

**Before A Commissioner Appointed by the Selwyn District Council**

**In The Matter of**

Resource Management Act 1991

**AND**

**In the Matter of**

Peer Review of Pattle Delamore Partners Ltd  
Glint and Glare Assessment for Ra Tuatahi No.  
1 Ltd Solar Farm development at 80 Struie  
Road , Hororata

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STATEMENT OF EVIDENCE OF RUDI VAN DER VELDEN

ON BEHALF OF SELWYN DISTRICT COUNCIL

( Solar Glare Impacts Assessment )

Dated 12 May 2025

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## **1.0 Introduction**

My Name is Rudi Van der Velden, I am a Director and Consultant of Velden Aviation Consulting Ltd.

I am authorised to provide evidence on behalf of Selwyn District Council.

## **1.2 Qualifications and Experience**

I hold a Bachelor's Degree in Electrical Engineering from Canterbury University 1981, obtained professional engineer registration in 1985, Chartered Engineer from U.K Institute of Electrical Engineers 1986 and have Post Grad Certificate in Strategic Leadership from Canterbury University in 2014.

1.3 My experience includes at least 40 years in the aviation industry as design engineer, subject matter expert and team leader for all aspects of engineering relating to air traffic management and Air Traffic Control systems which included communications, navigation, surveillance and satellite navigation systems.

1.4 In the last few years I have formed my own consulting company Velden Aviation Consulting limited and are also contracted by the Pacific Aviation Safety Office to carry out audits and inspections at airports in the Pacific.

1.5 My experience over the last 7 to 8 years also includes work assessing glare impact on operations and airfield systems from large solar arrays for both international and domestic airports and also assessment of glint and glare on road users, dwellings, rail and other potential public interests for large power utilities such as Meridian Energy as well as District Councils.

## **1.6 Involvement with the Proposed Plan**

I had been tasked by SDC to provide an independent review of a report provided by Pattle Delamore Partners Ltd on Glint and Glare Study for the 80 Struie Road Solar Farm proposal.

1.7 In preparing this evidence I have reviewed the following :

- a) The Assessment of Environmental Effects (AEE) prepared by PDP
- b) Appendix C, Glint and Glare Assessment by PDP incorporating memorandum and assessment report

## **2.0 Executive Summary**

This peer review report is provided by the author, from Velden Aviation Consulting Limited (VACL), from the results obtained by Pattle Delamore Partners Ltd (PDP) in their Glint and Glare assessment report.

There were some discrepancies noted in the PDP report with regard to parameters used and further descriptions needed to help clarify standards and mitigation considerations these included the following.

The PDP assessment reference to U.S. Federal Aviation Administration (FAA) guidelines, while applicable to operations at and around aerodromes is not applicable to dwellings and road or rail routes.

VACL used Australian New South Wales Government guidelines for solar array developments with regard to applicable and conservative standards for acceptable glare levels as they apply to Dwellings and Road or Rail routes.

No comparative assessment has been made by VACL for the glare impacts on the Hot Air Ballooning as analysed by PDP as this is considered recreational and with non-directional landing requirements compared to piloted fixed wing aircraft at aerodromes.

Other areas of discrepancy between PDP and VACL assessment relate to the number of dwellings considered and observer heights. VACL considered an additional 9 dwellings that fell within a 1km to 1.5km radius from the proposed solar farm needed to be considered.

The PDP report did not include any assessment of potential glare impact on nearby road traffic routes. This was considered in the VACL peer review report given the impact of potential glare on road traffic safety. It was found however that there would be no significant solar glare impact to road traffic for the four nearby roads that were considered.

Irrespective of some of the differences and discrepancies found, VACL is in agreement with the PDP glare report results which overall indicated that there should be no potential impact of solar glare on dwellings and road routes nearby that were assessed.

### **3. Response to Submissions**

#### **3.1 Submission , Arnold Matthew**

Mainly concerned with visual impact rather than potential solar glint and glare therefore no responding comment from VACL given there is no discussion on potential impacts of solar glare with regard to their concerns or to dwellings and road users from the arrays based on the analysis.

#### **3.2 Submission from, Neil Irwin**

Mainly concerned with surface flood mitigation along with heavy metal contaminants. Also, Flammability of some tree species being proposed by PDP and detailed plan of solar development with regard to underground cables and adjoining rights of way.

There is no responding comment from VACL given there is no discussion on potential impacts of solar glare with regard to their concerns or to dwellings and road users from the arrays based on the analysis.

#### **3.3 Submission from, Adrian Loo**

Mainly concerned with potential risk of fire from the solar farm development.

There is no responding comment from VACL given there is no discussion on potential impacts of solar glare with regard to their concerns or to dwellings and road users from the arrays based on the analysis.

### **4.0 Summary Conclusion and Recommendations**

4.1 Independent analysis by VACL using the same software utility considering the PV parameter discrepancies, produced results that are largely in agreement with the PDP glint and glare assessment.

4.2 This was also based on no existing vegetation nor proposed landscape planting being taken into account.

4.2 Results VACL peer review assessment for solar glare indicated that there should be no potential solar glare impact to the dwellings/residents considered by PDP and the further dwellings considered by the VACL peer review.

4.3 The results from the peer review indicate that there should be no potential glare expected to the roads considered even without inclusion of any mitigation modelling of existing or planned vegetation landscaping.

4.4 The peer review results are based on the solar farm parameters that PDP had provided I in their report based on the development specifications they referenced. It is recommended that should there be a change to any of the parameters associated with the Solar Farm development at 80 Struie Road as provided by PDP, then it is recommended that a further glint and glare assessment be carried out taking these into account.

This is because it is highly likely that potential glare impacts may manifest with any new PV array parameter set up.

**Rudi Van der Velden**

**May 2025**