

Details of advertisement

PUBLIC NOTIFICATION

DRAFT FROST CONTROL FAN POLICY (CS-CP-309)

At the Ordinary Meeting of Council held 13 August 2019, it was resolved that the draft Frost Control Fan Policy (CS-CP-309) be placed on public exhibition for a minimum of 28 days. Council is required to notify the public and provide the opportunity for submissions regarding this policy.

The draft policy may be viewed at the Council Chambers, 1 Benerembah Street Griffith, the Griffith City Library and on Council's website at griffith.nsw.gov.au.

Anyone wishing to make comment on the draft Frost Control Fan Policy can do so in writing addressed to the General Manager, Griffith City Council, PO Box 485, Griffith NSW 2680. Comments or submissions will be received up to **4 pm, Friday 20 September 2019**.

CLAUSE	CL02
TITLE	Frost Control Fan Policy (CS-CP-309) - Policy Review
FROM	Kerry Rourke, Development Assessment Planner
TRIM REF	19/58196

SUMMARY

As a result of recent development applications for the erection of frost control fans, Council decided to review Frost Control Fan Policy (CS-CP-309).

The proposed policy amendments were presented and discussed with Council at workshop on 16 July 2019.

RECOMMENDATION

- (a) Council place the reviewed Frost Control Fan Policy (CS-CP-309) on public display for 28 days.**
- (b) If any submissions are received, a further report be prepared for Council.**
- (c) If no submissions are received, the reviewed policy be considered as adopted by Council as at the date of the conclusion of the advertised exhibition period.**

REPORT

In light of recent frost control fan development applications reported to Council, a review of the current policy has been undertaken to clarify several of the provisions and update the legislation references. Further, there were some inconsistencies in the policy and consideration was required regarding where the fans were permissible.

Consultation with adjacent Councils has been undertaken:

- Leeton – generally the same policy as Griffith, increasing number of DA's in past two years;
- Carrathool does not require submission of a DA – RU1 zone objective allows agricultural support facilities to be carried out on land within the zone without consent;
- Narrandera, Murrumbidgee & Hay do not have policies and no recent development applications have been received.

The revised policy also takes into consideration mobile frost fans from a noise compliance perspective so that consistent requirements apply to fans in the LGA.

The policy has also been revised to simplify its provisions and a Frequently Asked Questions information brochure has been devised to assist both proponents and residents living in close proximity to fans or proposals.

The Draft Policy (with changes marked) and Frequently Asked Questions brochure proposed to be placed on public exhibition are provided as Attachments (a), (b) and (c).

Salient points of the revised policy are:

- Policy provisions based on the Land & Environment Court Case (Sumar V GCC 2000);
- All permanent and mobile frost control fans are covered by this draft;
- Permanent FCF only currently permitted in RU1 Primary Production Zones but should be permitted where intensive plant agriculture is permissible without consent under the Griffith LEP.
- Policy Noise limits:
 - Non-noise sensitive 55dB(A) external or 35dB(A) internal;
 - Sensitive 45dB(A) external or 25dB(A) internal.
- Non-noise sensitive land use zones (55dB(A)):
 - RU1 Primary Production
 - RU2 Rural Landscape
 - RU4 Primary production small lots
 - RU6 Rural Transition
 - E2 Environmental Conservation, E3 Environmental Management
 - IN1 General Industrial & IN3 Heavy Industry.
- Noise Sensitive land use zones (45dB(A)):
 - R1 General Residential
 - R5 Large Lot Residential
 - RU5 Village
 - E4 Environmental Living.
- Noise report requirements for Frost Fan DA submission:
 - When a house is within 1000m
 - Noise from accumulated fans measured.
- Other noise abatement / attenuation measures are acceptable subject to Council approval if internal criterion not achieved.
- Noise compliance check required post permanent fan installation by DA condition.

- New development within a FCF buffer (1000m) must provide noise abatement measures in their design.
- In ground muffler requirement removed.

OPTIONS

OPTION 1

As per the recommendation in this report:

OPTION 2

Any other resolution of Council noting that the policy will be required to be reviewed after the next general Council election in 2020.

POLICY IMPLICATIONS

The Draft Policy will replace the current Frost Control Fan Policy (CS-CP-309), if adopted.

FINANCIAL IMPLICATIONS

Not applicable.

LEGAL/STATUTORY IMPLICATIONS

Not applicable.

ENVIRONMENTAL IMPLICATIONS

Not applicable.

COMMUNITY IMPLICATIONS

The placement of the draft policy on public exhibition will allow the community to provide comment on the revised document and ensure an equitable basis is maintained with regard to noise compliance issues arising from complaints.

LINK TO STRATEGIC PLAN

This item links to Council's Strategic Plan item: 9.1 Encourage considered planning, balanced growth and sustainable design.

CONSULTATION

Senior Management Team

Councillor Briefing Workshop.

