From: Hingtgen, Robert J
Sent: Thursday, May 23, 2013 11:39 AM
To: Gungle, Ashley; Loy, Maggie A
Subject: FW: faa glare

Categories: Red Category

Ashley and Maggie,
Here are Pat Healy's comments concerning the glare report. In short it would seem additional quantifiable levels of glare should be provided in the glare study. I would like to see something along the lines of what is presented in the FAA report using units of watts/meter squared to quantify reflectivity of the CPV modules.

Thanks,
Rob

From: Healy, Pat
Sent: Thursday, May 23, 2013 10:17 AM
To: Hingtgen, Robert J
Subject: RE: faa glare

Rob,
I read over the Power Engineering glare study that was created for the Soitec projects. The study makes a lot of sense, and doesn't seem to have much bias towards any particular outcome or recommendation. I agree with most of the reasoning that they provide in quantifying the potential glare issues. I also agree with their claims that the glare can actually be determined through scientific and geometric process, especially since the modules are on a tracker system.
With that said, they do identify some glare occurring for short periods of the day, specifically early morning and late evening, that will affect neighbors and traffic on roads and highways. What is hard to quantify is the effect that this glare will have on the residents and motorists. Their claim is that the glare will be minimal due to composition of the modules absorbing most of the solar energy. However I don't know if that can truly be determined from a scientific study. It may be that even if the modules are 90% efficient that the remaining 10% of solar energy could be in the form of reflected light and glare. So that aspect is a little more difficult to quantity, especially due to the unknown factor of how the glare will invoke a human response. For instance, a single 5 minute period of glare onto interstate 8 may be enough to cause a significant impact, or it may not. There are too many other variable that this study doesn't really provide factual evidence of not being a potential problem. I am not convinced that the efficiency of then panels is a major factor at reducing glare, so what is the solution for the short periods of glare affecting motorists. I would hate to give the ok and then have that small time frame become a safety issue.
With that said, perhaps a closer look needs to be given to the traffic issue, perhaps with the aid of Caltrans.

As far as the airport document, it seems to focus on solar installations that are prospectively located at airports, and not so much with high altitude flight path concerns. Though the article doesn't completely eliminate the potential concerns at high altitudes, the article does go on to suggest that studies and documentation should possibly include the effects on aviation, of which this Soitec report does not. Probably not an issue with air traffic in this location, but then again …

This may be a case where the minimal glare that they claim needs to be proven through a live demonstration, or by observations from an existing installation.

Thank You,
Patrick Healy
Chief EPM Inspector

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From: Hingtgen, Robert J
Sent: Wednesday, May 22, 2013 4:32 PM
To: Healy, Pat
Subject: FW: faa glare

Pat,
We found the following link pertaining to how the FAA may evaluate glare. Please see Chapter 3.1.2 which begins on page 49 of 162. This may help in your review of the glare analysis that I delivered to you earlier this week. Please let me know if you want to discuss further.

Thanks,
Rob

From: Jeffers, Kristina
Sent: Wednesday, May 22, 2013 2:37 PM
To: Loy, Maggie A
Subject: faa glare

http://www.faa.gov/airports/environmental/policy_guidance/media/airport_solar_guide_print.pdf

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