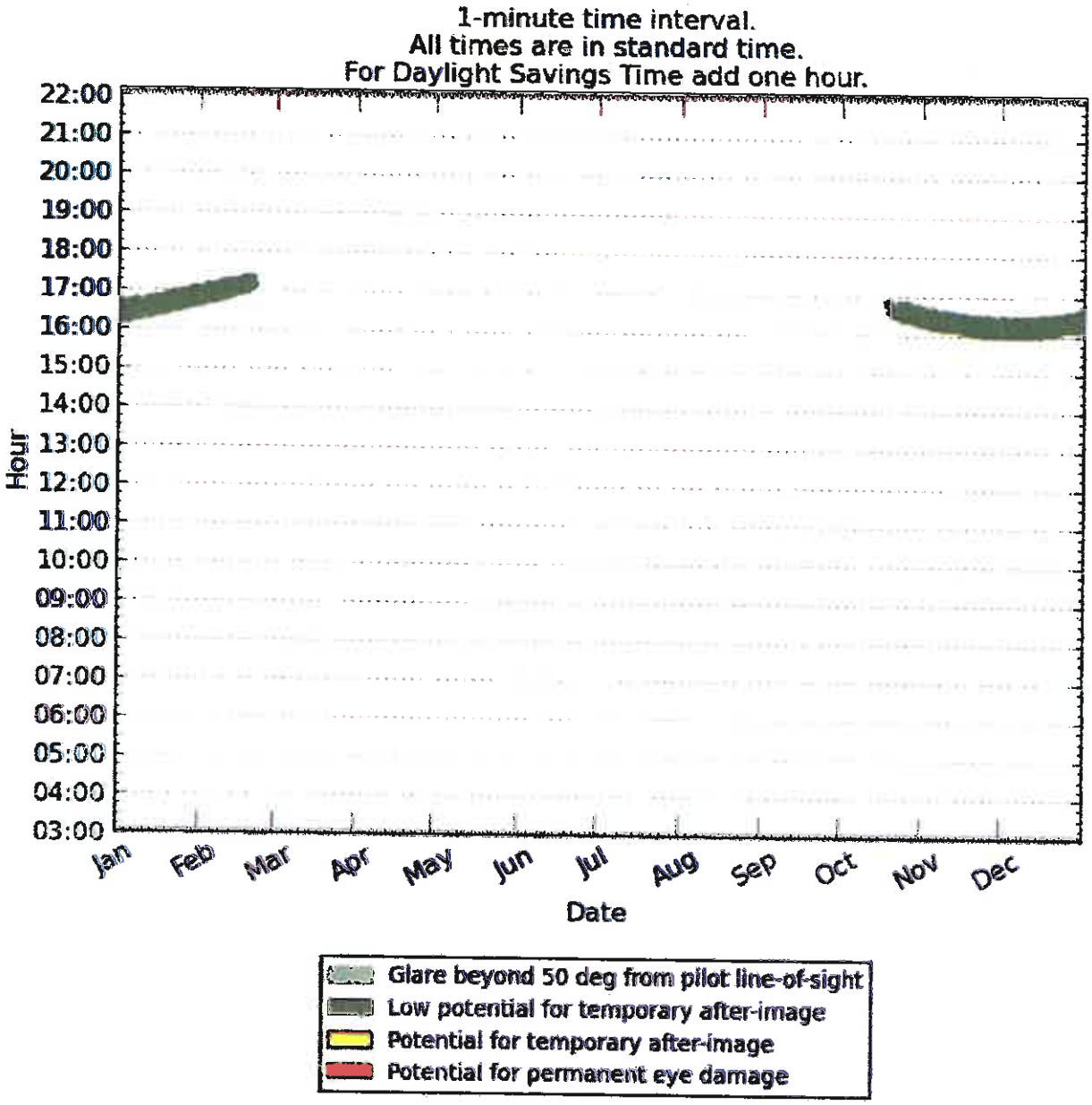
Glare occurrence plots

All times are in standard time. For Daylight Savings Time add one hour.

Threshold


1-minute time interval.
All times are in standard time.
For Daylight Savings Time add one hour.
22:00
21:00
20:00
19:00
18:00
17:00
16:00
15:00
14:00
13:00
12:00
11:00
10:00
09:00
08:00
07:00
06:00
05:00
04:00
03:00
Hour
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Date
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

1/4 mi


1-minute time interval.
All times are in standard time.
For Daylight Savings Time add one hour.
22:00
21:00
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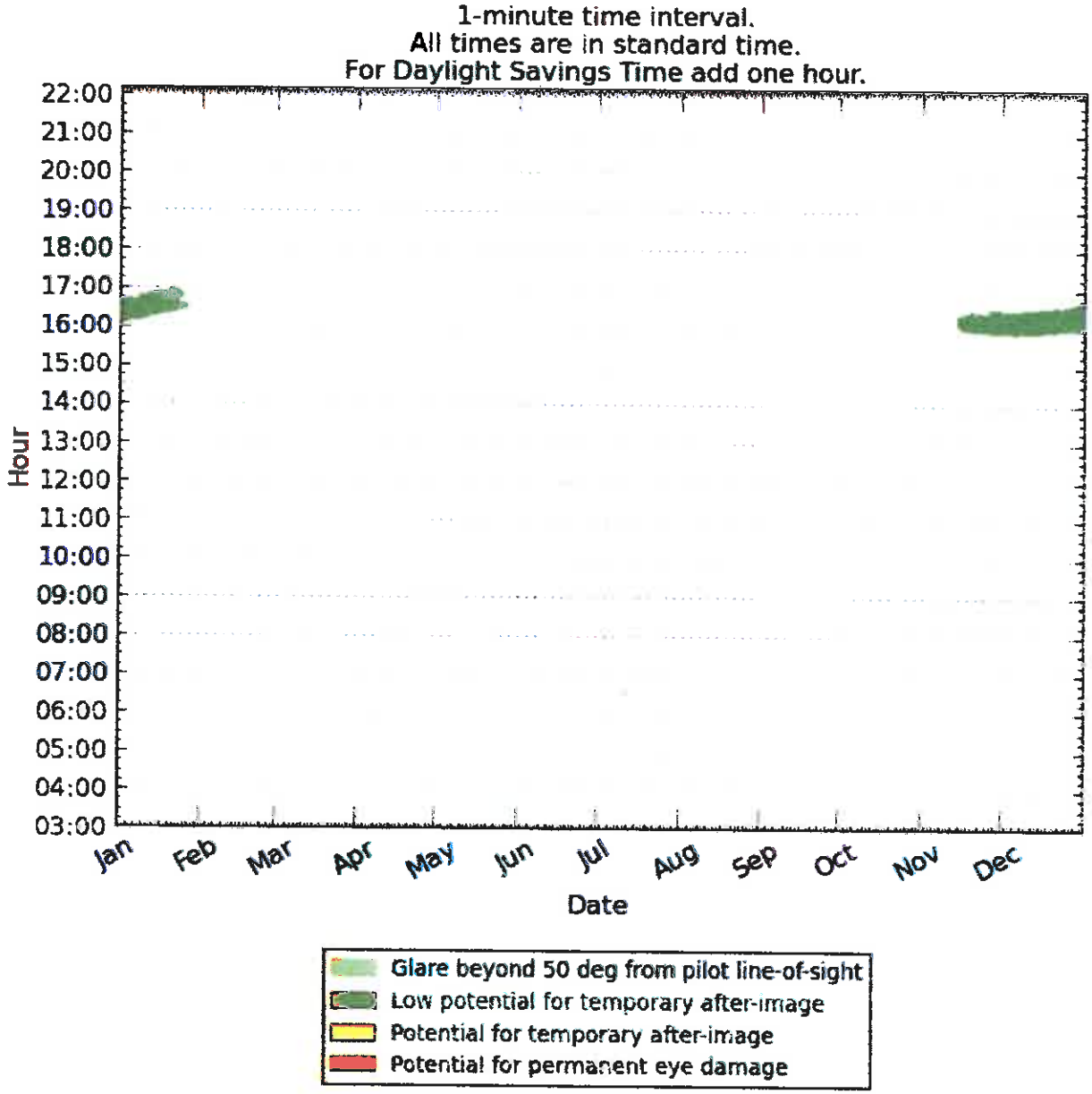
13:00
12:00
11:00
10:00
09:00
08:00
07:00
06:00
05:00
04:00
03:00
Hour
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Date
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

1/2 mi


1-minute time interval.
All times are in standard time.
For Daylight Savings Time add one hour.
22:00
21:00
20:00
19:00
18:00
17:00
16:00
15:00
14:00
13:00
12:00
11:00
10:00
09:00
08:00
07:00
06:00
05:00
04:00
03:00
Hour
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Date
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

3/4 mi

No glare

1 mi

No glare

1 1/4 mi

No glare

1 1/2 mi

No glare

1 3/4 mi

No glare

2 mi

No glare

Solar Glare Hazard Analysis Flight Path Report

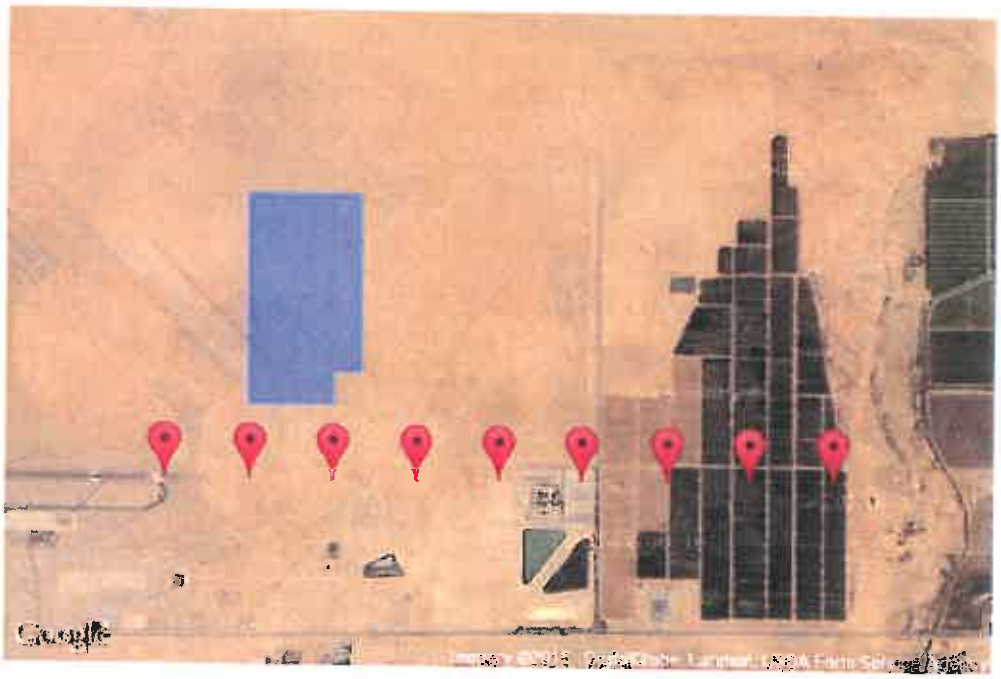
Generated April 9, 2015, 2:18 p.m.

