

DOCKETED

Docket Number:	09-AFC-07C
Project Title:	Palen Solar Power Project - Compliance
TN #:	202490
Document Title:	Ex.1142 - ISEGS Filed Documents on Pilot Complaints
Description:	N/A
Filer:	Marie Fleming
Organization:	Galati Blek LLP
Submitter Role:	Applicant Representative
Submission Date:	6/23/2014 3:17:01 PM
Docketed Date:	6/23/2014

DOCKETED

Docket Number:	07-AFC-05C
Project Title:	Ivanpah Solar Electric Generating System (Compliance)
TN #:	201847
Document Title:	Letter re Pilot Complaints of Visual Impacts from Ivanpah Solar Electric Generating System
Description:	N/A
Filer:	Joe Douglas
Organization:	Las Vegas McCarran International Airport
Submitter Role:	Public
Submission Date:	3/10/2014 2:59:50 PM
Docketed Date:	3/10/2014

LAS VEGAS



McCARRAN INTERNATIONAL AIRPORT

Department of Aviation

ROSEMARY A. VASSILIADIS
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March 10, 2014

Raymond C. Lee, Field Manager
Michael W. Ahrens, Acting Field Manager
Bureau of Land Management
Needles Field Office
1303 South Highway 95
Needles, CA 92363

Joseph Douglas, Compliance Project Manager
California Energy Commission
Siting, Transportation, and Environmental Protection Division
1516 9th Street
Sacramento, CA 95814

Jennifer Wallens
BrightSource Energy, Inc.
Ivanpah SEGS Site Compliance
100302 Yates Well Road
Nipton, CA 92364

RE: Pilot Complaints of Visual Impacts from Ivanpah Solar Electric Generating System

Dear Mr. Lee, Mr. Ahrens, Mr. Douglas and Ms. Wallens:

As you know, the Clark County Department of Aviation (CCDOA) was actively involved during the environmental review of the Ivanpah Solar Electric Generating System (ISEGS) project because of CCDOA's concerns about glint and glare potentially impacting aeronautical operations from CCDOA facilities, specifically the Jean Sport Aviation Center and the future Ivanpah Airport. In addition, CCDOA provided comments on the draft Heliostat Positioning Plan (HPP) prepared by BrightSource Energy, Inc., in compliance with mitigation measure "TRANS-3," as stipulated in the ISEGS Project Environmental Impact Statement. Among other conditions, the final HPP requires BrightSource to respond to and address any complaints about adverse visual impacts to pilots.

The Aviation Safety Reporting System (ASRS)¹ recently forwarded to CCDOA the ASRS Alert 2013-110/9-5 Numbers 1109473 and 1108698 regarding pilot complaints about glint and glare

¹ The ASRS is a voluntary system created by the U.S. Federal Aviation Administration that collects confidential aviation safety incident/situation reports from pilots, controllers, and others. The ASRS then acts on the information received to identify system deficiencies. ASRS also issues alerting messages to persons in a position to correct the identified deficiencies.



from the ISEGS facility. A copy of this ASRS alert is enclosed. The alert documents an occurrence of the type of aviation hazards that are required to be addressed by the implementation of the HPP.

As a result, CCDOA respectfully requests that BrightSource take the following actions, consistent with its obligations under Section 6.2 of the HPP:

1. Address the complaint(s) as soon as practical and report the results to Bureau of Land Management (BLM) Needles Field Office, California Energy Commission (CEC), CCDOA and the other agencies identified in Section 6.5 of the HPP within 10 days of receipt. ASRS contact information is:

Linda J. Connell, Director
NASA Aviation Safety Reporting System
P.O. Box 189
Moffett Field, California 94035-0189
Linda.J.Connell@nasa.gov
<http://asrs.arc.nasa.gov/>

2. Visit the location of the complaint(s) as soon as possible.
3. Make efforts to observe the glare noted in the complaint by checking the location of the complaint at a similar time of day as noted in the complaint(s).
4. If any glare from any heliostat is observed at the complaint location, take measurements of luminance and irradiance of the glare source using hand-held meters at locations as close as possible to the location identified in the complaint(s).
5. Report the results to the complainant(s) (if known) and to the CEC Compliance Project Manager (CPM), BLM authorized officer, Federal Aviation Administration (FAA), CCDOA, and other relevant agencies identified in Section 6.5 of the HPP.
6. If observations or measurements by monitors indicate a potential glare-related effect above the maximum permissible exposure (MPE), conduct a full monitoring effort as quickly as possible at the appropriate location (whether ground based or aerial).
7. Report the complaint(s) and the subsequent investigation and monitoring results in the ISEGS monthly compliance report.

