

Aerial Agricultural Association of Australia Windfarm Policy



March 2011

Introduction

Windfarms and their pre-construction wind monitoring towers are a direct threat to aviation safety – and especially aerial application. They also pose an economic threat to the industry where the costs of windfarm development—including those of compensation for loss of income—are externalized onto other sectors such as 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 Windfarm Policy

As a result of the overwhelming safety and economic impact of windfarms and supporting infrastructure on the sector, AAAA **opposes all windfarm developments** in areas of agricultural production or elevated bushfire risk.

In other areas, AAAA is also opposed to windfarm 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 aerial application 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.
5. Adequately marked any wind infrastructure and advised pilots of its presence .

AAAA believes that the above processes should also apply for all windfarms that have already been approved or erected, especially the establishment of long-term (for the life of the windfarm or until it is removed, whichever is the

longest) binding compensation arrangements for affected aerial application companies.

While it is not AAAA policy to provide specific comment on particular development proposals due to resource limitations, AAAA notes that windfarms can have far-reaching footprints that can remove significant amounts of land from treatment for a considerable distance from the windfarm boundary.

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.

However, it is clearly unacceptable that one industry can impose significant safety threats on another, longer established industry with impunity.

AAAA believes that:

- All wind monitoring towers—including guy wires—must be clearly marked to assist pilots to see them
- All wind turbines, wind monitoring towers and associated infrastructure must be required to be removed when no longer in use. A mandatory bond should be levied on all developments to ensure the site can be remediated.

Recommendations to Government

Moratorium & National Policy

AAAA recommends to all Governments the establishment of a moratorium on windfarm developments until a national COAG policy on windfarms is established that requires the following to be considered before approval:

- Competing land uses for the particular site.
- Priority for existing long-term land-uses.
- Economic and safety impacts on contracting industries such as aerial application, including the broader implications for thresholds of sustainability for contractors.
- Independent life cycle analysis of windfarms and their overall environmental impact.
- Impact on aviation safety.
- Impact on bushfire preparedness and aerial firefighting.
- Impact on visual pollution / amenity/ tourism.
- Other sources of sustainable energy.

Transparency

AAAA recommends that any 'special' or 'fast-track' planning processes established for windfarm developments be removed. All windfarm developments should be subject to the full planning processes and community consultation in each State and Territory, including appeal of decisions.

Governments should require public disclosure on a register of payments to landholders made before approval of the windfarm. This will allow other landholders and contractors to be aware of developments.

Aviation Safety

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.

The Commonwealth should establish a head of power to consider and regulate windfarm developments to protect aviation safety. This should include mandatory marking and notification of wind infrastructure and the power to veto proposed developments where they interfere with aviation safety.

CASA should set a much lower than previously used height trigger for notification of tall structure developments - down to 50 feet in an area of known aerial application activity—or by using a

risk assessment based approach.

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 and topographic maps.

CASA should develop a national tall structures web database that is accessible in real time by all low-level aviation pilots and which captures all wind-monitoring towers as well as completed windfarms. The database should also capture other tall structures such as radio masts etc.

Background

CASA does not have a clear head of power or a 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's 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.

As windfarm developments increase in number and scale of footprints, the threshold of non-viability of aerial application in an area may be reached where it is simply not economic to base an aircraft there. In a highly seasonal industry such as aerial application, operations may already be close to this threshold and windfarm footprints may compromise the availability of a critical service.

The need to manage spray applications to ensure they are safe may mean that pest outbreaks such as locusts may not be able to be effectively controlled. Windfarms may create significant gaps in large scale treatment plans—leading to a breakdown of an overall campaign against locusts, cereal rust, noxious weeds or other pests with massive economic implications for farmers and the economy.

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 – 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, may suffer significant impacts by imposed 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. Any sections of above ground cable should be adequately marked.
- economic impacts could include increased costs due to longer flight times required to maneuver 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.

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 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.

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 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 the 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.



FURTHER INFORMATION

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

www.aerialag.com.au

**Or contact us on:
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Aerial Agricultural Association of Australia Powerlines Policy



March 2011

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:

- 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.

- If unable to put powerlines underground, electricity network owners and operators should be required to mark powerlines in farming areas so as to make them more easily identifiable to pilots..

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/ISO 30000.

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, 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 was involved in the Australian Standards Committee for the review of AS 3891 - Marking of Cables and their Supporting Structures.

Unfortunately, it was not possible to secure a significantly improved approach to the marking of powerlines, especially in relation to low level aviation and 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

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www.aerialag.com.au

Or contact us on:
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