Flight path: BLH Runway 26

Westbound Landing Approach

Glare found

Print



Analysis & PV array parameters

Analysis name	BLH Solar Site Part A
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	179.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	90.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-8.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002
Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	False
Slope error (mrad)	10.0

Flight path parameters

Direction (deg)	270.0

Glide slope (deg)	3.0
Consider pilot visibility from cockpit	True
Max downward viewing angle (deg)	30.0
Azimuthal viewing angle (deg)	180.0

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	33.619921217	-114.69771	391.82	6.0	397.82
2	33.62131	-114.69772	392.07	6.0	398.07
3	33.62133	-114.69629	391.61	6.0	397.61
4	33.62897	-114.69639	393.61	6.0	399.61
5	33.62896	-114.70204	395.25	6.0	401.25
6	33.61991	-114.70198	393.62	6.0	399.62

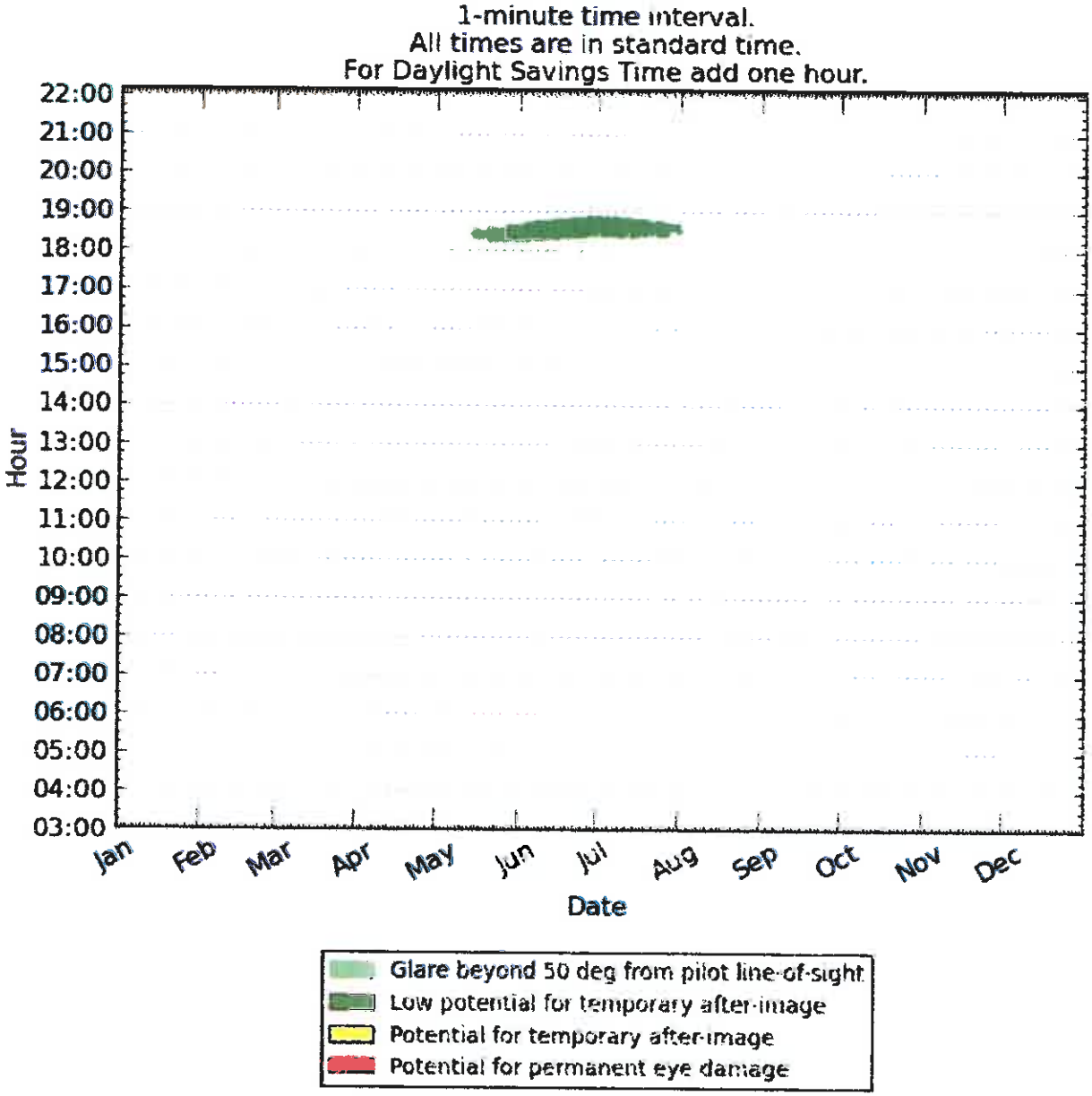
Flight Path Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)	Glare?
Threshold	33.6165332419	-114.7062639	392.59	50.0	Yes
1/4 mi	33.6165332419	-114.701919354	392.45	119.31	No
1/2 mi	33.6165332419	-114.697574808	388.81	192.14	No
3/4 mi	33.6165332419	-114.693230262	365.34	284.78	Yes
1 mi	33.6165332419	-114.688885715	339.71	379.58	Yes
1 1/4 mi	33.6165332419	-114.684541169	336.67	451.82	Yes
1 1/2 mi	33.6165332419	-114.680196623	339.61	518.05	Yes
1 3/4 mi	33.6165332419	-114.675852077	340.74	586.11	Yes
2 mi	33.6165332419	-114.671507531	341.98	654.03	Yes

Glare occurrence plots

All times are in standard time. For Daylight Savings Time add one hour.

Threshold


1-minute time interval.
All times are in standard time.
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Date
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

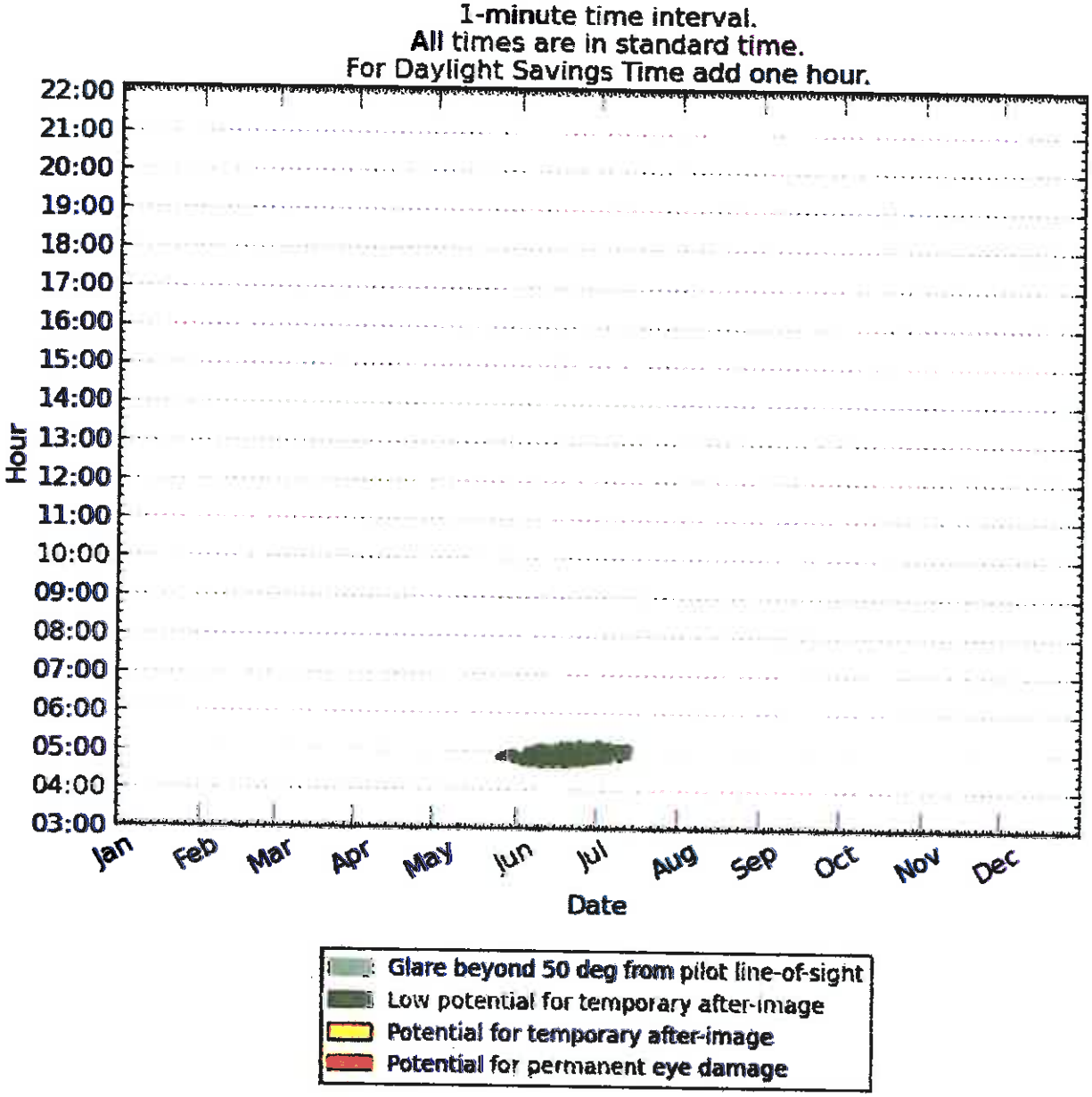
1/4 mi

No glare

1/2 mi

No glare

3/4 mi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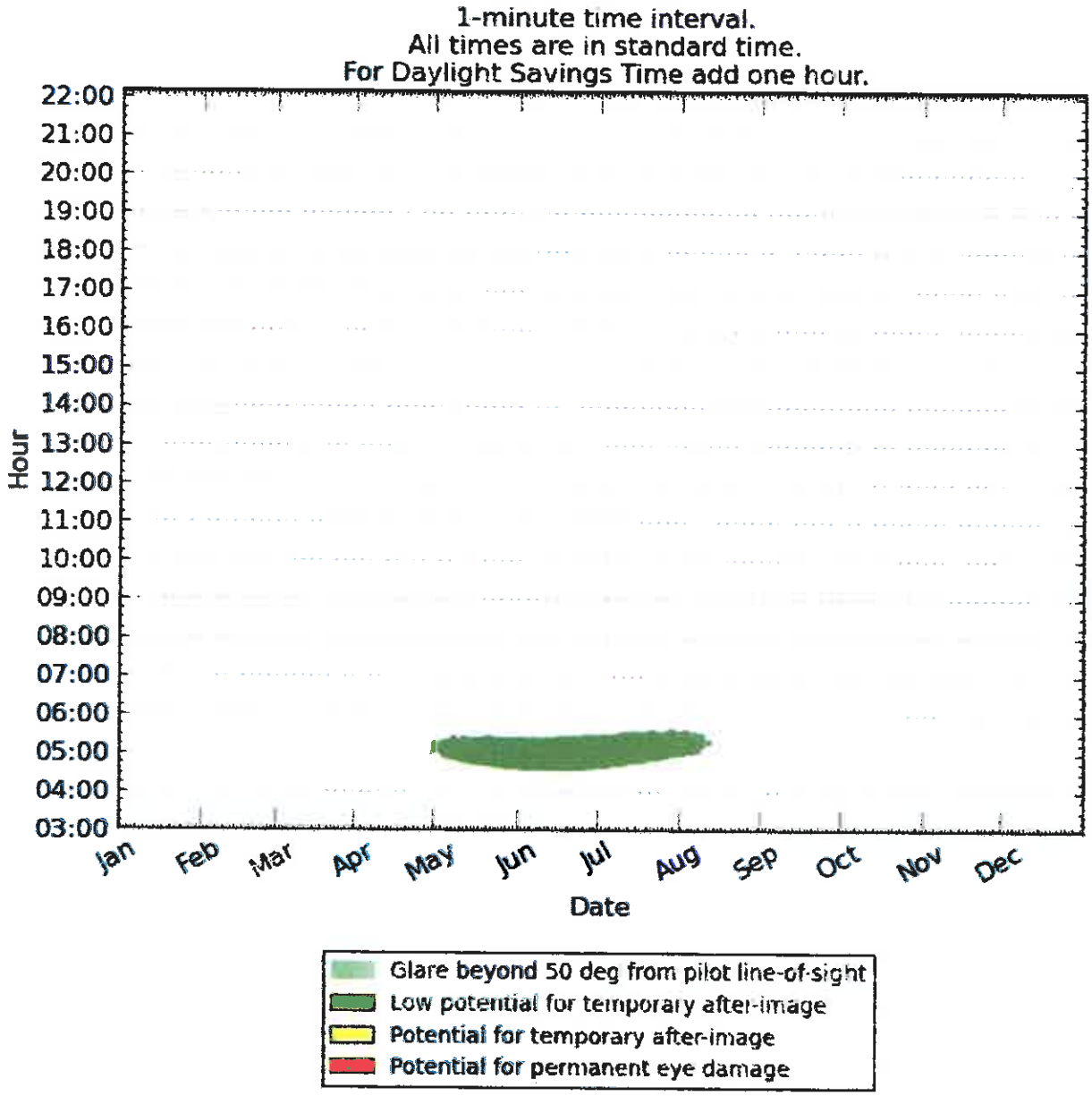
Date
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