In addition, CCDOA requests that BrightSource transmit the following to CCDOA:

1. Documentation of the aerial monitoring of potential exposure to pilots that was required during testing of the heliostat positioning system, including visual observation and recording a video image of the site during at least three helicopter flyovers. *See* HPP at § 6.1.2
2. The results of the luminance evaluations as required in Section D.1 of TRANS-4 (i.e., Power Tower Receiver Luminance and Monitoring Plan).



3. The supplemental survey report of the mitigation measures designed to reduce reflectivity of the power towers, as required by Section D.6 of TRANS-4.

CCDOA recommends that BrightSource, in addition to contacting ASRS, coordinate with the Aircraft Owners and Pilots Association (AOPA), Air Line Pilots Association (ALPA), and the Las Vegas Terminal Radar Approach Control Facility (TRACON) to ensure that pilots with concerns know how to, and that they should, contact BrightSource. We have provided initial points of contact with these agencies below:

John Pfeifer
Western Pacific Regional Manager
Aircraft Owners and Pilots Association (AOPA)
PO Box 492728
Redding, CA 96049-2728
(530) 226-7728
(530) 226-5117
john.pfeifer@aopa.org
<http://www.aopa.org>

Steve Jangelis
Airport & Ground Environment, Chairman
Air Line Pilots Association, International
1625 Massachusetts Avenue, NW
Washington, DC 20036
(954) 234-8954
800-424-2470
steve.jangelis@alpa.org
www.alpa.org

Scott French
Air Traffic Manager, Las Vegas TRACON
Federal Aviation Administration
699 Wright Brothers Lane
Las Vegas, NV 89119
(702) 702-262-5900
scott.r.french@faa.gov
www.faa.gov

With regard to this request, we also note that Clark County contact information in the HPP should be updated as follows:

Rosemary A. Vassiliadis, Director of Aviation
Teresa R. Motley, Airport Planning Manager
Clark County Department of Aviation
P.O. Box 11005
Las Vegas, Nevada 89111-1005
(702) 261-5100
teresamo@mccarran.com



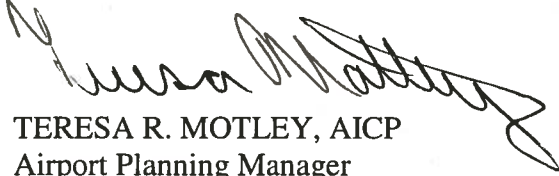
March 10, 2014

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Finally, although BLM finalized its *Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands* in April 2013, the current HPP does not cite or reference the agency guidance at all. CCDOA recommends that BLM, CEC and BrightSource review the current BLM guidance and incorporate it as appropriate while implementing the adaptive management procedures required in the HPP and Power Tower Receiver Luminance and Monitoring Plan.

Thank you for your swift attention to this matter.

Sincerely,



TERESA R. MOTLEY, AICP
Airport Planning Manager

Encl.

cc: Rosemary A. Vassiliadis
Saeed Bonabian
Dave Kessler, FAA
Robert van Haastert, FAA
Scott French, FAA
Linda J. Connell, NASA
John Pfeifer, AOPA
Steve Jangelis, ALPA



11/1/2013

FOR YOUR INFORMATION

2013-110/9-5

1109473, 1108698

To: FAA (Director of Western Terminal/Enroute Operations)

Info: FAA (AFS-230, AFS-200, AVP-1, AVP-200), A4A, ALPA, AOPA, APA, ASAP, ATSAP, ATSG, CAPA, EAA, IAM, ICASS, IPA, NAFI, NATCA, NBAA, NTSB, RAA, SWAPA, USAPA

From: Linda J. Connell, Director
NASA Aviation Safety Reporting System

Re: Environmental Visual Flight Hazard

We recently received an ASRS report describing a safety concern which may involve your area of operational responsibility. We do not have sufficient details to assess either the factual accuracy or possible gravity of the report. It is our policy to relay the reported information to the appropriate authority for evaluation and any necessary follow-up. We feel you should be aware of the enclosed deidentified report.

