



ISO 9001/2008 CERTIFIED

FIJI AERONAUTICAL INFORMATION CIRCULAR

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AIC 04/17
Effective
20 JUL 2017
ADM

INTERIM GUIDANCE - SOLAR PHOTOVOLTAIC SYSTEMS

1. BACKGROUND

- 1.1 Airport interest in solar energy is growing rapidly as a way to reduce operating costs and to demonstrate a commitment to renewable energy and sustainable development. In response, the Authority is seeking to develop its policy on the installation of Solar Photovoltaic (SPV) Systems and their impact on aviation. In doing so, it is reviewing the results of research having been carried out in the United States by the Federal Aviation Administration (FAA) culminating in the publication of Technical Guidance for Evaluating Solar Technologies on Airports and also reviewing guidance issued by other National Aviation Safety Administrations and Authority's on this subject.
- 1.2 On completion of the review, the Authority, together with the assistance of other aviation stakeholders, will develop a policy and provide formal guidance material on the installation of SPV, principally on or in the vicinity¹ of licensed aerodromes but will also include guidance on installations away from aerodromes (or 'en-route'²). This AIC therefore constitutes interim guidance from the Authority until a formal policy has been developed.

2. DISCUSSION

- 2.1 At present the key safety issue is perceived to be the potential for reflection from SPV to cause glare, dazzling pilots or leading them to confuse reflections with aeronautical lights. Air Navigation Regulation (ANR) 139 restricts any individual or group to shine or reflect a light or lights into the sky, SPV developers should be aware of the requirements to comply with the Air Navigation Regulation (ANR) 1981. In particular, developers and Planning Authorities should be cognizant of the following sections of the ANR with respect to any SPV development regardless of location:
- ANR 70(2) - Endangering safety of an aircraft.
 - ANR 139 - Dangerous Lights.
- 2.2 The potential for SPV installations to cause electromagnetic or other interference with aeronautical Communications Navigational and Surveillance equipment (CNS) must be considered by the SPV developer, in coordination with the Authority, Airports Fiji Limited (AFL) and/or relevant Government Ministry's, as required.

¹ In this context, the term "in the vicinity" refers to aerodrome traffic zone and a distance of up to 8km from the 'Aerodrome Reference Point'.

² SPV installations proposed further than 8km from an aerodrome are considered "en-route" developments, and may require consultation with the Authority for an assessment on the impact, if any, to CNS equipment.

- 2.3 Where SPV systems are installed on structures that, for example, extend above the roofline of tall buildings (either on, or 'off-aerodrome'), or where they are installed in the vertical plane (on plinths or towers), then there may be the potential for creating an obstacle hazard to aircraft and - in addition to the potential for creating turbulence hazard to aircraft - any infringement of the aerodrome Obstacle Limitation Surfaces (OLS) shall also need to be considered by the Aerodrome Licence holder.
- 2.4 For all planned SPV installations it is best practice for the developer to consult with the operators of nearby aerodromes **before** any construction is initiated.
- 2.5 An Aerodrome Licence holder, in agreement with their local planning authority, may wish to initiate procedures so that it is only consulted on SPV planning applications at shorter distances from the aerodrome (for example within a 5 km radius), or at distances that would limit SPV development from within the aerodrome traffic zone; however, this is at the discretion of the Aerodrome Licence holder and Authority approval or endorsement of this decision is necessary.

3. RECOMMENDATIONS

- 3.1 It is recommended that, as part of a planning application, the SPV developer provide safety assurance documentation (including risk assessment) regarding the full potential impact of the SPV installation on aviation interests.
- 3.2 Guidance on safety management procedures at Authority licensed or registered aerodromes are published within CAAF Standards Document-Aerodromes (SD-AD).
- 3.3 Where proposed developments in the vicinity of aerodromes require an application for planning permission the relevant planning authority should consult aerodrome operators or AFL when aeronautical interests might be affected. This consultation procedure is a statutory obligation in the case of major airports such as Nadi, Nausori, Labasa, Matei, Rotuma, Savusavu and certain AFL CNS technical sites.
- 3.4 In the event of SPV developments proposed under the Electricity Act, the relevant government department will routinely consult with the Authority. There is no requirement for the Authority to be separately consulted for such proposed SPV installations or developments.
- 3.5 If an installation of SPV systems is planned **on**-aerodrome (i.e. within its licensed boundary) then it is recommended that data on the reflectivity of the solar panel material should be included in any assessment before installation approval can be granted. As part of a condition of an Aerodrome Licence, the Aerodrome Licence holder is required to obtain prior consent from the Authority's Ground Safety Department **before** any work is begun or approval to the developer or local planning authority is granted in accordance with procedures set out in the SD-AD (Appendix 5).

- 3.6 During the installation and associated construction of SPV systems there may also be a need to liaise with nearby aerodromes if cranes are to be used; AFL notification and permission is required.
- 3.7 The Authority aims to replace this informal guidance with formal policy in due course and reserves the right to cancel, amend or alter the guidance provided in this document at its discretion upon receipt of new information.
- 3.8 Further guidance may be obtained from the Authority's Ground Safety Department via cgs@caaf.org.fj.