ATTACHMENTS

- (a) Draft Frost Control Fan Policy (CS-CP-309)
- (b) Draft Frost Control Fan Policy (CS-CP-309) - Changes Marked
- (c) Draft Frost Control Fan Policy (CS-CP-309) - FAQs



Frost Control Fan CS-CP-309 (LOCAL POLICY)

1 Policy History

Revision No.	Council Meeting Date	Minute No.	Adoption Date
1	17 Oct 2000	713	17 Oct 2000
2	11 May 2010	0142	11 May 2010
3	13 Aug 2013	0255	13 Aug 2013
4	22 Aug 2017	17/205	22 Aug 2017
5	2019		2019

2 Policy Objective

- 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 Griffith City Council LGA for the installation and operation of frost control fans.
- To allow for sustainable agriculture and continued agricultural growth.

3 Policy Statement

3.1 Introduction

Griffith City Council supports the horticultural industry within the Murrumbidgee Irrigation Area.

The Frost Control Fan Policy seeks to provide guidelines for the installation of permanent fans and use of mobile fans to reduce the adverse impacts of frost on horticultural crops, while reducing the likelihood of land use conflict within the locality.

With increasing interest expressed by fruit and nut growers to install frost control fans or mobile wind machines in our rural areas, the need has arisen to revise the initial guidelines as population density increases, in an effort to maintain primary production and to reduce land use conflict.

3.2 What is a frost control fan?

The principal 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 horticultural crops.

A frost control fan is a machine that consists typically of a tower approximately 10 - 11 metres in height with a 2.5 - 3 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 drive shafts and gearing. The head of the fan rotates through 360 degrees on a vertical axis with the blade spinning between 400 -750



revolutions per minute. The head of the fan takes approximately 5 minutes to complete one 360 degree rotation.

3.3 Are all Frost Control Fans covered by this Policy?

From the date of adoption, this policy will apply to the installation of permanent and to the use mobile Frost Control Fans in the Griffith City Council local government area, with regard to noise emission / compliance.

Permanent Frost Control Fans require development consent where the use of mobile fans do not require Council's approval however, they are included in this policy for equity purposes with regard to noise emission. For further information see FAQ sheet.

3.4 In what planning zones under the Griffith Local Environment Plan 2014 are frost control fans permitted?

Frost control fans will only be permitted with Council consent in rural zones where intensive plant agriculture (e.g. orchards and vineyards) are permissible without consent. The primary production zones are RU1 Primary Production, RU2 Rural Landscape, RU4 Primary Production Small Lots and RU6 Rural Transition under Griffith Local Environmental Plan 2014.

3.5 What application requirements will apply to the installation of permanent frost control fans?

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

- Scaled site diagram showing the proposed location of the frost control fan/s particularly in relation to dwelling houses within 1000 metres of the fans.
- Structural engineer's certification and drawings for the footings and structural steelwork. (This information may be provided by the manufacturer).
- Details of crop/s to be protected by the frost control fans; e.g. citrus, almonds, grapes, and the like.
- Details of the anticipated temperature at which damage occurs to the crop/s proposed to be protected and the anticipated temperature that the fans would come on to protect the crop/s from frost and cut out to cease fan operation.
- The number of frosts on average per year, which currently affect the crop/s to be protected, according to currently available climatic data. For example, Bureau of Meteorology data, or site specific data collected for the past 3 or 4 seasons. For further information see FAQ sheet.

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- Applicants are referred to Section 4.15 of the Environmental Planning and Assessment Act, 1979 to address its provisions in their statement of environmental effects, including the provisions of environmental planning instruments, development control plan, the likely impacts of the development and other relevant matters associated with their proposal.
- An acoustic report, prepared by a suitably qualified acoustical consultant, is to be submitted with the application documentation, modelling the extent of impact of the proposed frost control fans upon surrounding dwellings, with all proposed fans operating simultaneously. The model should be based upon manufacturer's sound level data, a copy of which is to be provided with the application. A map should be included in the report with the extent of the modelled 55 dB(A) and 45 dB(A) sound level 'contours'. Further, the report should provide a clear description of the parameters and atmospheric conditions upon which the modelling is premised (e.g. terrain - actual or theoretical, wind speed, temperature, inversion layer present, local known reflective surfaces such as Lake Wyangan, and the like).
- In relation to the manufacturers' sound power level data, the LAeq measurements 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 manufacturers' readings must be included in the information submitted with the Development Application.
- If there are no dwellings within 1000 metres of the proposed frost control fans, the acoustic modelling report will not be required.
- However, if there are other permanent frost control fans within 1000 metres of the proposed frost control fans, the accumulated noise may impact upon surrounding dwellings, and an acoustic report will be required, taking into consideration the cumulative impact of all of the fans, including those on the site.
- The acoustic report should demonstrate how compliance will be achieved with the following criteria, for the closest dwelling outside the subject site or ownership, on a property not associated with the land over which the application is made, based upon zone of that land adjacent to the application property.
- The following criteria apply to existing adjacent land use zones:

Location of affected residence	Outdoor Criteria (LAeq)	Indoor Criteria (LAeq)
Noise Sensitive Zone	45 dBA (max)	25 dBA (max)
Non-noise Sensitive Zone	55 dBA (max)	35 dBA (max)

- If the indoor criteria can be met through the provision of noise attenuation measures at the closest non-associated dwelling rather than the external noise criteria, compliance will be determined at Council's discretion. Internal criteria can also be achieved through the installation of double glazing and insulation for example.



