

# Aerial Agricultural Association of Australia Windfarm Policy



November 2009

## Introduction

Windfarms and their pre-construction wind monitoring towers are a direct threat to aviation safety – and especially aerial application.

AAAA has developed this policy so as to inform regulators, asset developers and operators alike of the need for action on their part to fulfill their duty of care to Australia's aerial applicators.

## AAAA Windfarms Policy

AAAA has revised its policy on windfarm developers in light of misrepresentations of the AAAA position in a development application to government planning authorities.

AAAA's formal policy position on all windfarm developments and wind monitoring towers is to **automatically oppose** such developments, unless the developer is able to clearly demonstrate they have:

1. consulted honestly and in detail with local aerial application operators
2. sought and received an independent expert opinion on the safety and economic impacts of the proposed development
3. clearly and fairly identified that there will be no short or long term impact on the aerial application industry from either safety or economic perspectives and
4. if there is an identified impact on local aerial application operators, provided a legally binding agreement for compensation over a fair period of years for loss of income to the aerial operators affected.

It is AAAA policy not to provide specific comment on particular development proposals as the operational implications of each development will vary enormously depending on the site, the positioning of the turbines, orientation of affected paddocks relative to the turbines, the type of aerial application taking place, the aircraft used, the pilot's experience, the meteorological

conditions, the site elevation, the position of any airstrip relative to the turbines and a range of other variables.

AAAA does not have the resources to undertake such on-site assessments, but recommends wind farm developers talk to the local aerial applicators who may be affected by the development, and seek independent expert opinion from an aerial application qualified pilot with an understanding of risk assessment and potential impacts.

AAAA believes that:

- All wind monitoring towers—including guy wires—must be clearly marked to assist pilots to see them
- All wind towers, wind monitoring towers and associated infrastructure must be required to be removed when no longer in use

## Recommendations to Government

AAAA recommends that government provide better information to all windfarm developers on their responsibilities for aviation safety, including raising the duty of care requirements established under *Sheather v Country Energy* (NSW Court of Appeals) for owners of assets that pose a known threat to aviation activities to provide for suitable marking and other safety initiatives.

There are a range of initiatives that the Commonwealth and CASA should actively pursue in developing a more appropriate response to manag-

ing the aviation risks from wind farm developments:

- CASA should develop regulations of wind farm developments and other tall structures for reporting and development approval purposes, placing a strong emphasis on protecting aviation safety.
- CASA should set a much lower than previously used height trigger for notification to CASA of developments - down to 50 feet outside an agricultural area and even lower in an area of known aerial application activity.
- CASA should work with Airservices Australia and any other relevant agencies to ensure that completed windfarms are included on suitable aviation mapping including WAC charts.
- CASA should develop a national tall structures database that is accessible by all low-level aviation pilots and which captures all wind-monitoring towers as well as completed wind farms. The database should also capture other tall structures such as radio masts etc.
- CASA should provide improved information to windfarm developers to ensure they are aware of their responsibilities.

## **Background**

CASA does not have a clear pathway for windfarm developers to ensure the risks their developments are posing are appropriately managed so as to protect legitimate activities of low-level aviation operators.

In particular, previous CASA efforts to address this issue by requiring marking and lighting of certain towers above a certain height and within a certain distance of an airport misses the main risk to aviation and this is the wind monitoring towers as they are frequently lower than the height trigger, but still a threat to legitimate low-level aviation.

Wind monitoring towers are very tall in relation to aerial application operations, are erected within very short timeframes, are extremely difficult for any pilot to identify from the aircraft and are often not notified to aviation users because of the lack of a Government-mandated notification system and the desire of the developers to keep their positions a secret because of commercial issues.

There are two quite distinct issues arising from windfarms that affect aerial application:

- safety of the aircraft and pilot and
- economic impact on aerial applicators.

## **Safety Impacts**

AAAA view is that the case of *Sheather v Country Energy* (NSW Court of Appeals) clearly established that anyone with infrastructure posing a threat to aviation must consider the risks that infrastructure poses to aviation safety and respond appropriately through marking or other measures to safeguard aviation operations.

