From:	[redacted]
To:	Do-Not-Reply IPCN Submissions Mailbox
Subject:	Thunderbolt Wind Farm (SSD-10807896) Submission on Additional Material
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Attachments:	image006.png image007.png

My name is Rohan Williams, and I am a Fixed wing Aerial Firefighting pilot with experience gained fighting fires over 19 fire seasons flown in three states of Australia, three island provinces of Indonesia, as well as four states in the United States of America.

I write in response to the answers given to Mr Steven Barry's questions by Nicole Brewer, Director of Energy Assessments, of the New South Wales Department of Planning and Environment on 03/04/2024. My specific response is to Ms Brewer's response to Question 2 – Firefighting Operations. I would like to flag the specific dangers of aerial firefighting within and around wind farm developments which seem to have been broadly overlooked in Ms Brewer's response.

In her response, Ms Brewer sites the department's consultation with "various State agencies, including the NSW Rural Fire Service (RFS) during assessment and preparation of the recommended conditions of consent". There is no mention of consultation with industry representatives such as operators, their pilots, or their relevant peak body, the Aerial Application Association of Australia. It is such later consultation that would gain the most relevant response as it is those operators and their association that are trained, qualified, and experienced in the provision of professional aerial firefighting capabilities.

There are actually no personnel within the vast ranks of the New South Wales Rural Fire Service qualified to operate, or indeed fly, aerial firefighting sorties. All such sorties carried out on behalf of the New South Wales Rural Fire Service are outsourced to private business. That includes the operation and flight crew provision for aircraft owned by the RFS themselves. Ms Brewer's consultation therefore falls quite short of that leading to any meaningful response. The consultation is actually flawed by misdirection.

The mitigating actions raised by Ms Brewer's department under their requirement of a comprehensive Emergency Plan do not reflect the real dangers that wind turbines and their associated wind monitoring towers, plus the additional power transmission infrastructure, pose to aerial firefighting aircraft. No reference to issues resulting from the nature of significant, tall standing obstacles being obscured from immediate view by bushfire smoke are either raised or mitigated.

The first sentence of the Wind Farm Policy developed by the Australian Aerial Application Association, the national peak body representing fixed wing aerial firefighting conducted under Part 137 of the Australian Civil Aviation Safety Regulations, reads "Windfarms and their pre-construction wind monitoring towers are a direct threat to aviation safety and especially aerial application". This is a direct and heavily weighted statement.

The dangers of wind turbines and meteorological evaluation towers (MET towers) to low level aviation operation are significant. These dangers are also significantly amplified by the presence of bushfire smoke. The most significant danger is not that represented by the wind turbines themselves but, more so, of the MET towers. MET towers are deliberately designed to be of little visual significance. They usually stand at a height of that equivalent to the hub of their associated wind turbines within the wind farm. These structures are notoriously hard to see and represent a significant danger to low level aviation under clear visual conditions. They can be impossible to visually locate under just a thin vale of bushfire smoke.

However, the wind turbines themselves do still represent a significant threat to the safety of aerial firefighting aircraft of both the fixed and rotary wing varieties. The turbines in the proposed Thunderbolt Wind Farm are projected to be of 150 – 270 meters in height. The average application height of fixed wing air tankers operating under Part 137 of the Australian Civil Aviation Safety Regulations is 80 – 100 feet (24 – 30 meters). That means that the aircraft must operate from a height well below that of both the wind turbines and their associated MET towers. Where bushfire smoke either partially or completely obscures the structures concerned, aerial firefighting crews, under best practice, and in the immediate interest of aircrew safety, must refuse to enter the area.

Aerial firefighting crews will do all that they can in order to suppress the progression of the fire

and endeavour to keep the fire as cool as possible so that ground crews can access the fire flanks more safely in order to extinguish the flames. However, when the threat of hidden wind turbines and MET towers becomes an issue, the efficacy and efficiency of aerial firefighting aircraft may significantly diminish. The safety of the aircrews must be considered in preference to the consequences of the impacting fire, and compromises made in order to uphold it.

Outside of the wind farm development area itself is also the additional above ground power transmission infrastructure which transmits the generated power to the existing 330Kv transmission lines. That infrastructure itself represents an additional obstacle that also detracts from the safety of local aerial firefighting activities. Power lines represent the leading cause of low-level aviation safety incidents in Australia.

According to the Australasian Fire and Emergency Service Authorities Council Limited (AFAC) in their Wind Farms and Busfire Operations Guildline V3.0 (2018), “Turbine towers, meteorological monitoring towers and power transmission infrastructure pose risks for aerial firefighting operations. Meteorological monitoring towers and power transmission infrastructure are generally difficult for aerial personnel to see, if they are not marked appropriately. If wind turbines were not shut down, moving blades and wake turbulence would create significant hazards for low flying aircraft, thus the shutting down of wind turbines, in an emergency situation, is defined in wind farm emergency procedures. A wind farm facility’s power lines may pose electrocution risks, that are exacerbated due to smoke during a bushfire”.

This clearly facilitates a potential amplification factor for bushfire risk to properties within and surrounding wind farms. In turn, insurance premiums and other mitigation measures need to be bolstered in response creating another increase in cost to surrounding farmers and graziers, as well as a general amplification of bushfire risk to other land classifications.

From my own extensive experience in flying aerial firefighting and aerial agricultural sorties into areas occupied by, and adjacent to, both wind and solar farm developments, I can make honest and very serious testament to the fact that wind farm developments pose a rather extraordinary risk to the safety and efficacy of aerial firefighting operations. I do not believe that this phenomenon has yet been sufficiently explored by the department in the consideration of this and other such developments.

Yours sincerely,

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