From: "Parisi, Tony NAVAIR" <anthony.parisi@navy.mil>
To: "Shaelyn Strattan" <SStratta@energy.state.ca.us>, "Scott Debauche" <SDeb...
CC: "Deakin, Dwight CIV Sustainability Office, 52F00ME" <dwight.deakin@navy...
Date: 6/8/2010 5:15 PM
Subject: RE: RE: Rice Solar Energy Project
Attachments: Flight Safety Flash 09-01, NVGs vs LEDs.pdf; NVG LED SAFO.PDF

Shaelyn,

The military will mitigate by flying the routes differently, i.e. avoiding the towers.

The conditions you list are good. Lighting compatibility with night vision goggles is also an issue and I should have addressed that in my response. Please include in item 1 that all lighting be conform to Air Force Aviation Safety-Flight Safety Flash 09-01 and FAA Safety Alert for Operators (SAFO) 09007. Both documents are attached.

Thanks.

V/R,
Tony

Anthony M. Parisi, PE
Head, Sustainability Office
NAVAIR Ranges
(805) 989-9209
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anthony.parisi@navy.mil

-----Original Message-----
From: Shaelyn Strattan [mailto:SStratta@energy.state.ca.us]
Sent: Monday, June 07, 2010 8:43
To: Scott Debauche; Parisi, Tony NAVAIR
Cc: Deakin, Dwight CIV Sustainability Office, 52F00ME
Subject: RE: RE: Rice Solar Energy Project

Hi, Tony. Thanks for your input. Can you tell me how the military will mitigate (in general terms, of course)? I have placed three Conditions of Approval on both site:

1. Tower lighting consistent with the Obstruction Marking and Lighting requirements of FAA AC 70/7460-1K.

2. Temporary NOTAM advising of the obstruction and permanent identification on the aviation charts for the areas.

3. Consultation with your office, providing details of equipment and any intended changes to previously approved equipment, project design, or operational procedures that might interfere with military equipment or operations. DOD recommendations, including substitution or modification of equipment or operations, shall be fully implemented prior to or in conjunction with the installation of electronic systems that could result in frequency interference.

If there are any other recommendations you have, please let me know within the next 10 days. Otherwise, I'll go with these. Also, could you provide me with a description of the restrictions associated with the training routes, particularly the minimum and maximum altitudes or a link to that info? Thanks - Shaelyn

>>> "Parisi, Tony NAVAIR" <anthony.parisi@navy.mil> 6/6/2010 10:06 AM
>>> >>>
Shaelyn/Scott,

I am providing this on behalf of the Department of Defense Southwest Renewable Energy Work Group. My apologies for the delay.

Thank you for giving us the opportunity to review the proposed Rice Solar Energy project. The military stakeholders have reviewed the primary and alternate locations. The primary site underlies three low-level military training routes designated IR250, IR255 & SR397. The alternate site underlies four low-level military training routes designated IR217, IR218, VR289 and VR296. The proposed solar power towers in both locations will encroach into those routes and has the potential to significantly impact military testing and training conducted on them. However, the impacts can be mitigated by the military.

If you have any questions or need more information, please let me know.

V/R,
Tony

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-----Original Message-----
From: Parisi, Tony NAVAIR
Sent: Saturday, May 15, 2010 16:21
To: Shaelyn Strattan; Scott Debauche
Cc: Deakin, Dwight CIV Sustainability Office, 52F00ME
Subject: RE: RE: Rice Solar Energy Project

Shaelyn/Scott,

We have been overwhelmed recently with requests to review renewable energy projects. While we really appreciate the opportunity to provide military input on potential impacts, we haven't been able to respond as quickly as we'd like, or should, and this is one of the projects that hasn't been reviewed.

I've taken an initial look at both the primary and alternate sites. Both underlie low-level military training routes and a 650 solar tower would encroach into those routes. That could impact the training conducted on those routes. For the primary site, the affected routes are IR250 & IR255. Both extend down to ground level. For the alternate site, the affected routes are IR217 and VR296. IR217 has a lower altitude or floor of 200 feet above ground level and VR209 extends down to ground level. The Marine Corps has cognizance over three of the routes and the Air Force Reserve over the fourth.

I will get the service representatives to review the projects, but it will be at least a week before I can't get you a definitive response. I recognize that you have a deadline to complete the draft EIS and will understand if you need to complete it without further military input. If you do, I ask that you address the potential impacts to military training conducted on the affected routes and that a more detailed review is pending.

If you have any questions, don't hesitate to give me a call.