To properly assess the usefulness of our alert message service, we would appreciate it if you would take the time to give us your feedback on the value of the information that we have provided. Please contact Dennis Doyle at (408) 541-2831 or email at dennis.j.doyle@nasa.gov.



Aviation Safety Reporting System
P.O. Box 189 | Moffett Field, CA | 94035-0189



ACN: 1109473

Time

Date: 201308

Local Time Of Day: 1201-1800

Place

Locale Reference.Airport: BVU.Airport

State Reference: NV

Altitude.MSL.Single Value: 6000

Environment

Flight Conditions: VMC

Aircraft 1

ATC / Advisory.Center: ZLA

Make Model Name: Small Transport

Person 1

Function.Flight Crew: Pilot Flying

ASRS Report Number: 1109473

Events

Anomaly.Inflight Event / Encounter: Other / Unknown

Detector.Person: Flight Crew

Result.General: None Reported / Taken

Narrative 1

During the initial climb after a VFR departure from BVU (Boulder City airport) via GPS to the DAG VOR on an approximately heading of 225 the Co-pilot and I were distracted and momentarily blinded by the sun reflecting off of mirrors at the solar power plant facility located near the CA-NV border near the town of Primm. This solar power plant which I believe is still under construction consists of three massive circular arrays of thousands of mirrors oriented inward toward a central tower. As soon as we cleared the mountains southwest of BVU from 6,000 to 12,000 FT MSL still climbing there were three very bright reflections (one from each solar array) of the sun into the pilots and copilots eyes. The reflection from the northernmost array was the brightest and the largest and grew in size as we flew closer to the facility.

The flight path of our aircraft passed overhead of this facility. At its brightest neither the pilot nor co-pilot could look in that direction due to the intense brightness. From the pilot's seat of my aircraft the brightness was like looking into the sun and it filled about 1/3 of the co-pilots front windshield. In my opinion the reflection from these mirrors was a hazard to flight because for a brief time I could not scan the sky in that direction to look for other aircraft.

Synopsis

A flight crew experienced a very bright, intense light from three solar complexes which interfered with their ability to scan for traffic while climbing westbound between 6,000 and 12,000 feet along J60/V12 southwest of NATEE Intersection.

ACN: 1108698

Time

Date: 201308

Local Time Of Day: 1201-1800

Place

Locale Reference.ATC Facility: ZLA.ARTCC

State Reference: CA

Altitude.MSL.Single Value: 36000

Aircraft 1

ATC / Advisory.Center: ZLA

Make Model Name: Commercial Fixed Wing

Person 1

Function.Air Traffic Control: Enroute

ASRS Report Number: 1108698

Events

Anomaly.ATC Issue: All Types

Anomaly.Inflight Event / Encounter: Other / Unknown

Detector.Person: Flight Crew

Result.General: Physical Injury / Incapacitation

Narrative 1

There is a solar farm south of Las Vegas which is in Sector 6 and Sector 37's airspace. Daily, during the late morning and early afternoon hours we get complaints from pilots of aircraft flying from the northeast to the southwest about the brightness of this solar farm. They usually ask us what it is because they don't know. On this particular morning, an air carrier complained about the brightness and reiterated that it was "nearly blinding." I reported this to Management and was told that they were going to do nothing about it. They then suggested that I tell the pilot to report it through the safety reporting system that they have and to report it myself. I have no idea what can be done about this situation, but being a passenger on an aircraft that flew through this airspace and saw it for myself, I would say that something needs to be done. It is extremely bright and distracting.

Synopsis

ZLA Controller relayed concerns expressed by flight crews overflying a solar farm south of LAS. Flight crews have noted the facility causes nearly blinding reflection.

DOCKETED

Docket Number:	07-AFC-05C
Project Title:	Ivanpah Solar Electric Generating System (Compliance)
TN #:	201915
Document Title:	Ivanpah Solar Electric Generating System response to Clark County Department of Aviation Pilot Reports
Description:	N/A
Filer:	Joe Douglas
Organization:	energyservices, an NRG service
Submitter Role:	Applicant
Submission Date:	3/25/2014 10:32:29 AM
Docketed Date:	3/25/2014



March 20, 2014

Teresa R. Motley,
Airport Planning Manager
Clark County Department of Aviation
P.O. Box 11005
Las Vegas, Nevada 89111-1005

RE: Clark County Department of Aviation (CCDOA) Pilot Reports - Ivanpah Solar Electric Generating System (ISEGS)

Dear Ms. Motley:

The Ivanpah Solar Generating System (ISEGS) appreciates the Clark County Department of Aviation providing the pilots reports in your correspondence of March 10, 2014. As per the Heliostat Positioning Plan (HPP), ISEGS is providing the attached preliminary investigation report for the pilot reports you have provided.