1 mi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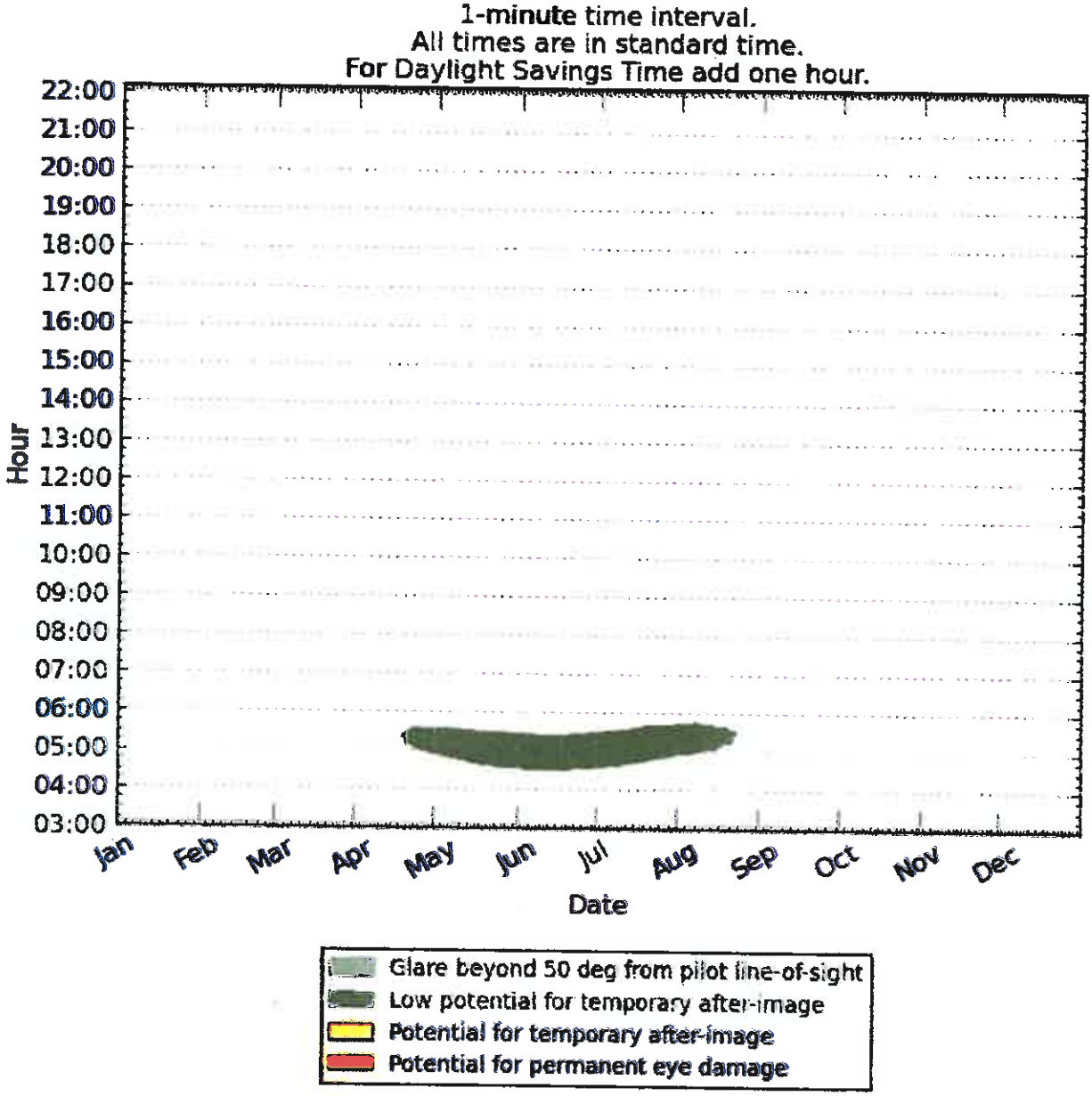
Date
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

1 1/4 mi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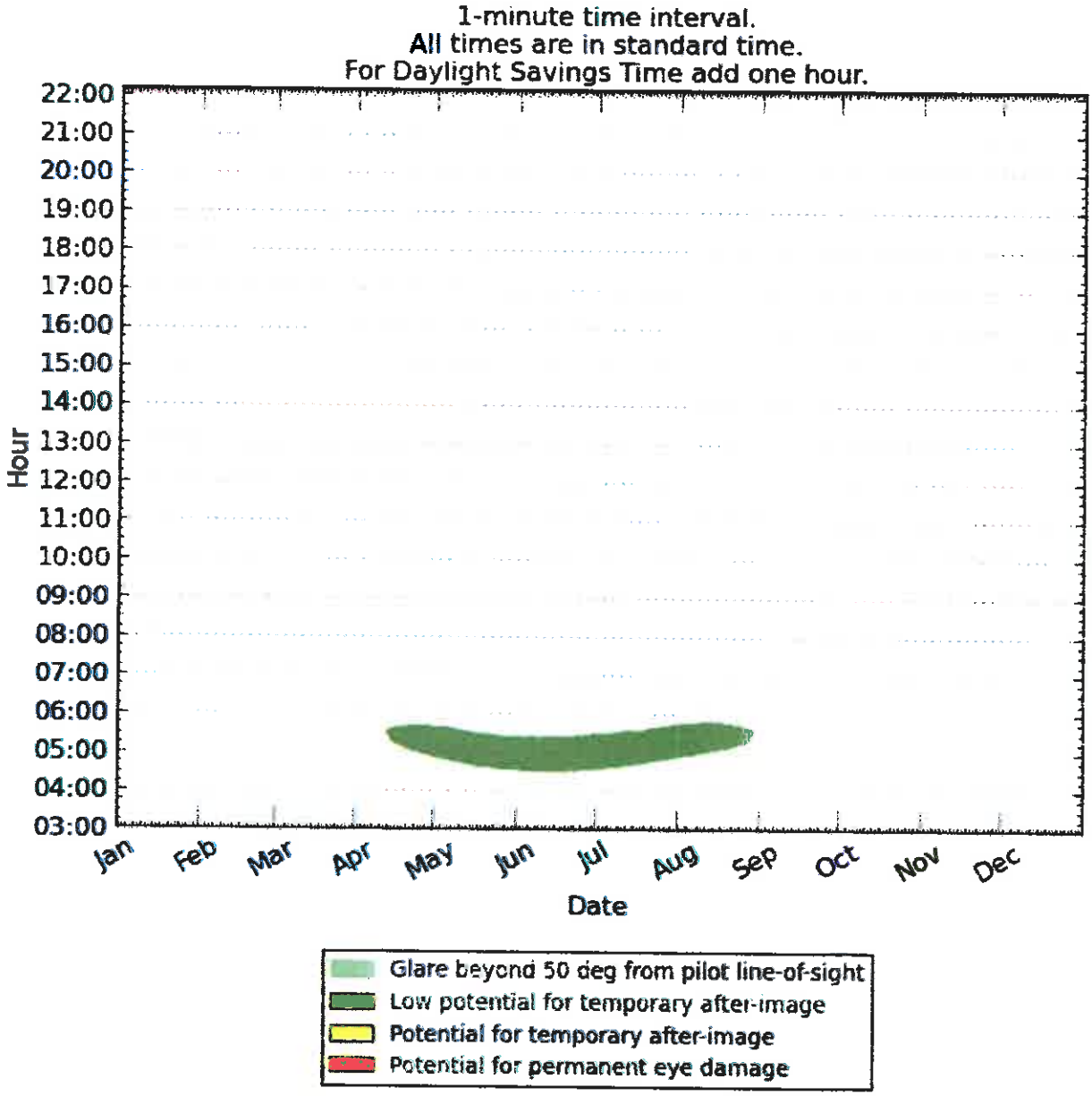
Date
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

1 1/2 mi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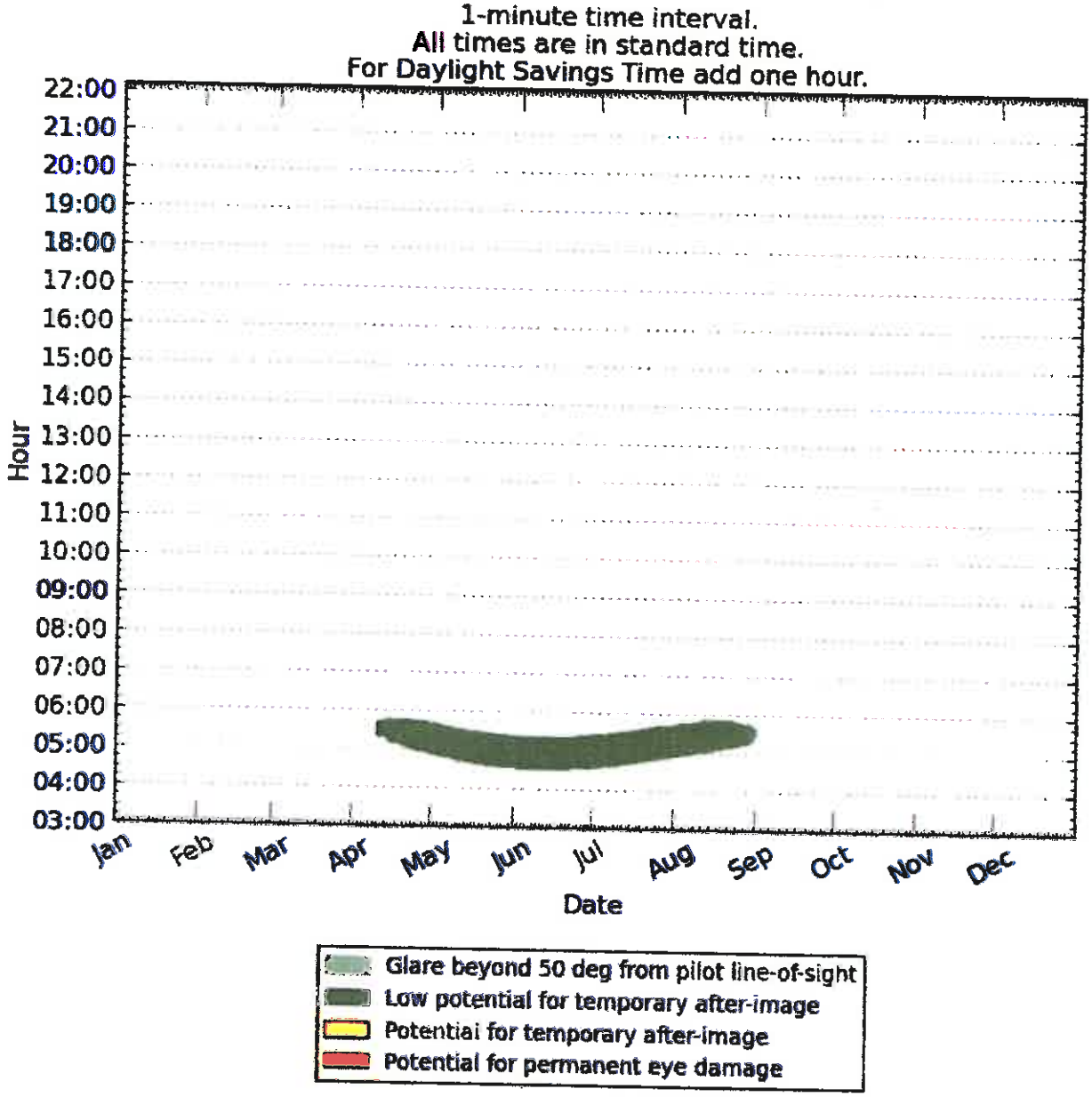
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

