



LEETON SHIRE COUNCIL
Preserving the Past, Enhancing the Future

LEETON SHIRE COUNCIL POLICY

FROST CONTROL FANS

LEETON SHIRE COUNCIL

1 Introduction

The Councils of Leeton Shire and Griffith City support the horticultural industry within the Murrumbidgee Irrigation Area.

With the recent interest expressed by the local community to install frost control fans or wind machines in rural areas, the need for a set of guidelines in the form of a policy has arisen, to deal with the installation and use of frost control fans in the Murrumbidgee Irrigation area.

By writing and implementing this policy, the Frost Fan Working Group hopes to address the issues related to the installation and operation of frost control fans.

The Frost Fan Working Group comprises representatives from Griffith City Council, Leeton Shire Council, Environment Protection Authority, MIA Council of Horticultural Associations Inc, NSW Farmers Association and NSW Agriculture.

2 What are the aims of this policy?

- To find an equitable balance between the use of frost control fans and the amenity of surrounding residents.
- To address the interface issues regarding the installation and operation of frost control fans.
- To set standards appropriate for the Murrumbidgee Irrigation area for the installation and operation of frost control fans.
- To allow for sustainable agriculture.

3 What is a frost control fan?

The principle function of the frost control fan is to mix the warmer air from higher atmospheric inversion layers with the cold air layer closer to the ground, normally reducing the risk of frost damage to crops.

A frost control fan is a machine that consists typically of a tower approximately 10-11 metres in height with a 5.5-6 metre long propeller/blade at the top. An engine is mounted at the base of the tower and is used to drive the blade via driveshafts and gearing. The head of the fan rotates through 360 degrees on a vertical axis with the blade spinning at around 600 revolutions per minute. The head of the fan takes approximately 5 minutes to complete one 360 degree rotation.

4 Does the installation and operation of a frost control fan require Development Consent and Construction Certificate Approval?

Yes, as a frost control fan is a Class 10b structure under the Building Code of Australia and it also has the potential to be a source of contention to adjoining land users.

Prior to the installation and operation of a frost control fan, development consent and construction certificate approval must be sought and obtained from the appropriate Local Council to ensure that the standards contained in this policy are complied with.

All landholders within 500 metres of a proposed frost control fan will be notified by written correspondence from Council of the proposed development and be given the opportunity to make written comment.

A frost control fan does not fall into the criteria of Council's Exempt and Complying Development Policy.

5 In what planning zones under the Leeton Local Environment Plan 2014 (LEP) are frost control fans permitted?

▪ Leeton Shire

Frost control fans will only be permitted with Council consent in zones Rural RU1 Primary Production

6 What standards will apply to the installation of a frost control fan/s?

When an application is submitted to Council for the installation of a frost control fan, it must be accompanied by the following information:

- Scaled site diagram showing the proposed location of the frost control fan/s.
- Structural engineer's certificate and drawings for the footings and structural steelwork. (This information may be provided by the manufacturer).
- Noise acoustician's report modelling the extent of impact of the proposed frost control fan upon the surrounding landscape. The model should be based upon manufacturer's sound level data. Based upon manufacturer's details, if there are no dwellings within 1 kilometre of the proposed frost control fan, the noise acoustician's report will not be required.
- Details of crop/s to be protected by the frost control fan/s.
- Details of the anticipated temperature at which damage occurs to the crop/s proposed to be protected and the anticipated temperature that the fan/s would come on to protect the crop/s from frost.
- The number of frosts on average per year, which currently affect the crop/s, according to currently available climatic data. E.g. from CSIRO, Department of Agriculture or Bureau of Meteorology.
- The applicants are referred to Section 79(c) of the Environmental Planning and Assessment Act, 1979.
- Noise acoustician's report indicating that the proposed frost control fan will not exceed the outdoor criteria at the nearest affected dwelling located on a separate property to that which the fan will be located upon.

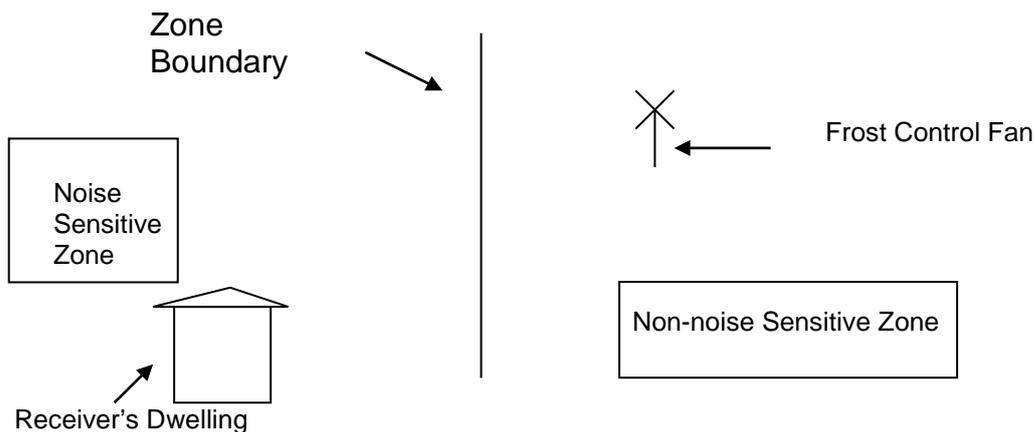
- these criteria apply to existing zonings:

Location of affected residence	Outdoor Criteria (L _{aeq})	Indoor Criteria (L _{aeq})
Noise Sensitive Zone (adjacent to non-noise sensitive zone)	45 dBA (max)	25 dBA (max)
Non-noise Sensitive Zone (i.e., Rural Primary Production RU1)	55 dBA (max)	35 dBA (max)