To further investigate to the pilot reports as per the HPP, ISEGS requests the cooperation of the CCDOA and the NASA Aviation Safety Reporting System (ASRS) to obtain the following information:

1. Location data for the flights reports, including GPS tracks of the aircraft, if available.
2. Precise times for each of the flight tracks.

Following the receipt of this information, the ISEGS facility will attempt to obtain measurements of the luminance and irradiance at the locations provided. These measurements and the results will be used to determine if exposures may exist above the maximum permissible exposure levels (MPE) and the results will be reported as per the requirements of Section 6.5 of the HPP. Should the MPE be exceeded in the measurement obtained, then a full monitoring effort will be conducted as soon as practicable and the results of all investigations reported in the ISEGS monthly compliance report.

As per your request for additional information as outlined in your correspondence, please note project commercial operations were commenced on December 31, 2013. The HPP was approved by the agencies after consulting with CCDOA in December of 2013. As a result, the contracting process to for personnel necessary to obtain your requested information, documentation and evaluations is ongoing and the data has not yet been developed. Provision of this data will be coordinated with the reporting of the pilot reports and will be provided to the individuals and entities as per your correspondence. Additional details and specifics are provided in the attached preliminary report.

ISEGS takes these reports very seriously and appreciates the continuing cooperation of the CCDOA. Please feel free to contact me regarding the HPP. Please update your files to reflect the new contact information.

Sincerely,



Shankara Babu PhD, CHMM, CEM
ESH manager
Ivanpah Solar Thermal
100302 Yates Well Road
Nipton, CA 92364
Office: (702)815-2012

CC:

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1303 South Highway 95
Needles, CA 95814

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Linda J Connell, Director
NASA Aviation Safety Reporting System
P.O. Box 189
Moffett Field, California 94035-0189

John Pfeifer
Western Pacific Regional Manager
Aircraft Owners and Pilots Association (AOPA)
PO Box 492728
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Steve Jangelis
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Air Line Pilots Association, International
1625 Massachusetts Avenue, NW

Washington, DC 20036

Scott French
Air Traffic Manager, Las Vegas TRACON
Federal Aviation Administration
699 Wright Brothers Lane
Las Vegas, NV 89119



Preliminary Report ISEGS Investigation of Pilot Reporting

The Ivanpah Solar Electric Generating Station (ISEGS) has investigated the pilot reports as required by the HPP. This preliminary report summarizes the findings of the preliminary investigation. In addition, this document also provides specific responses to the requests for information made by the CCDOA in the correspondence of March 10, 2014.

Background and Timing:

The two reports (ACN: 1109473 and CAN: 1108698) occurred in August 2013 prior to the facility's full commissioning. Testing, calibration and commissioning of the entire facility (Units 1, 2 & 3) was ongoing, and many of the heliostats at the facility were in the process of being brought into operation through a calibration process. A number of heliostats had not been through the calibration process at the time of the reports. The status of the solar field is different today from the status of the field at the time of the reports, with more heliostats through the calibration process. In addition, during operations, the ISEGS project implemented a revised stow strategy that places stored heliostats in random orientation when the solar field is not in use. This random orientation was not employed during the commissioning phase. With the commencement of operations, the calibration of the field to ensure all heliostats are now properly oriented and the revised random stow position decreases the potential for glint and glare to occur in areas above the facility.

Additional Information

The ISEGS project has interviewed a helicopter pilot and a photographer that flew over the site on five different occasions (Sept 4-5, 2013, Nov 1, 2013, Feb 3, 2014 and Feb 13, 2014). These interviews were conducted by ISEGS facility personnel to evaluate the potential for offsite glint and glare to occur above the facility. In the interview, the pilot and photographer did not indicate that they observed issues similar to the complaint filed. The purpose of the flights was to document the progress of the project during the construction phase. The photographs are available at JameyStillingsProjects.com (see the evolution of Ivanpah sections I and II).