1 3/4 mi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All times are in standard time.
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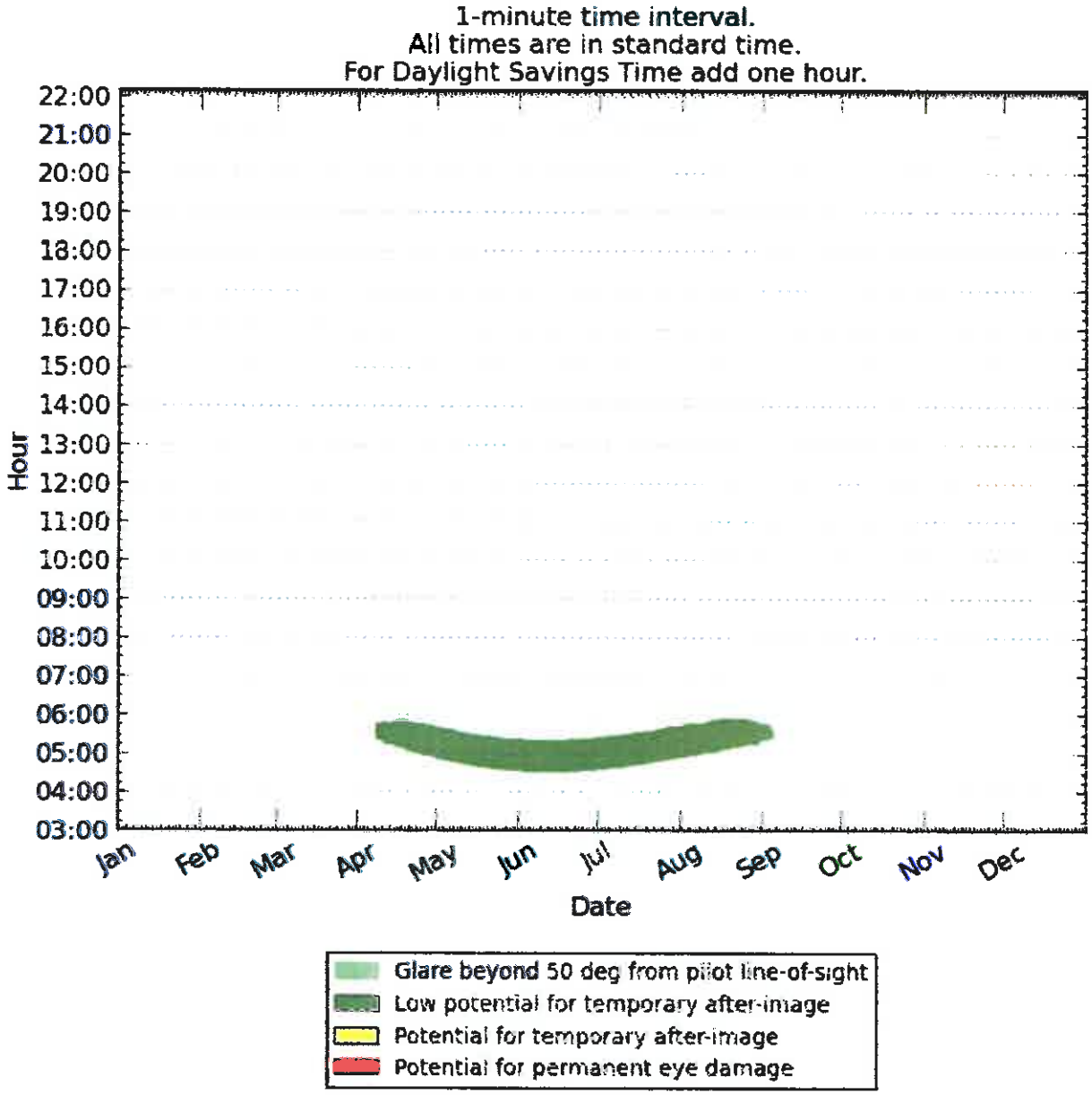
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

2 mi



Solar Glare Hazard Analysis Flight Path Report

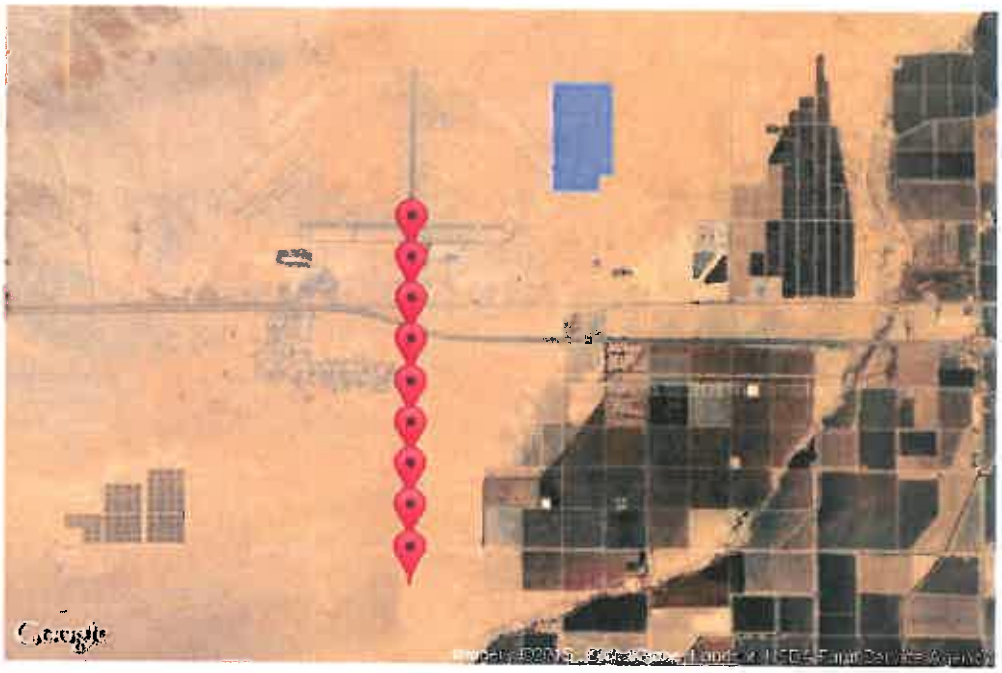
Generated April 9, 2015, 2:36 p.m.

Flight path: BLH Runway 35

Northbound Landing Approach

Glare found

Print



Analysis & PV array parameters

Analysis name	BLH Solar Site Part B
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	179.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	90.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-8.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002
Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	False
Slope error (mrad)	10.0

Flight path parameters

Direction (deg)	0.0

Glide slope (deg)	3.0
Consider pilot visibility from cockpit	True
Max downward viewing angle (deg)	30.0
Azimuthal viewing angle (deg)	180.0

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	33.619921217	-114.69771	391.82	6.0	397.82
2	33.62131	-114.69772	392.07	6.0	398.07
3	33.62133	-114.69629	391.61	6.0	397.61
4	33.62897	-114.69639	393.61	6.0	399.61
5	33.62896	-114.70204	395.25	6.0	401.25
6	33.61991	-114.70198	393.62	6.0	399.62

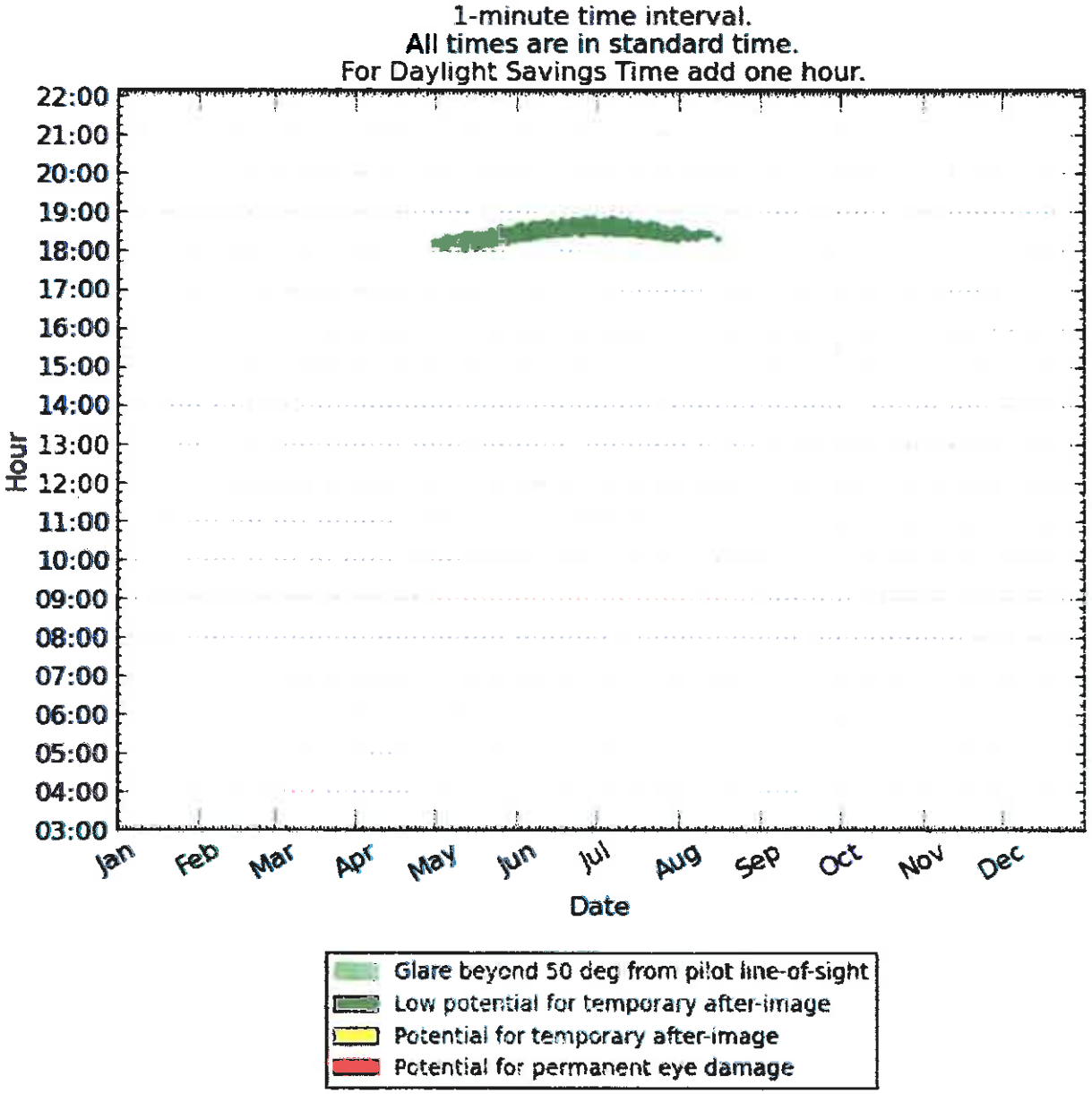
Flight Path Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)	Glare?
Threshold	33.6141163979	-114.716827512	392.71	50.0	Yes
1/4 mi	33.6105026544	-114.716827512	391.45	120.43	Yes
1/2 mi	33.6068889108	-114.716827512	389.51	191.56	No
3/4 mi	33.6032751673	-114.716827512	389.36	260.89	No
1 mi	33.5996614237	-114.716827512	391.02	328.4	No
1 1/4 mi	33.5960476802	-114.716827512	392.27	396.34	No
1 1/2 mi	33.5924339367	-114.716827512	389.07	468.71	No
1 3/4 mi	33.5888201931	-114.716827512	384.96	542.01	No
2 mi	33.5852064496	-114.716827512	370.79	625.35	No

Glare occurrence plots

All times are in standard time. For Daylight Savings Time add one hour.

