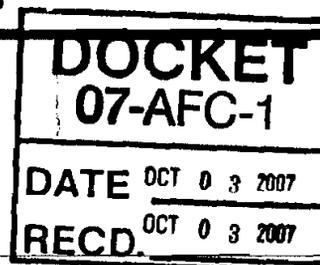


**Docket Optical System - Fwd: RE: glare over solar farms**

**From:** John Kessler  
**To:** Docket Optical System  
**Date:** 10/3/2007 8:58 AM  
**Subject:** Fwd: RE: glare over solar farms



Dear Christina and Melody:

Please docket this email to Victorville 2 (07-AFC-1).

Thank you,

John

John S. Kessler  
 CEC - Project Manager  
 Office: 916-654-4679  
 Cell: 530-306-5920  
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>>> "Barnett, Tom" <tbarnett@inlandenergy.com> 10/2/2007 6:51 PM >>>

Jim:

Thanks for forwarding the e-mail and photos; of all of the pilots and airport operations that we have heard from, this is the first feedback we've received that the glare could possibly be a problem - everyone acknowledges that the mirror arrays are visually striking from the air and hard to miss, but generally, the comments are (much like Mr. Rigol's, actually) along the lines of "sure there's a visible glare, but it's never presented a problem".

From the photos, it's clear that the pilot has positioned his plane at just the right angle to perceive the linear glare generated by the reflection of the glowing heat transfer fluid (HTF) tube - we had mentioned in our earlier explanation that this would be possible; however, this glare is not a reflection of the sun; it is the reflection of the glowing tube in the mirror - a diffused and much less brilliant light. This is borne out in the photos - the light is not at all blinding or even distracting.

In effect, the glowing HTF tube has become like the "filament" in a long two-dimensional "headlight" - since the light source is now coming from the focal point, the parabolic mirror acts in reverse, sending a long column of light back at the sun. Therefore, in these photos, the sun is more or less over the pilot's shoulder (behind him), placing the plane in the "headlight's beam". The reason the entire array is not providing glare is that the airplane is not in the "headlight's beam" coming from those mirrors that do not appear to be producing any glare at all. In fact, as you get closer to the ground, the "beam" will distinguish itself into only two or three (depending upon the angle) individual rows of mirrors, thereby lessening the glare effect.

As to Mr. Rigol's comments concerning how this glare "could be a significant distraction while maneuvering closer to the ground", bear in mind that, at SCLA, even this minimal glare from the mirror array will be below or behind pilots as they approach the runway.

Jim, we appreciate your efforts to make sure there is no concern in this regard and we hope

that the overflight you are planning for this Thursday will remove any further doubts you may have.

Tom

***Thomas M. Barnett***

*Executive Vice President*

*Inland Energy, Inc.*

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*Cell: 949-466-7317*

**From:** Jim Adams [mailto:Jadams@energy.state.ca.us]

**Sent:** Tuesday, October 02, 2007 9:06 AM

**To:** Barnett, Tom

**Subject:** Fwd: glare over solar farms

FYI

James S. Adams, MA  
Planner II  
Environmental Office, MS 40  
California Energy Commission  
1516 9th Street  
Sacramento, CA 95814-5504  
916-653-0702  
jadams@energy.state.ca.us

>>> "Rigol Henry F Civ 412 RANS/ENRO" <Henry.Rigol@edwards.af.mil> 10/1/2007 12:53 PM >>>  
<<IMG\_1738.JPG>> Ja <<IMG\_1732.JPG>> me <<IMG\_1733.JPG>> s,  
<<IMG\_1734.JPG>>  
<<IMG\_1735.JPG>>  
<<IMG\_1736.JPG>> At <<IMG\_1737.JPG>> tached are some photos taken from  
Dwight during a morning flight around 4000 feet AGL.

James, please read the statement below from one of the Range engineers.

I hope this helps in your research. Please call anytime.

Hank

I routinely fly Edwards Aero Club general aviation aircraft near the Harpers mirror farm, next to Harpers dry lakebed, as part of local area orientation flights for 412 TW Airmanship Introduction training. I typically fly directly over Harpers dry lakebed at approximately 4,000 feet above ground level (AGL) during morning hours (0800-0900 timeframe). With the morning sun angle in a clear sky, I often experience a strong glare off the mirrors when over the lakebed. I usually position my aircraft to show orientation flight students this

glare. It is always interesting to students to observe such a brilliant light emanating from the ground. While this glare has not presented any problems for me at 4,000 feet AGL, it could be a significant distraction while maneuvering closer to the ground. The light coming off these mirrors is stronger than typical ground lighting observed from the air at night.

Henry Rigol  
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