Responses to CCDOA Requests:

CCDOA in their correspondence requested specific responses to the following:

3. *"Address the complaint(s) as soon as practical and report the results to Bureau of Land Management (BLM) Needles Field Office, California Energy Commission (CEC), CCDOA and the other agencies identified in Section 6.5 of the HPP within 10 days of receipt".*

Response: ISEGS has investigated the reports to extent practical with information provided. This preliminary report provides the operational conditions at the time of the reports. Additional information is required to provide the details necessary to investigate the reports as per the HPP. Our correspondence requests the necessary information. Following the receipt of the specific times and tracks of the aircraft in the pilot reports, ISEGS will undertake a more thorough investigation of the exact operating conditions of the plant. Currently the information provided is insufficient to pinpoint the exact orientation of heliostats at the time of the pilot reports. All agencies in Sec: 6.5 of the HPP will receive a final report once the investigation and the required information is completed.

4. *“Visit the location of the complaint(s) as soon as possible”*

Response: The information received in the pilot reports ACN: 1109473/ACN: 1108698 does not provide a precise location of where aircraft course, speed, time or elevation. These items have been requested. Since the precise or even approximate location is unknown, it cannot be visited. To our knowledge, there have been no further complaints. We will continue monitoring the solar field and report the results of the surveys per the PTLMP.

5. *Make efforts to observe the glare noted in the complaint by checking the location of the complaint as a similar time of day as noted in the complaint(s).*

Response: Both pilot reports provide four hour duration, therefore the precision of the reports is limited. The ISEGS facility revises the position of the heliostats throughout the day to track the sun. The tracking of the sun during this time would include a very large arc across the sky. Therefore, with a lack of data regarding time or precise location, the potential to replicate the position and time of aircraft location is not possible. As outlined above, the facility commissioning has completed the calibration of the heliostats and revised the stow orientation which should mitigate the potential for similar incidents to occur.

6. *If any glare from any heliostat is observed at the complaint location, take measurements of luminance and irradiance of the glare source using hand-held meters at locations as close as possible to the location identified in the complaint(s).*

Response: Should precise timing and locational data be provided as per our request, ISEGS will proceed with obtaining the measurements as per the requirements of the HPP.

7. *Reports the results to the complainant(s) (if known) and to the CEC Compliance Project Manager (CPM), BLM authorized officer, Federal Aviation Administration (FAA), CCDOA, and other relevant agencies identified in Section 6.5 of the HPP.*

Response: This report summarizes the preliminary investigation. Should precise locations and times be provided for the aircraft whose pilots provided these reports, and then additional investigations will occur as per the HPP.

8. *If observation or measurements by monitors indicate a potential glare-related effect above the maximum permissible exposure (MPE), conduct a full monitoring effort as quickly as possible at the appropriate location (whether ground based or aerial).*

Response: Should accurate locational data be provided, the ISEGS project will assess the potential for glare related effects above the MPE. If the MPE level is exceeded, then ISEGS will conduct a full monitoring effort as soon as practical.

9. *Report the complaint(s) and the subsequent investigation and monitoring results in the ISEGS monthly compliance report.*

Response: The results of this preliminary investigation will be reported as per the requirements. Should additional data be provided for precise locations and times, the results of any further investigation will also be reported as per the requirements.

In addition, CCDOA requests that Solar Partners transmit the following to CCDOA:

1. *Documentation of the aerial monitoring of potential exposure to pilots that was required during testing of the heliostat positioning system, including visual observation and recording a video image of the site during as least three helicopter flyovers.*

Response: The HPP was approved by the agencies in December of 2013. The facility became operational on December 31, 2013. The ISEGS facility is currently engaged in a contracting process to locate and retain services to obtain this documentation.

2. *The results of the luminance evaluations as required in Section D.1 of TRANS-4 (i.e., Power Tower Luminance and Monitoring Plan).*

Response: As per the Power Tower Luminance and Monitoring Plan, this data is to be obtained during the first 90 days of operations. The project is currently obtaining this data. Please note that this requirement is for the luminance of the towers and is not associated with the glint and glare from heliostats. The luminance was not part of the pilot reports.

3. *The supplemental survey report of the mitigation measures designed to reduce reflectivity of the power towers, as required by section d.6 of TRANS-4.*

Response: The project is still currently within the first 90 days of operations and is currently examining the options for implementation of this requirement. Please note that this requirement is for the luminance of the towers and is not associated with the glint and glare from heliostats. The luminance was not part of the pilot reports.