Threshold


1-minute time interval.
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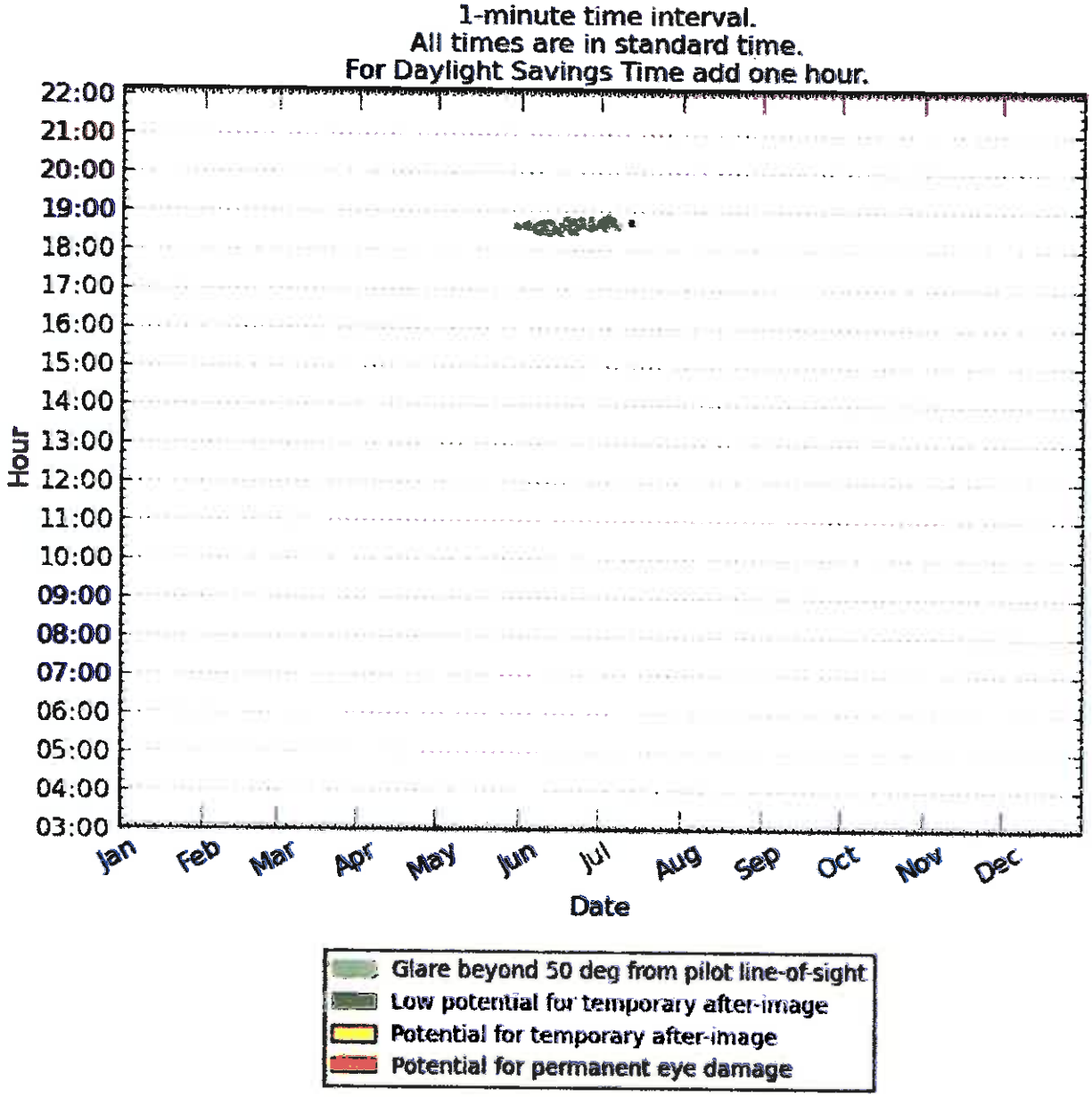
Date
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

1/4 mi


1-minute time interval.
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Date
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

1/2 mi

No glare

3/4 mi

No glare

1 mi

No glare

1 1/4 mi

No glare

1 1/2 mi

No glare

1 3/4 mi

No glare

2 mi

No glare

Solar Glare Hazard Analysis Flight Path Report

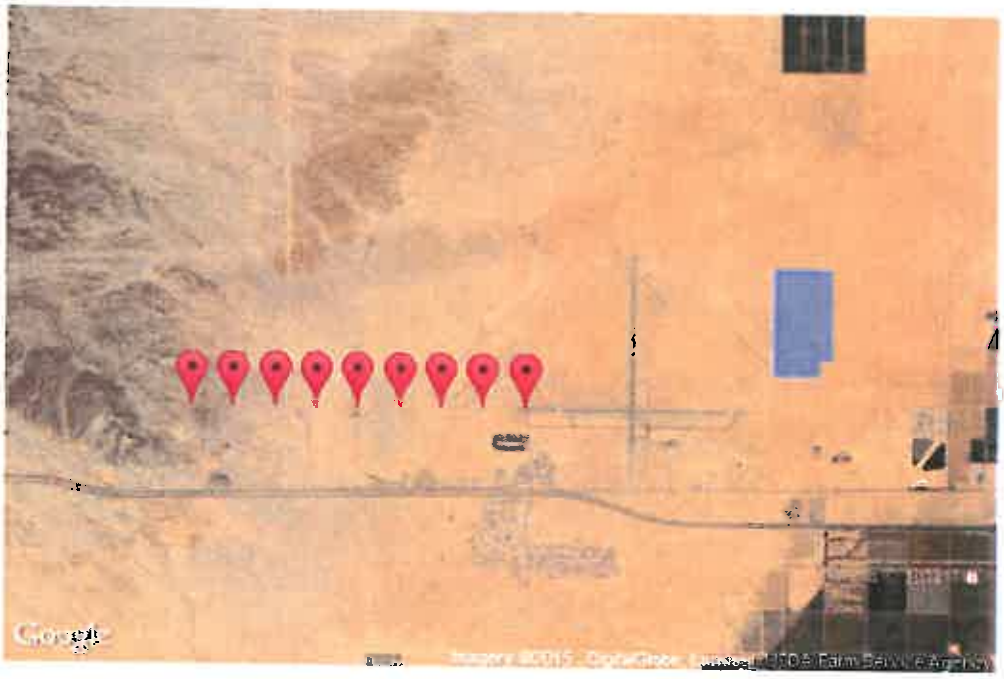
Generated April 9, 2015, 2:37 p.m.

Flight path: BLH Runway 8

Eastbound Landing Approach

Glare found

Print



Analysis & PV array parameters

Analysis name	BLH Solar Site Part B
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	179.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	90.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-8.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002
Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	False
Slope error (mrad)	10.0

Flight path parameters

Direction (deg)	90.0

Glide slope (deg)	3.0
Consider pilot visibility from cockpit	False

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	33.619921217	-114.69771	391.82	6.0	397.82
2	33.62131	-114.69772	392.07	6.0	398.07
3	33.62133	-114.69629	391.61	6.0	397.61
4	33.62897	-114.69639	393.61	6.0	399.61
5	33.62896	-114.70204	395.25	6.0	401.25
6	33.61991	-114.70198	393.62	6.0	399.62

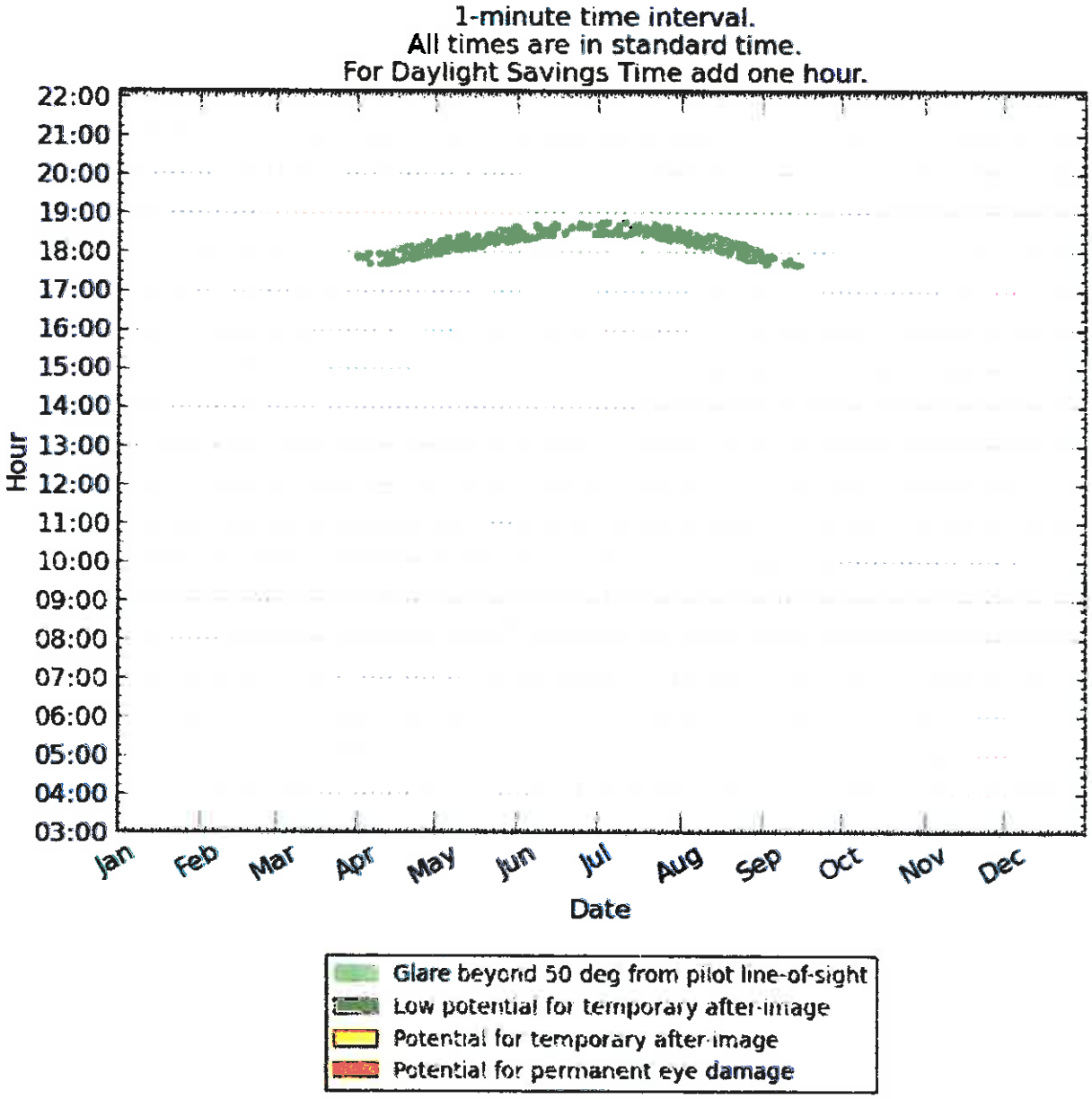
Flight Path Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)	Glare?
Threshold	33.6166038138	-114.72770977	394.31	50.0	Yes
1/4 mi	33.6166038138	-114.73205432	394.72	118.76	Yes
1/2 mi	33.6166038138	-114.73639887	395.59	187.08	Yes
3/4 mi	33.6166038138	-114.740743419	397.04	254.8	Yes
1 mi	33.6166038138	-114.745087969	402.0	319.02	Yes
1 1/4 mi	33.6166038138	-114.749432519	409.77	380.44	Yes
1 1/2 mi	33.6166038138	-114.753777068	415.94	443.44	Yes
1 3/4 mi	33.6166038138	-114.758121618	424.7	503.86	Yes
2 mi	33.6166038138	-114.762466168	462.12	535.62	Yes

Glare occurrence plots

All times are in standard time. For Daylight Savings Time add one hour.

