

Wendy Collard

From: Peter White <Peter.White@caa.govt.nz>
Sent: Monday, 16 May 2016 07:33 a.m.
To: Campbell Hodgson
Cc: Sean Rogers; Bridget Irving
Subject: RE: Wind Turbine Colour

Good morning Campbell,

Yes, if they are the identical colour then no problems.

Yours Sincerely,

Peter White

Aeronautical Services Officer (ATS)

Civil Aviation Authority of New Zealand

Te Mana Rererangi Tūmatanui o Aotearoa

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A concern for safety, sincerely held and expressly repeated but not carried through to action, is as much protection from danger as no concern at all.

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From: Campbell Hodgson [mailto:Campbell.Hodgson@gallawaycookallan.co.nz]
Sent: Friday, 13 May 2016 3:50 p.m.
To: Peter White
Cc: Sean Rogers; Bridget Irving
Subject: RE: Wind Turbine Colour

Hello Peter,

Thank you for your explanation. The condition proposed is the same as the condition that was required for Meridian's Mill Creek project. The Dunedin turbines will be the identical colour to the Mill Creek turbines and Wellington's Brooklyn turbine.

I am not sure if you are familiar with those turbines but I have attached a couple of pictures. Those turbines appear white, although the colour is named "light grey".

Would the proposed turbines satisfy the CAA's requirements if they were the identical colour as Meridian's Mill Creek and Brooklyn turbines?

Thank you for your help.

Kind regards,

Campbell

From: Peter White [<mailto:Peter.White@caa.govt.nz>]
Sent: Friday, 13 May 2016 10:07 a.m.
To: Campbell Hodgson
Cc: Sean Rogers
Subject: RE: Wind Turbine Colour

Good morning Campbell,

It was a pleasure speaking with you this morning.

The objective in marking or lighting obstacles is to ensure that pilots will see them with sufficient time to be able to avoid them.

Assuming the time to react and avoid an obstacle is 1 minute, and that the aircraft is travelling at 180 knots, the obstacle or lighting must be visible from 3 nautical miles (NM). This is consistent with the minimum visibility requirement of 5 km (2.7NM) for VFR operations in uncontrolled airspace.

Since the advent of windfarms several years ago, international standards contained within International Civil Aviation Organisation (ICAO – to which NZ is a signatory State), recommends white as the most effective colour for wind turbines, including the mast, nacelle and blades.

Reflectivity is not an issue and the white colour can be in a Matt format to eliminate glint or glare.

Any other duller colour reduces the chance of a pilot seeing it in time to avoid it.

I am available to assist with any further queries that you may have.

Yours Sincerely,

Peter White
Aeronautical Services Officer (ATS)
Civil Aviation Authority of New Zealand
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From: Campbell Hodgson [<mailto:Campbell.Hodgson@gallawaycookallan.co.nz>]
Sent: Friday, 13 May 2016 9:39 a.m.
To: Peter White
Cc: Bridget Irving; Sean Rogers
Subject: Wind Turbine Colour

Dear Peter,

My name is Campbell Hodgson. I am a solicitor at Gallaway Cook Allan. We are helping our client Blueskin Energy Ltd through the resource consent process so they can erect 3 wind turbines on Porteous Hill. We have obtained a determination from you, attached, and note a condition that the turbines are to be painted white.

We are considering proposing a condition along the following lines: *Each turbine shall have low reflectivity finishes of a light grey colour (RAL 7035 or similar) on all external parts, including turbine towers, nacelles and turbine blades so as to minimise blade glint.*

Blade glint can be a problematic environmental effect. We want to make sure that if we propose a condition along the above lines that we are not going to compromise the conditions in your determination. Would a condition drafted as above satisfy the condition in your determination?

Kind regards,

Campbell Hodgson
Solicitor

campbell.hodgson@gallawaycookallan.co.nz



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