



OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3000

ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

June 13, 2014

MEMORANDUM FOR: MITIGATION OVERSIGHT COMMITTEE MEMBERS

FROM: Michael A. Aimone, P.E., Executive Director, DoD Siting Clearinghouse

SUBJECT: Procedures Memo #4: Glint/Glare Issues on or near Department of Defense (DoD)  
Aviation Operations

*Aimone*  
*13 Jun 2014*

The attached memo, dated June 11, 2014, from the Acting Deputy Under Secretary of Defense for Installations and Environment is forwarded for your information and action.

If you have any questions, please contact Mr. Steve Sample at 703-571-0076.

Attachment:  
As Stated



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JUN 11 2014

ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS,  
ENVIRONMENT, AND ENERGY)  
ASSISTANT SECRETARY OF THE NAVY (ENERGY,  
INSTALLATIONS, AND ENVIRONMENT)  
ACTING ASSISTANT SECRETARY OF THE AIR FORCE  
(INSTALLATIONS, ENVIRONMENT AND LOGISTICS)

SUBJECT: Glint/Glare Issues on or near Department of Defense (DoD) Aviation Operations

In conjunction with the Department of Energy (DOE), the Federal Aviation Administration (FAA) has determined that glint/glare from some types of solar renewable energy systems could result in ocular impact to pilots and/or air traffic controllers, and thus potentially compromise the safety of the air transportation system. Glint is defined as the momentary flash of bright light, while glare is a continuous source of bright light. The FAA interim procedures require commercial airport operators who receive airport operations funding from FAA to conduct glint/glare studies for solar renewable energy systems on or near their airports. While commercial aviation has generally more rigid landing procedures, DoD flight procedures are more varied due to multiple military aircraft types and training requirements. Thus, FAA's interim guidance should only be used as a guide for consideration.

You are strongly encouraged to expand your mission compatibility evaluations to include the potential impact of glint/glare from non-residential photovoltaic and glass-enclosed solar-hot water systems. Solar renewable energy projects that are within 2 nautical miles of military airfield control towers, center of the airfields (Air Traffic Areas), or helicopter landing zones may require your consideration. The Military Departments may wish to extend the analysis to the full extent of the land surface under the Class D airspace. The FAA's interim procedures<sup>1</sup> associated with this subject are a reasonable general guide to follow until better procedures for military operations are defined. While this memorandum does not extend to evaluation of concentrating solar renewable systems, careful consideration of the glint/glare from concentrating solar power towers within 10 nautical miles of DoD flight operations is also suggested.

To assist in the FAA's efforts, the DOE's Sandia National Laboratories created a simple analysis tool, called the Solar Glare Hazard Analysis Tool (SGHAT)<sup>2</sup>. Following the SGHAT user's manual, acceptable glint/glare considerations occur when the tool predicts a "low potential for after-image." The use of the SGHAT tool is optional, and it is not expected that DoD would follow FAA's internal glint/glare document preparation procedures. A DoD technical working group will be established to work the glint/glare issue, and adjustments to pertinent DoD Instructions and Unified Facilities Criteria will be made, as applicable.

<sup>1</sup> See: <https://www.federalregister.gov/articles/2013/10/23/2013-24729/interim-policy-faa-review-of-solar-energy-system-projects-on-federally-obligated-airports>

<sup>2</sup> See: <https://share.sandia.gov/phlux>

As part of the Office of the Secretary of Defense (OSD) review of solar renewable energy projects, the Directorate of Facilities Energy & Privatization (FE&P) will review your mission compatibility assessments, including the potential for glint/glare. Solar renewable energy projects using the authority found in 10 U.S.C., § 2922a or in 10 U.S.C., § 2667 (Enhanced Use Lease) will require the SGHAT analysis for OSD review/approval/certification. For renewable energy projects that do not require OSD approval (e.g. renewable energy included in Military Construction (MILCON): Facilities Sustainment, Restoration, and Modernization (FSRM); Energy Savings Performance Contract (ESPC); Utility Energy Services Contract (UESC); or Energy Conservation Investment Program (ECIP) projects), OSD encourages a mission compatibility assessment include glint/glare as applicable. The use of the SGHAT is optional, and other glint/glare tools may be used.

For those utility-scale solar renewable energy projects submitted to the DoD Siting Clearinghouse for a mission compatibility evaluation under the provisions of 32 C.F.R. Part 211, we suggest you conduct a glint/glare analysis, or seek the applicant accomplish the analysis as part of mitigation discussions. The use of the SGHAT is optional, and other glint/glare tools may be used.

Additionally, since glint/glare can occur for solar renewable energy systems that are located beyond the installation boundaries, and on private lands, you are encouraged to work with local communities on appropriate land use controls to mitigate potential hazards and risk to military test, training and operational missions.

While the intent of this memorandum is to address the possible glint and glare issues with solar renewable energy projects, your staffs are reminded that DODI 4165.57, *Air Installations Compatible Use Zones* (AICUZ), requires consideration of glare as part of restrictions in certain zones near DoD airfields, and glare issues to be incorporated in AICUZ studies. Further, Unified Facilities Criteria (UFC) 4-211-01N provides engineering standards on how to treat glare from critical surfaces, including building fenestration on aircraft maintenance hangers. As these and other DoD issuances are updated, we will ensure they include the appropriate consideration of glint and glare from nearby solar renewable energy projects or building system components.

Should your staff have questions, please contact Ms. Sara Streff, FE&P at 571-372-6843 or Mr. Steve Sample, SCH at 703-571-0067.



John Conger  
Acting Deputy Under Secretary of Defense  
(Installations & Environment)