Threshold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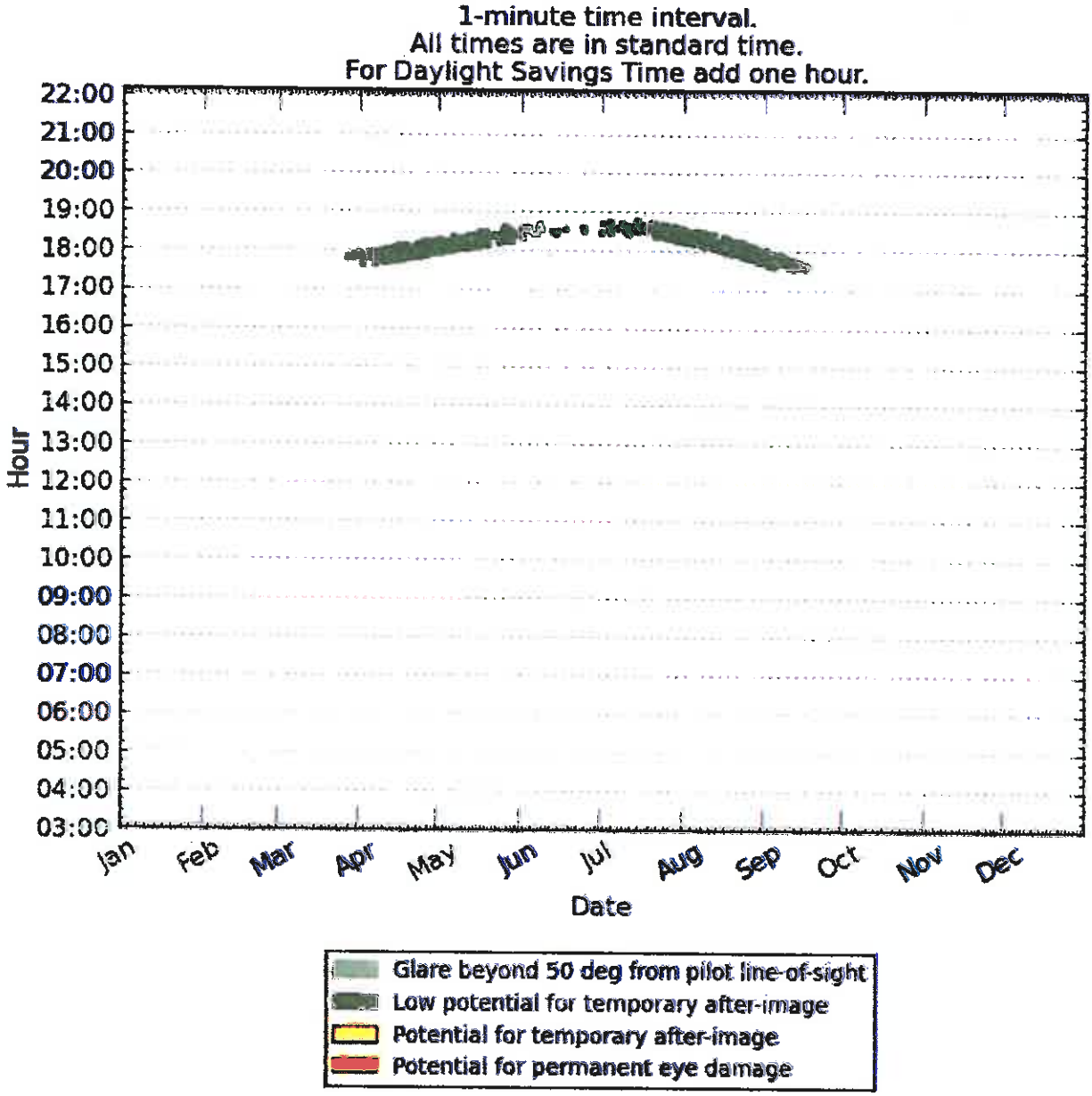
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

1/4 mi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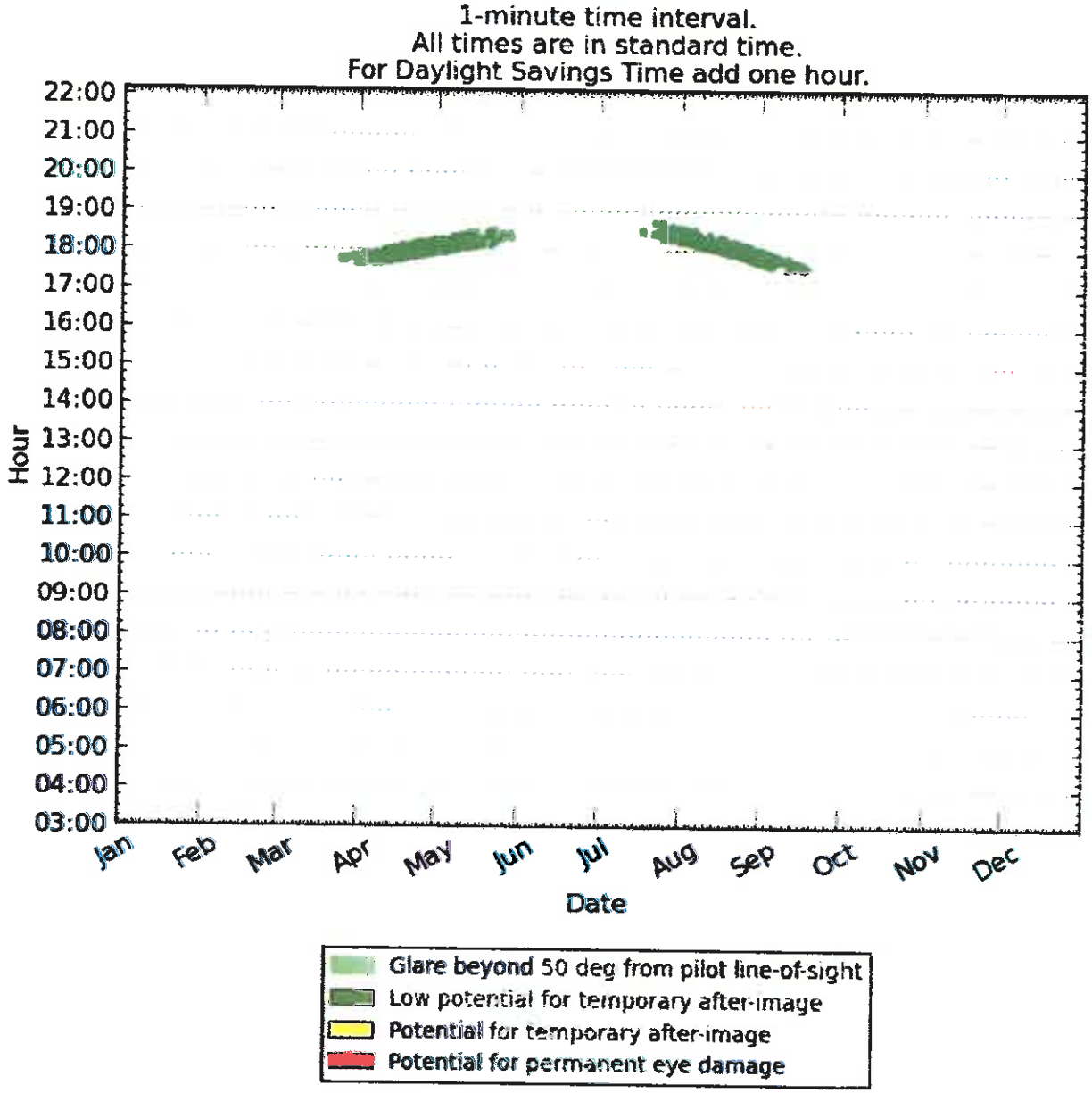
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

1/2 mi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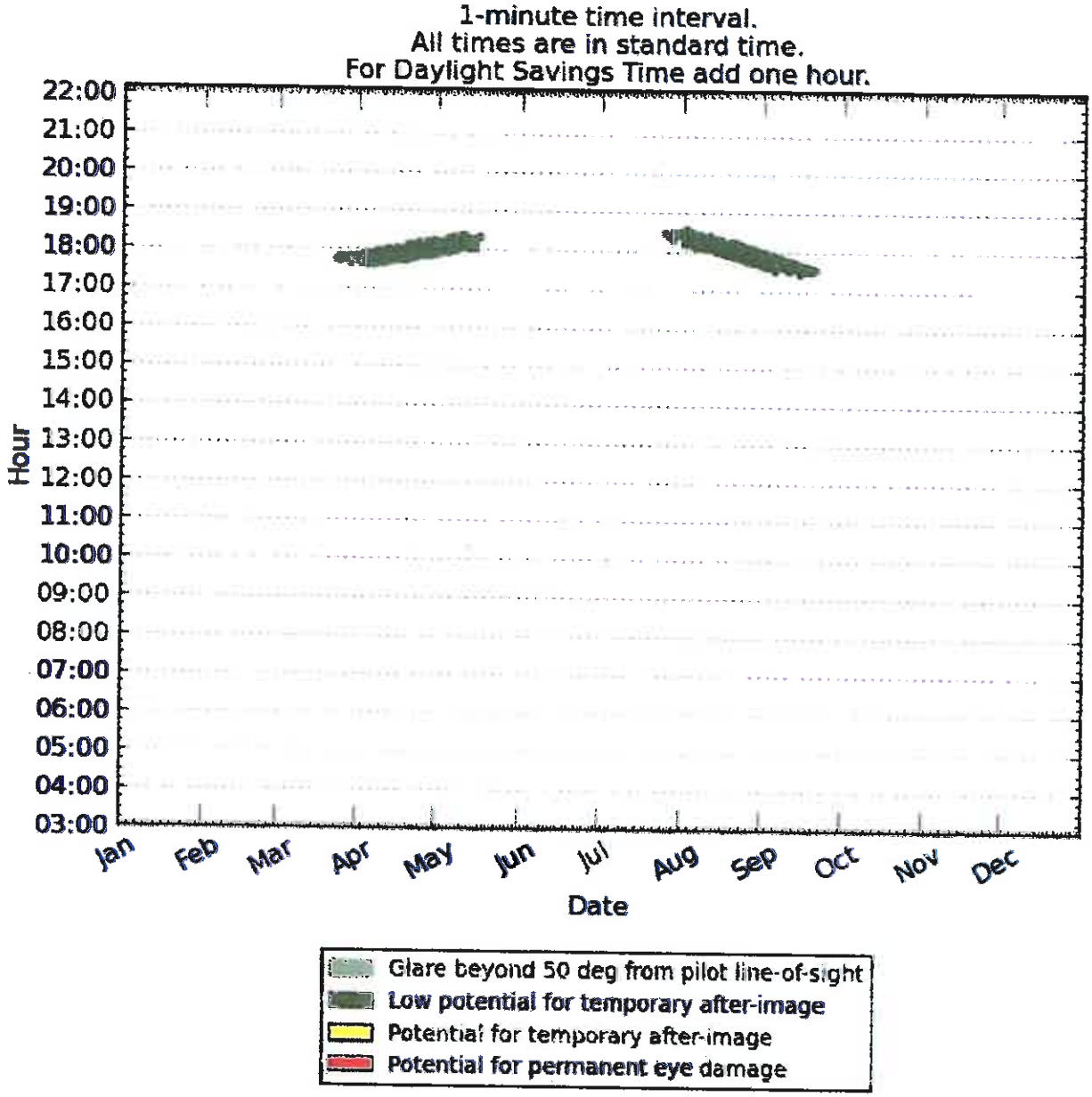
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

3/4 mi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Glare beyond 50 deg from pilot line-of-sight
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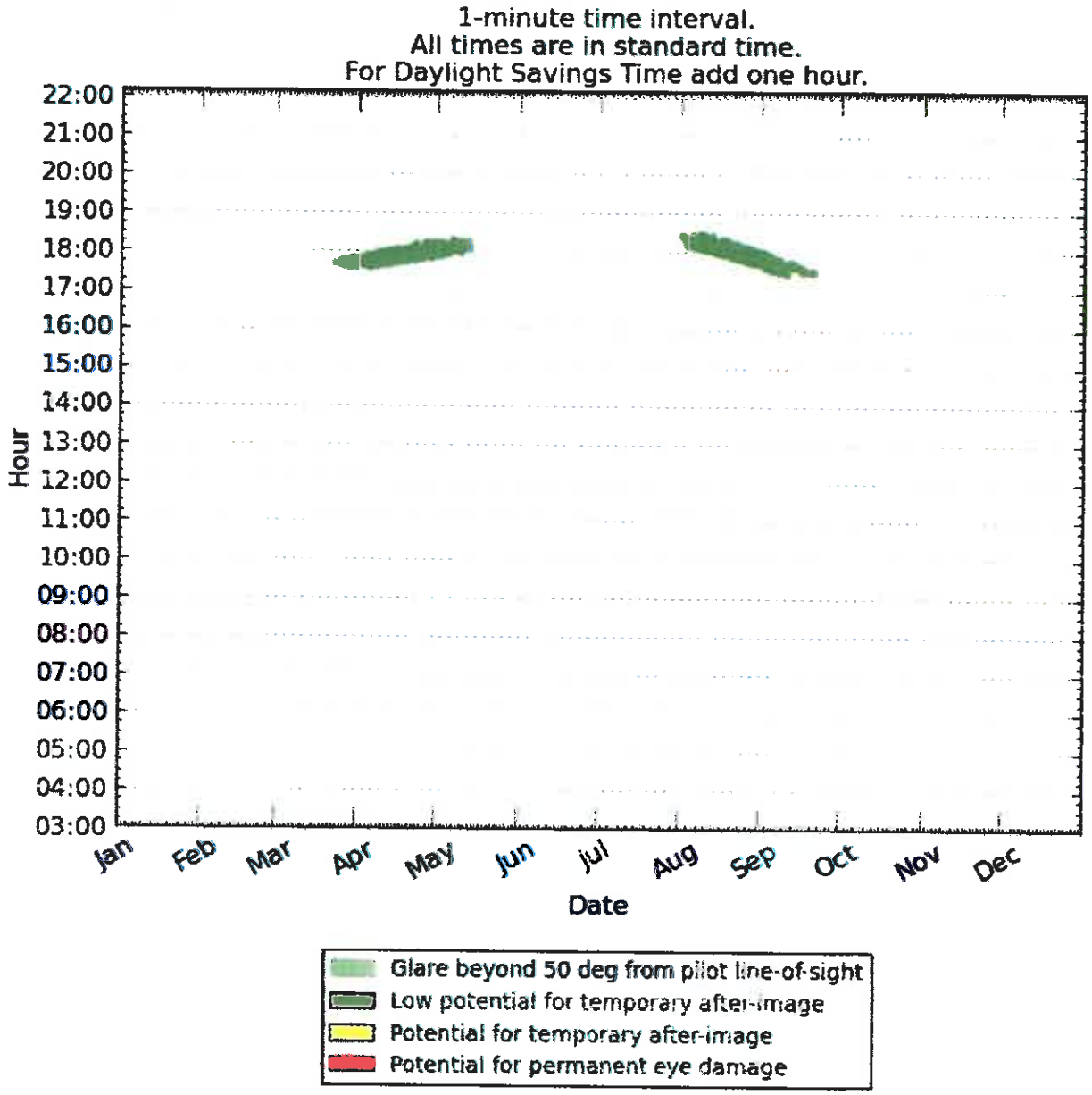
Potential for permanent eye damage