This precedent is of critical relevance to windfarm developers although not apparently widely known to them or acted upon.

## **Economic Impacts**

Safety is not the only consideration that is imposing additional risk and consequences on the aerial application industry.

The placement of wind farms in areas of highly productive agricultural land is leading to reductions in treatment areas of aerial application companies with no compensation for this externalization of costs by wind farm developers.

For example, placement of a wind farm may affect flight lines and application height or even whether the application can be conducted at all - leading directly to either an increase in cost or a reduction in income - and sometimes both - for aerial application operators.

In particular, AAAA is concerned that not enough consideration is being given through the State planning approval processes to the impacts of windfarms on productive agricultural land and the aerial application industry, remembering that it may not only be the land footprint where the windfarm is sited, but also land surrounding that for some kilometers where aircraft may have to maneuver to conduct aerial application.

At the very least, windfarm developers should be required to pay compensation to aerial applicators where it can be reasonably established that there will be an economic impact imposed on the aerial application company by the wind farm developer.

## **Operational Impacts**

The following potential impacts on aerial application should be considered by all windfarm developers:

- positioning of wind farms may affect local aerial application operations, depending on the particular site. Impacts could vary from affecting flight lines to treatment height and accuracy, maneuvering areas and possibly take-off and landing splays if an airfield is nearby (see for example, CASA CAAP 92-1 for agricultural airstrips – [www.casa.gov.au](http://www.casa.gov.au) – search for CAAP 92-1.)
- it may not be the land or farm that the wind farm is to be situated on that will be affected. Neighbouring farms, especially any with borders close to the windfarm site, would need to be liaised with closely to ensure there are no impacts by imposing limits on the manoeuvring areas of aerial application aircraft.
- a key impact may not be the turbines themselves, but the positioning of any powerline that would lead from the windfarm substation back to the grid, or any other above ground powerline that would be put in to support the development. Again, consultation with local operators is the key, and if there are any concerns one alternative may be to mark any difficult to see sections of the wire with the new marking system developed by AAAA and Country Energy in NSW. AAAA has contacts for the relevant Manager in Country Energy.
- economic impacts could include increased costs due to longer flight times required to manoeuvre heavily laden aircraft around wind towers, a loss of accuracy due to being required to fly higher for safety reasons, an increase in liability due to the reduction in accuracy, or the complete loss of application jobs due to the landholder not wanting the area covered by windfarms to be treated.
- Sensible solutions are those generally worked out locally, and AAAA strongly recommends to windfarm developers that they engage with local aerial operators as early in the process as possible.

## **AAAA Activities to date**

AAAA has done a lot of work to make it easier to mark guy wires and powerlines – including on wind monitoring towers – through amendment of the national standard on marking of wires so as

to use a new marker developed by Country Energy (NSW) with the cooperation of AAAA.

There is now little practical reason why wind towers and especially wind monitoring towers should not to be clearly marked at least.

In addition, AAAA has attempted to provide relevant information to developers through the Wind Energy Association, but this process/ advice is voluntary and consequently will not provide coverage of all developers.

AAAA also passes on information to members that has been provided to it by wind farm developers on the physical location of wind monitoring towers. However, only a few developers provide this information and again there is little doubt that many towers are going up unmarked and unknown until hopefully spotted by pilots during pre-application inspections.

More comprehensive safeguards must include a mandatory national system of communication of the position of all wind monitoring towers and the inclusion of this on a national database accessible by low level pilots.

This is a very real issue for topdressing and fire-bombing operations - as wind monitoring increases, so does the threat to legal aviation activities.

## **AAAA Windfarm Notification Process**

AAAA tries to assist aviation safety by advising those of our members who use email and are on our email lists of the position of wind monitoring towers and also wind turbines when they are under construction and finally constructed, if advised by windfarm developers.

Windfarm developers are encouraged to provide these details (in lats and longs by email to AAAA) so that AAAA can pass them on to those members.

AAAA provides this facility on basis of it being information of a general nature only and the understanding that the information, for a range of reasons (including email failure, not all members being covered by email, or non-use by members, or operational shortcomings) will not provide any guarantees of aviation safety.