V/R,

Tony

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-----Original Message-----
From: Shaelyn Strattan [mailto:SStratta@energy.state.ca.us]
Sent: Thursday, May 13, 2010 16:37
To: Parisi, Tony NAVAIR
Subject: Fwd: RE: Rice Solar Energy Project
Importance: High

** High Priority **

Tony - Still haven't heard back from you on this, and I'm running out of time. I don't know if Scott ever got back with you, but the BLM does not issue a ROW until we license the project...so we are doing a joint CEQA/NEPA document. The location near Rice, off SR 62 is the preferred site (Alternative 1) and the one north of Desert Center is the other. The applicant did submit a Plan of Development to BLM on the Rice location, but nothing on the Desert Center site. Both sites are approximately 1400 acres in size.

Please let me know if this is all you need or what else might be helpful. Thanks. - Shaelyn

Shaelyn Strattan, Planner II
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Air Force Aviation Safety—Flight Safety Flash 09-01

LED Lighting Concerns When Using NVGs

A recent Flight Safety Flash issued by the Canadian Forces (Issue # 2, 2008) identified a safety issue that needs the attention of USAF aircrews. A Canadian Forces crew flying near a group of electrical generating windmills noticed that the obstruction lighting system at the site was very visible to the naked eye, but could not be seen under Night Vision Goggles (NVGs).

Because Light Emitting Diodes (LEDs) are more efficient with much lower operating cost than incandescent lights, there is a trend to convert to LEDs for obstacle illumination. LEDs have a narrow emission band and do not emit infrared energy like incandescent or fluorescent lights. Human visual response ranges from approximately 400 to 700 nanometers (nm), while aviation NVGs are only able to pick up energy from about 645 nm to 930 nm with the peak sensitivity occurring between 660 to 850 nm. As a result, a reddish orange LED appears red to the human eye and meets the FAA requirements for Aviation Red, but may emit at a wavelength lower than NVG capabilities and may not be visible to aircrews wearing NVGs.

In addition to obstacle lighting, another area of concern with LEDs is their use in military and civilian anti-collision and strobe lighting. This could pose a significant increase in risk while operating on NVGs in congested airspace. Bottom line, aviators cannot rely on the use of NVGs alone to see obstructions and/or aircraft.

Risk Mitigation

The following back-to-basics measures may be used to mitigate flight safety risk. Thorough planning is the key:

- Ensure that obstacle databases used to prepare low level charts are as current as possible and that the in-cockpit charts and displays are up to date.
- Consider increase the lowest acceptable altitude for low level flight in areas of known obstructions lit with LEDs.
- Assign additional crew members to perform unaided (non-NVG) scanning duties. Do not rely on NVGs alone to see and identify LED-illuminated ground obstruction or aircraft collision hazards.
- Increase the frequency of daytime low level route surveys to detect areas of new tower construction that merit re-survey after dark. Notify appropriate safety and operations channels when new obstructions lit with LEDs are identified.

Air Force agencies are working with the FAA to develop longer-term solutions for these issues. However, the extent of LED use on aeronautical obstacles outside the United States is unknown. In any case, extra vigilance and hazard awareness is required when flying with NVGs.

// signed – SFM, 1 Apr 09 //

SIDNEY F. MAYEUX, Col, USAF
Chief, Aviation Safety Division
Air Force Safety Center

U.S. Department
of Transportation
**Federal Aviation
Administration**

SAFO

Safety Alert for Operators

SAFO 09007
DATE 3/6/09

Flight Standards Service
Washington, DC

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo

A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest. Besides the specific action recommended in a SAFO, an alternative action may be as effective in addressing the safety issue named in the SAFO.

Subject: Night Vision Goggle (NVG) Advisory Pertaining to Certain Red Color Light Emitting Diodes (LED)

Purpose: This SAFO advises operators utilizing NVGs that certain LED lighting systems fall outside the combined visible and near-infrared spectrum of NVGs.

Discussion: A Flight Safety Flash was issued in 2008 by the Canadian Air Force's Directorate of Flight Safety, which identified some red obstruction lighting systems that were clearly visible to the naked eye but not visible to NVGs. These lighting systems employ LEDs instead of traditional incandescent sources. The use of LEDs is becoming more common for almost all lighting applications because of their energy efficiency and extremely long life.

Aviation Red light ranges from about 610 to 700 nanometers (nm), and NVGs approved for civil aviation (having a Class B Minus Blue Filter) are only sensitive to energy ranging from 665 to about 930 nm. Because LEDs have a relatively narrow emission band and do not emit infrared energy like incandescent lights, it is possible for them to meet FAA requirements for Aviation Red but be below the range in which NVGs are sensitive.

In general terms, NVG users should be aware that LED lighting systems falling outside the combined visible and near-infrared spectrum of an NVG (approximately 665 to 930 nm) will not be visible to their goggles. Crews that fly using NVGs are warned to use extra caution when flying near obstacle areas and to report any hazardous sites to the nearest Flight Standards District Office (FSDO) or the appropriate military Safety Officer.

Recommended Action: Pilots, directors of operations, chief pilots, training program managers, and training centers either using, or providing training for NVGs should advise pilots of the limitations outlined in this SAFO and ensure such information is incorporated into the pilot NVG training program.