1 mi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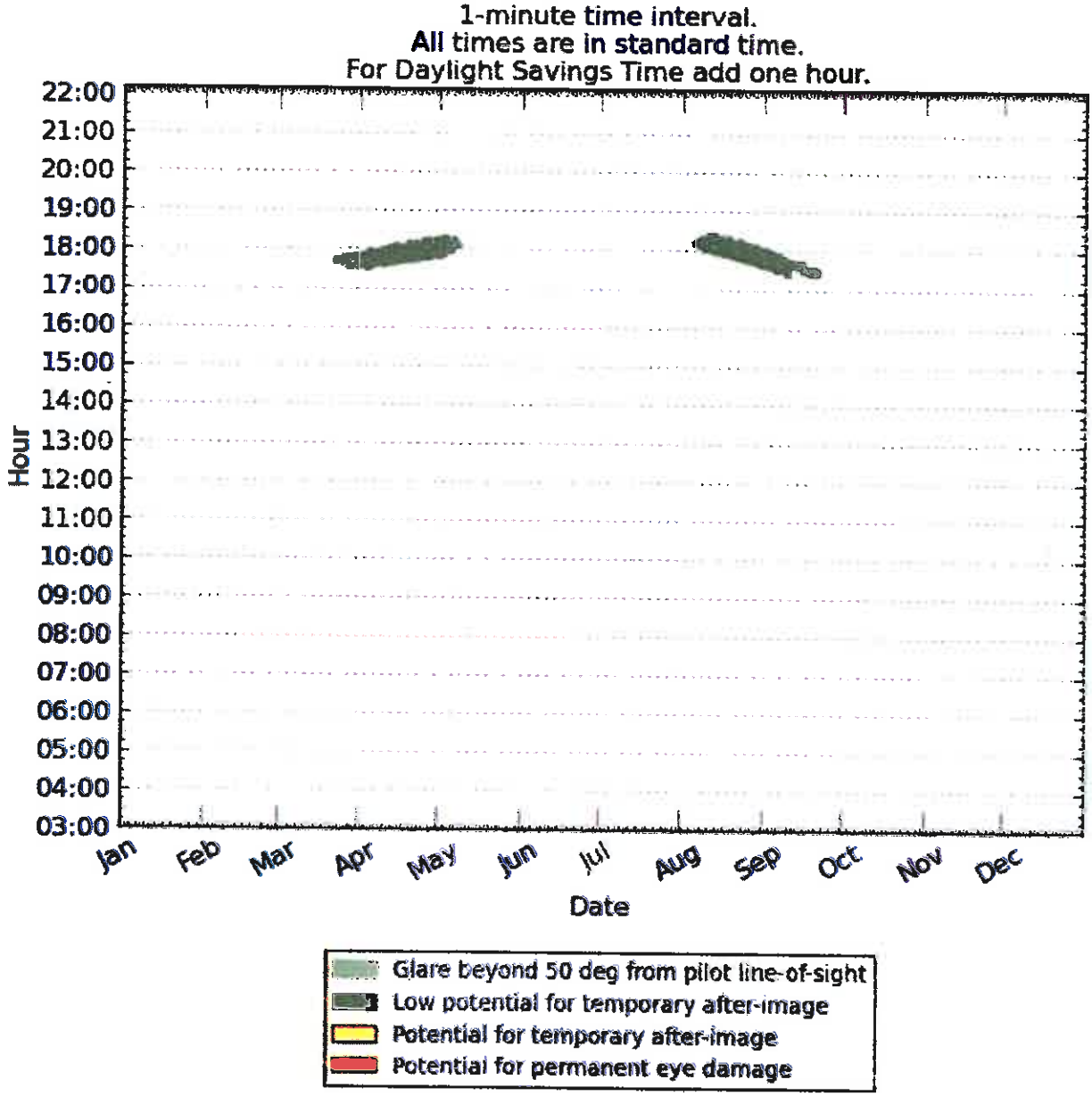
1 1/4 mi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Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
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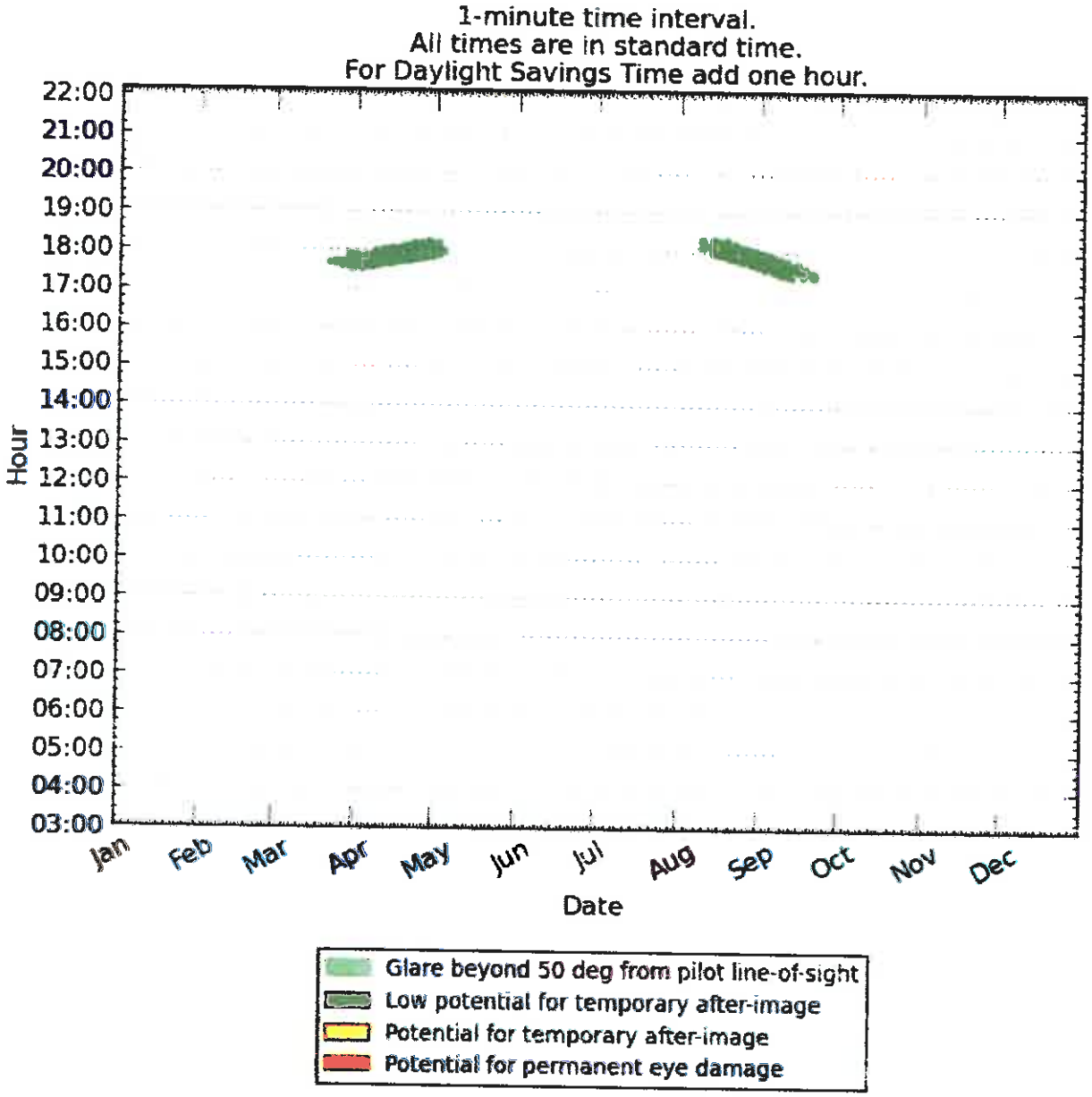
Potential for permanent eye damage

1 1/2 mi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Glare beyond 50 deg from pilot line-of-sight
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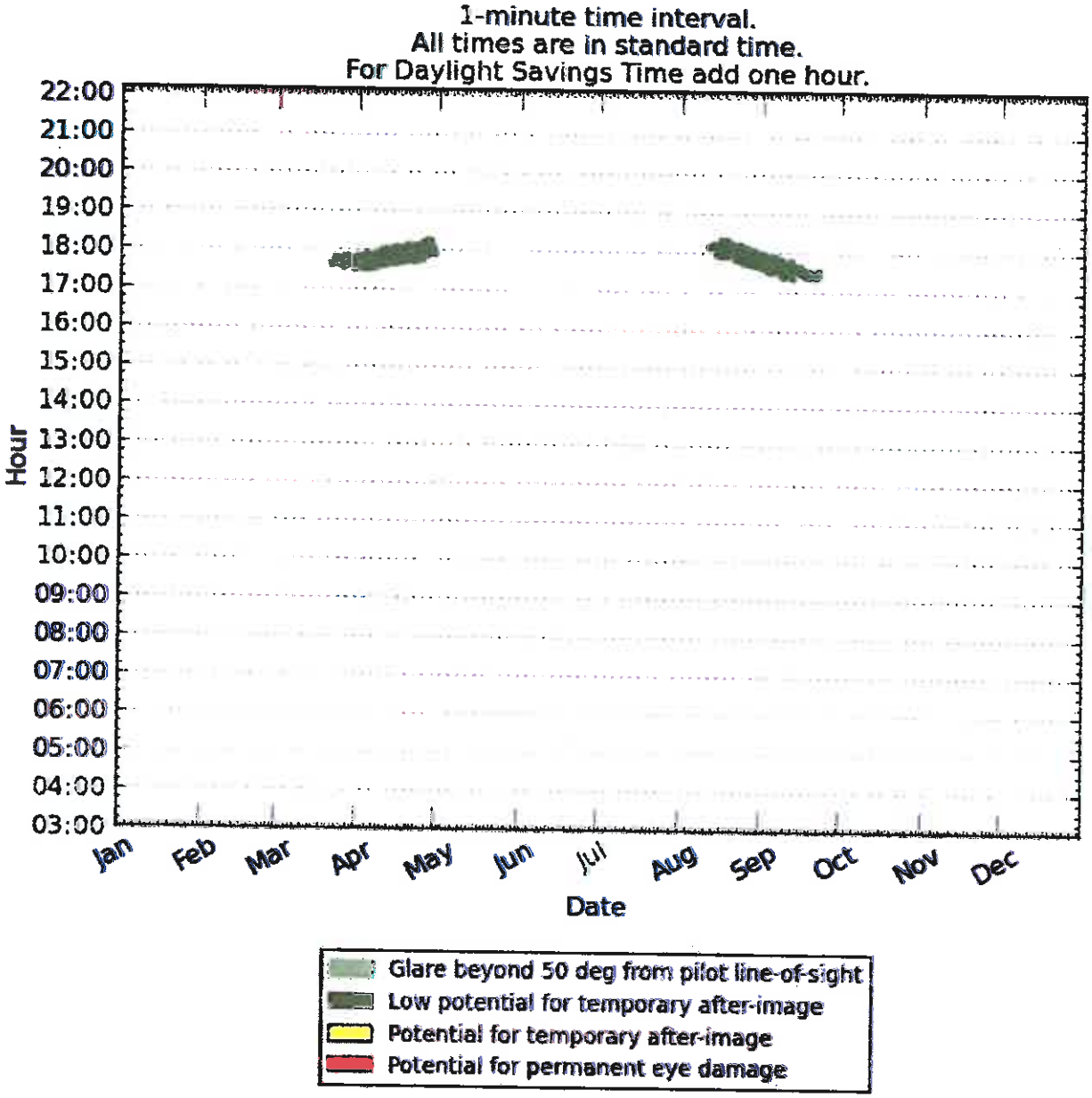
Potential for permanent eye damage

