

UNDER	the Resource Management Act 1991 ("RMA")
AND	
IN THE MATTER	of a notice of requirement for a designation by KiwiRail Holdings Limited ("KiwiRail") for the Palmerston North Regional Freight Hub under section 168 of the RMA

Date: 03/08/21 to 06/08/21

Venue: Remote communication

Facilitator: Not applicable

Area of expertise: Lighting

Experts in attendance:

Name	For
John Mckensey (JM)	KiwiRail
Glen Wright (GW)	Palmerston North City Council

JOINT WITNESS STATEMENT

1. Introduction

- 1.1. The purpose of expert conferencing is for expert witnesses to identify and reach agreement with other expert witnesses within their field of expertise on the issues/matters on which the expert witnesses agree and the issues/matters on which they do not agree, including reasons for their disagreement.
- 1.2. In preparing this statement, the experts have read and understood the Code of Conduct for Expert Witnesses as included in the Environment Court Practice Note 2014.

2. Obtrusive Lighting Standards

- 2.1. Matters of agreement
 - a) The lighting should be designed to comply with the recommendations of AS/NZS 4282:2019 (Control of the obtrusive effects of outdoor lighting), based on environmental zone A2 as defined in the standard.
- 2.2. Matters of disagreement

None.
- 2.3. Comment
 - a) The updated lighting design has provided evidence that the outdoor lighting can be designed to be fully compliant with AS/NZS 4282:2019 for environmental zone A2.

3. Colour Temperature

3.1. Matters of agreement

- a) GW proposed a correlated colour temperature (**CCT**) for the light sources of 3000K to improve amenity (i.e. visibility of the night sky).

JM agreed with the intent, but proposed 4000K for improved safety (i.e. staff on site will be more alert to potential hazards).

Following further discussions with GW and KiwiRail, JM has confirmed with KiwiRail that light sources of 3000K are suitable from an operational perspective.

- b) GW has proposed the following condition and JM agrees with the proposed condition;

“All exterior lighting shall have a colour temperature of light emitted of 3000K Kelvin or lower.”

3.2. Matters of disagreement

None.

4. Lighting Control

4.1. Matters of agreement

Dimming when there is no activity in a section of the site would be desirable to reduce skyglow, where practicable.

4.2. Matters of disagreement

- a) GW proposed that switching (or dimming) of lights be implemented when not required for operational safety.

- i) This would improve amenity by reducing sky glow.

While JM agreed in principle and the KiwiRail lighting designer (i.e. Stantec) has agreed that it could potentially be considered during detailed design, JM noted that it may be impractical to achieve:

- i) Sensing for automated control would be complex and potentially impractical to achieve successfully with such a dynamic space.
- ii) Switching at irregular times was likely to create a greater obtrusive effect than leaving the lighting on.
- iii) Dimming might be less obtrusive but would still be subject to the complexities above which may preclude dimming due to practicality.
- iv) The updated lighting design achieves compliance with the proposed Obtrusive Lighting standard with full output at all times. Hence, there is no requirement to switch or dim to achieve compliance.

Hence, JM is of the opinion that;

- i) The lighting should not be switched off when not required.

- ii) KiwiRail could consider dimming, but only at their discretion should they deem it practical to do so. A condition is not necessary or appropriate.

5. Luminaire tilt

5.1. Matters of agreement

- a) Ideally, no lights should be tilted above the horizontal

5.2. Matters of disagreement

None.

5.3. Comment

The conceptual updated lighting design achieves compliance with the obtrusive lighting limits proposed by Council. The design includes a small number of lights that required a modest 5 degree tilt and it may be that some tilt is also required in the future detailed design.

However, provided compliance with AS/NZS 4282:2019 is achieved, the presence of some tilt is not in itself a concern.

For clarity, the use of zero tilt or close to that target will be automatically be used by the designer as it will not be possible to achieve compliance with AS/NZS 4282:2019 otherwise.

6. Skyglow

6.1. Matters of agreement

The Council Section 42A Planning Evidence: Effects and recommendations summary table, contains an error at proposed condition at item 100. The Skyglow limit should be 0.01 rather than 0.003, to align with AS/NZS 4282:2019.

Hence, the appropriate wording should be;

“Include a condition: Skyglow caused by artificial lighting shall have a Sky Glow Upward Light Ratio of no greater than 0.01, calculated in accordance with AS/NZS4282:2019.”

This is captured by condition 76(b) of the Proposed Conditions attached to Ms Bell's evidence and GW confirms this is acceptable.

6.2. Matters of disagreement

None.

7. Council Section 42A proposed conditions

7.1. Matters of agreement

Other than matters specifically raised previously in the JWS, the following item numbers, raised as proposed condition amendments in section 9.9 Lighting, of the Council Section 42A Planning Evidence: Effects and recommendations summary table, are agreed (items paraphrased for brevity).

JM and GW agree that these recommendations have been addressed in the KiwiRail proposed conditions as appended to the planning evidence of Karen Bell for KiwiRail, dated 9 July 2021 (**KR Conditions**). JM and GW agree that the following conditions achieve the technical outcomes sought:

- (a) Operational Lighting Design Plan – conditions 75 – 77.
- (b) Construction Management Plan – conditions 59(f).
- (c) Construction Traffic Management Plan – condition 65(n).

7.2. Matters of disagreement

None.

7.3. Comment

KR Conditions, condition 76 (c), the following should be removed “(including artificial light and the glare from buildings and structures)” as glare from buildings and structures is not an obtrusive light effect considered by AS/NZS4282:2019. It should not form part of the Operational Lighting Design Plan. It should be a separate condition. Suggested condition wording would be:

“All buildings and structures within the Freight Hub shall be designed and constructed to avoid potential roof glare to the south and particularly to the Palmerston North Airport Control Tower.”

Dated the 6th day of August 2021



John Mckensey

Glen Wright