Note:

1. A noise sensitive zone (noise receiver's zone) is a zone primarily meant for noise sensitive land uses such as residential or rural residential. (i.e. 2(a), 2(d), 2(e) and 1(c) zones RU5, R1, R3 & R5 under the Leeton LEP 2014.
2. A non-noise sensitive zone is a zone primarily used for agricultural pursuits. RU1 zone under Leeton's LEP.
3. The L_{aeq} measurements from the manufacturer must have been taken over a period of 15 minutes, and over a range of distances from 10 metres to 500 metres from the frost control fan. These readings must be included in the information submitted with the Development Application.
4. For outdoor and indoor measurement criteria, see Section 7 of this policy.
5. If the indoor criteria can be met, compliance will be determined at Council's discretion.

Below is an example of how a noise sensitive zone may be situated adjacent to a non-noise sensitive zone.



7 What standards will apply to the operation of a frost control fan/s?

Once a frost control fan has been approved by Council, it must operate under the following conditions:

- The frost control fan must have a thermostatic control that is set at all times to a temperature appropriate to the crop being protected.
- The driving engine for the frost control fan must be housed in a noise attenuating housing.
- The driving engine for the frost control fan must be fitted with a muffler system, with the exhaust pipes being set into pits in the ground.
- Whilst the frost control fan/s is/are in operation, the noise level measured at a distance of 1 metre from any bedroom window of a dwelling situated on an adjacent property to that containing the frost control fan, must not exceed the outdoor or indoor limit as listed below:

Location of affected residence	Outdoor Limit (LAeq)	Indoor Criteria (LAeq)
Noise Sensitive Zone (adjacent to non-noise sensitive zone)	45 dBA (max)	25 dBA (max)
Non-noise Sensitive Zone (i.e. Rural Primary Production RU1)	55 dBA (max)	35 dBA (max)

Note:

1. For a definition of noise sensitive and non-noise sensitive zones, see Note 1 of Section 6 of this Policy.
2. Indoor noise levels are to be measured from the inside of a bedroom room of a residence (with all windows closed) not being on the same property as the subject frost control fan/s.
3. When a noise level check is carried out, the measurement period must be for at least 15 minutes.
4. All noise measurements are to be carried out by either a qualified noise control officer (as authorised under the POEO Act) or a noise acoustician.
5. Noise levels will not be automatically taken following the installation of an approved frost control fan. This may only be necessary, should complaints be received by Council and there is doubt as to whether the subject frost control fan is in compliance with its development consent and/or this policy.

6. If, when measured in an approved manner, the noise from frost control fan/s is within 2 dBA of the limits listed within this Section, the frost control fan/s will be deemed to be in compliance.
7. The noise limits contained in this Section apply to the total noise from all frost fans on the premises under investigation operating simultaneously.

8 What will happen if a development causes land in a non-noise sensitive zone to become noise sensitive? (i.e. the land use changes)

Where a development causes the land use zoning to change to a noise sensitive area and frost fans are already existing in the locality (within 1 kilometre), the Developer of that land subject to rezoning will be responsible for addressing the issue. This may be achieved by doing the following:

1. The provision of buffers as required by the Local Environmental Plan and Development Control Plan operating in the area; and
2. Have a restriction placed upon the title of the land to be developed, requiring certain noise attenuation measures to be incorporated into the design and construction of any proposed dwelling in that development to enable the indoor criteria to be achieved; and
3. The possibility of frost control fans being present within certain areas must be raised in Council's Development Control Policy.

9 What advice to intending purchasers of land of potential for frost fan development can Councils provide?

It is intended that Council shall advise intending purchasers of the potential for frost fans to be developed within an area or the existence of an approved frost control fan within a 1 kilometre radius of that property. Council may also if they wish, amend their land use tables, or provide a note on the Section 149(2) Planning Certificate or other such measure as they wish to take.

10. What happens if complaints are received about an approved frost control fan?

- Initially, Council would attempt to establish a dialogue between the affected resident and the owner of the frost control fan, to raise the issues and to try and find possible resolutions.
- Should any dialogues/negotiations fail, Council will re-assess the subject frost control fan against the requirements of this policy and the frost control fans development consent.
- Where complaints are received, the complainant should be prepared to allow Council's Officers or the proponent's noise acoustician reasonable access to their property for the purpose of monitoring of the frost control fan if it is deemed necessary.

- If the frost control fan and its operation comply with its development consent and this policy, no further action will be taken. Should the subject frost control fan not be complying, further action will be considered. Where the noise limits are not met, the frequency of usage is a consideration in deciding what action to take. The level of noise exceedance will also be taken into consideration.
- Should Council receive a complaint concerning the operation of a frost control fan, then noise level readings must be taken over at least three consecutive 15 minute periods at 1 metre from any bedroom wall in the dwelling house the subject of the complaint, and the noise level set for the frost control fan must be exceeded on more than two nights within a 60 day period before Council will notify the operator of the frost control fan that action may need to be taken to ensure the fan operates within its consent.

Note: When noise measurements are to be taken, the following points will apply:

- Noise measuring instruments must be equivalent to Type 2 (or better) as defined in Australian Standard 1259 "Sound Level Meters", Parts 1 and 2.

Apart from the provisions already contained in this policy, noise measurements must be conducted in accordance with Australian Standard 2659, "Guide to the use of Sound-measuring Equipment".

Policy History:

Date of Adoption/Amendment	Resolution Number
28 March 2001	01/146
26 June 2013	13/136
22 February 2017	17/018