1 3/4 mi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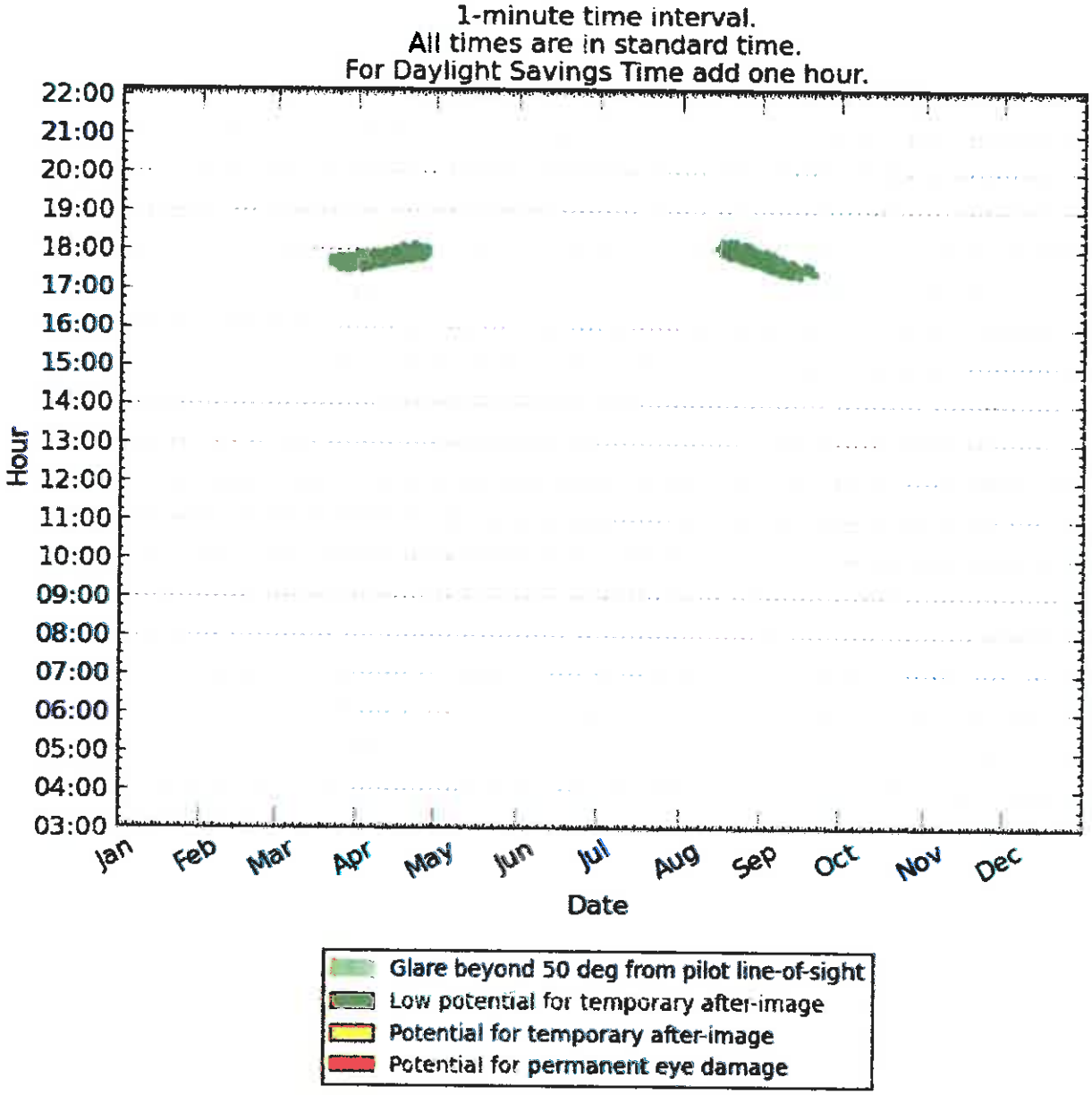
Jul
Aug
Sep
Oct
Nov
Dec
Date
Glare beyond 50 deg from pilot line-of-sight
Low potential for temporary after-image
Potential for temporary after-image
Potential for permanent eye damage

2 mi



NOTICE OF PUBLIC HEARING
RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION

A PUBLIC HEARING has been scheduled before the Riverside County Airport Land Use Commission (ALUC) to consider the application described below.

Any person may submit written comments to the ALUC before the hearing or may appear and be heard in support of or opposition to the project at the time of hearing. The proposed project application may be viewed at the Riverside County Administrative Center, 4080 Lemon Street, 14th Floor, Riverside, California 92501, Monday through Thursday from 8:00 a.m. to 5:00 p.m., and by prescheduled appointment on Fridays, from 9:00 a.m. to 5:00 p.m.

ATTENTION: ALUC reviews a proposed plan or project solely to determine whether it is consistent with the applicable Airport Land Use Compatibility Plan. The County of Riverside should be contacted on non-ALUC issues.

PLACE OF HEARING: Riverside County Administration Center
4080 Lemon St., 1st Floor Board Chambers
Riverside, California

DATE OF HEARING: Friday, July 1, 2016

TIME OF HEARING: 10:00 A.M.

CASE DESCRIPTION:

ZAP1011BL16 – NRG Energy (NRG Renew DG Holdings LLC) (Representative: James Kelly) – County Case No.: CUP 03728 (Conditional Use Permit). The applicant proposes amendments to the conditions of approval applied by ALUC in its finding of conditional consistency for ZAP1005BL09, which initially applied to a 100 megawatt (MW) solar photovoltaic facility on 640 acres on the grounds of Blythe Airport. The applicant proposes a reduced-scale 20 MW project on 156 acres with modifications to Condition 1B relating to glare, Condition 5 relating to Compatibility Zone B1 and underground installation of electric lines, Condition 9 relating to the maximum height and elevation above mean sea level of the electric lines, which would extend southerly along Butch Avenue, easterly along Riverside Avenue, and southerly along Buck Boulevard, and Condition 11 requiring ALUC review of changes in coordinates of the array, electric lines, and maintenance building. Specifically, to allow poles with a maximum height of 51.5 feet and maximum elevation of 442 feet above mean sea level northerly of the east-west runway and easterly of the north-south runway (Airport Compatibility Zones C, D, B1 and A of the Blythe Airport Influence Area – no array in A or B1, no poles in A).

FURTHER INFORMATION: Contact John Guerin at (951) 955-0982 or Paul Rull at (951) 955-6893. The ALUC holds hearings for local discretionary permits within the Airport Influence Areas, reviewing for aeronautical safety, noise and obstructions. All other concerns should be addressed to Mr. Daryl Shippy of the Riverside County Economic Development Agency at (951) 955-9418.

APPLICATION FOR MAJOR LAND USE ACTION REVIEW
RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION

ALUC Identification No. ZAP1011BL16

PROJECT PROPONENT (TO BE COMPLETED BY APPLICANT)

Date of Application: 6/14/16

Property Owner: Riverside County - owner / NRG - Lessee Phone Number: 760.450.6031

Mailing Address: NRG Energy, Inc.
5790 Fleet Street Suite 200
Carlsbad, CA 92008

Agent (if any): James Kelly Phone Number: 760.450.6031

Mailing Address: 5790 Fleet Street, Suite 200
Carlsbad, CA 92008

Blythe one A, C, D

PROJECT LOCATION (TO BE COMPLETED BY APPLICANT)

Attach an accurately scaled map showing the relationship of the project site to the airport boundary and runways

Street Address: 16490 Riverside Avenue, Blythe, CA

Assessor's Parcel No.: 821-110-006 Parcel Size: 156 acres

Subdivision Name: Not Applicable Zoning Classification: Manufacturing - Heavy (M-H)

Lot Number:

PROJECT DESCRIPTION (TO BE COMPLETED BY APPLICANT)

If applicable, attach a detailed site plan showing ground elevations, the location of structures, open spaces and water bodies, and the heights of structures and trees; include additional project description data as needed

Existing Land Use (describe): Undeveloped southeastern portion of the Blythe Municipal Airport property. The project property has been previously farmed and is now fallow.

Proposed Land Use (describe): 20 Megawatt photovoltaic solar power plant on approximately 156 acres including a transmission line to be constructed and owned by Southern California Edison and approximately 4,500 feet along Buck Blvd and Riverside Av

For Residential Uses — Number of Parcels or Units on Site (exclude secondary units): N/A

For Other Land Uses (See Appendix C) — Hours of Use: Daylight hours

Number of People on Site — Maximum Number: 1-2 people

Method of Calculation:

Height Data — Height above Ground or Tallest Object (including antennas and trees): Solar Panels 10 ft, Poles 51.5 ft.

Highest Elevation (above sea level) of Any Object or Terrain on Site: 442 ft.

Flight Hazards — Does the project involve any characteristics which could create electrical interference, confusing lights, glare, smoke, or other electrical or visual hazards to aircraft flight? ☐ Yes ☒ No

If yes, describe: No hazards per FAA Finding of No Significant Impact

REFERRING AGENCY (APPLICANT OR JURISDICTION TO COMPLETE)		
Date Received		Type of Project
Agency Name	Riverside County Economic Development Agency	☐ General Plan Amendment
		☐ Zoning Amendment or Variance
Staff Contact	Daryl Shipey	☐ Subdivision Approval
Phone Number	951-955-9418	☐ Use Permit
Agency's Project No.	CUP 3728	☐ Public Facility
		☑ Other Amendment

A. **NOTICE:** Failure of an applicant to submit complete or adequate information pursuant to Sections 65940 to 65948 inclusive, of the California Government Code, MAY constitute grounds for disapproval of actions, regulations, or permits.

B. **SUBMISSION PACKAGE:**

ALUC REVIEW

1. . . . . Completed Application Form
1. . . . . Project Site Plan – Folded (8-1/2 x 14 max.)
1. . . . . Elevations of Buildings - Folded
1 Each . 8 ½ x 11 reduced copy of the above
1. . . . . 8 ½ x 11 reduced copy showing project in relationship to airport.
1 Set Floor plans for non-residential projects
4 Sets. . Gummed address labels of the Owner and representative ***(See Proponent).***
1 Set. . Gummed address labels of all property owners within a 300' radius of the project site. If more than 100 property owners are involved, please provide pre-stamped envelopes (size #10), with ALUC return address.
4 Sets. Gummed address labels of the referring agency (City or County).
1. . . . . Check for Fee (See Item "C" below)

STAFF REVIEW (Consult with ALUC staff planner as to whether project qualifies)

1 . . . . Completed Application Form
1 . . . . . Project Site Plans – Folded (8-1/2 x 14 max.)
1 . . . . . Elevations of Buildings - Folded
1 . . . . . 8 ½ x 11 Vicinity Map
1 Set . Gummed address labels of the Owner and representative ***(See Proponent).***
1 Set . Gummed address labels of the referring agency.
1 . . . . .Check for review–See Below