# Aerial Agricultural Association of Australia Powerlines Policy



November 2009

## Introduction

Powerlines present a threat to legal low-level aviation including aerial application—one that has caused the majority of aerial application accidents and the deaths of many pilots.

AAAA has developed this policy so as to inform regulators, asset developers and operators alike of the need for action on their part to fulfill their duty of care to Australia's aerial applicators.

## AAAA Powerlines Policy

AAAA recommends that:

- The Commonwealth mandate a powerline safety program for all owners and operators of powerlines that would minimize the risks to legitimate low-level aviation and which would feature:
- the mandatory marking of powerlines in areas of aerial application and firebombing activity
- a national web-based database and mapping system, accessible by pilots, that would accurately identify the position of all powerlines and relevant infrastructure.
- the placement either underground, or aligned with paddock boundaries or road easements, of all new powerlines and powerlines being repaired in areas of aerial application and firebombing activity.
- Electricity network owners and operators should not be able to refuse the aerial agricultural industry permission to operate around powerlines, including flying under them where appropriate, as this is often the safer option.
- Electricity network owners and operators should be required by legislation to consult with landholders and aerial operators when proposing to construct a new powerline in farming areas, and to pay compensation to the farmer where this results in increased costs of aerial application as a result of forcing changes to flight paths.

## Background

Most agricultural land in Australia is criss-crossed with powerlines and aerial application companies and pilots put enormous effort into managing these hazards safely, generally using a risk identification, assessment and management process in line with Australian Standard AS4360.

The agricultural pilot curriculum mandated by CASA includes training for the safe management of powerlines and AAAA has been active in providing ongoing professional development for application pilots that includes a focus on planning, risk management and a knowledge of human factors relevant to managing powerlines in a low-level aviation environment.

AAAA runs a specific training course for aerial application pilots entitled '*Wire Risk Management*' to address these issues.

Every aerial application mission is planned to take account of the threat of powerlines and to manage them as safely as possible while still applying the essential chemicals to protect the crop.

In terms of due diligence, the aerial application industry is doing everything it can to reduce the risk of hitting powerlines.

This is in stark comparison to the very lax, on occasions hostile attitude of powerline companies to the threat their powerlines pose to aviation operations being conducted legally and under the regulation of CASA.

In some cases, it can be argued, the powerline companies' ongoing refusal to provide to aerial application companies the detailed mapping of the position of their network or to mark their wires to make them easier to see, is negligent.

Certainly, the courts (*Sheather v Country Energy*, NSW Court of Appeals) have found that powerline companies do owe a duty of care to all pilots and should mark their powerlines where they are an obvious threat to aviation safety.

AAAA has worked very successfully with one powerline company with coverage of most of NSW - Country Energy - on the development of a cheap and simple powerline marker that can help pilots keep visual contact with the position of powerlines in and around treatment areas. Unfortunately, these markers are not used in other States, although AAAA notes that Ergon Energy, with coverage of much of Queensland, has recently introduced the same markers and this may improve safety, although take-up rates are still very low.

AAAA's CEO acted as Chair of the Australian Standards Committee for the recent review of AS 3891 - Marking of Cables and their Supporting Structures. Unfortunately, due to the number of powerline operators represented on that committee, it was not possible to secure a significantly improved approach to the marking of powerlines, especially in relation to low level aviation and especially in terms of lowering any thresholds for the mandatory marking of powerlines, such as long spans across valleys etc that have previously caused fatalities. However, a useful risk management approach was included in the standard to encourage landowners to consider the marking of wires in areas of known low level aviation activity. The key aim of the review was achieved however, and that was to permit the markers developed by Country Energy to be used legitimately under the Australian Standard which previously had no provision for them.

Agricultural areas and areas of probable bushfire activity would be two obvious places where powerline companies should be exercising their court-defined duty of care and marking powerlines so as to assist aerial agricultural and fire-bombing pilots manage another risk in an already hostile aviation environment.



## **FURTHER INFORMATION**

**If you would like more information on the vital and responsible role the aerial agricultural industry plays:**

**[www.aerialag.com.au](http://www.aerialag.com.au)**

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