Note:

1. A noise sensitive zone is a land use zone adjacent to the frost fan property, primarily meant for noise sensitive land uses typically meant for residential development under Griffith Local Environmental Plan, 2014. The noise sensitive zones are R1 General Residential, R5 Large Lot Residential and RU5 Village Zone, along with E4 Environmental Living Zone.
2. A non-noise sensitive zone is a land use zone adjacent to the frost fan property, primarily meant for primary production under the Griffith Local Environmental Plan, 2014, being RU1 Primary Production, RU2 Rural Landscape, RU4 Primary Production Small Lots RU6 Rural Transition.
3. Other non-noise sensitive land use zones include Environmental Protection Zones (e.g. E2 Environmental Conservation, E3 Environmental Management) and Industrial Zones (e.g. Industrial General) where existing dwellings may be located adjacent to primary production lands.
4. Manufacturers' sound power level data must not just be based on the sound power output at 300 metres only, but readings taken at a range of distances & provided to Council.
5. Note that Council will retain all submitted acoustic reports, which will be made available upon request, for an application within 1000 metres of another property containing frost control fans.

3.6 What standards will apply to the operation of all frost control fans?

Once permanent frost control fans have been approved by Council, they must operate under the following conditions:

- The frost control fans must have an auto-ignition thermostatic control that is set at all times to a temperature appropriate to the crop being protected, with an anemometer set to shut down the fan operation when wind speeds exceed 7km per hour.
- The driving engine for the frost control fan must be housed in a noise attenuating housing with an integrated acoustic muffler.
- As an initial compliance check, noise levels are to be taken following the installation of approved permanent frost control fans. This will be imposed as a condition of consent to ensure that the installed fans do actually achieve the applicant's stated decibel level. The compliance check should be conducted during the atmospheric conditions under which the fans are intended to operate (i.e. during a frost event). Compliance acoustic reports will be undertaken by a suitably qualified acoustical consultant, at the cost of the owner of the frost control fans.
- The minimum sound data collection for a compliance check should be taken at a range of distances from 10m to 500m from the frost control fans. Further the sound data collection should also be taken at a distance of one (1) metre from a bedroom of the closest dwelling to the fans. Both data sets should be recorded for a minimum of 15 minutes. The resultant compliance report is to be provided to Council to complete the condition of consent, permitting Council to be satisfied that compliance has been achieved, or to advise that amelioration measures need to be taken to bring the fans into compliance.



- Whilst all frost control fans 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 fans, must not exceed the outdoor or indoor limit as listed below:

Location of affected residence	Outdoor Criteria (L _{Aeq})	Indoor Criteria (L _{Aeq})
	+2dBA considered compliant	+2dBA considered compliant
Noise Sensitive Zone	45 dBA (max)	25 dBA (max)
Non-noise Sensitive Zone	55 dBA (max)	35 dBA (max)

- Compliance checks may be requested at any time, should official complaints be received by Council and there is doubt as to whether the subject frost control fans are operating in accordance with the development consent or this policy in the case of a mobile frost fan. Compliance acoustic reports will be undertaken by a suitably qualified acoustical consultant, at the cost of the fan operator.
- If, when measured in an approved manner, the noise from frost control fans is within 2 dBA of the limits listed within this Section, the frost control fans will be deemed to be in compliance.
- The noise limits contained in this Section apply to the noise from all frost fans on the premises under investigation, operating simultaneously.

Note:

1. For a definition of noise sensitive and non-noise sensitive zones, see Notes 1 & 2 of Section 3.5 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 fans.
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 suitably qualified acoustical consultant.

3.7 Can adjacent land alter from a non-noise sensitive zone to noise sensitive?

Council may rezone land which alters the type of the land uses within that new zone so that it becomes noise sensitive. Council may consider changes to zones through a strategic land use strategy, though rezoning may also occur through a site specific planning proposal where Council will carefully consider the appropriateness of the change in predominant land use given the nature of the surrounding land.

3.8 Do the noise criteria apply to other development?

In the circumstance where land to be developed (e.g. subdivided or new dwellings constructed) is within 1,000 metres of existing frost control fans, the future developer of the land subject to



the rezoning or development application, will be responsible for addressing the issue of compliance with this policy.

This may be achieved by doing the following:

- a) The provision of buffers to limit the location of future dwelling houses in relation to their proximity to the existing frost control fans; and / or,
- b) Constructing dwellings to achieve the relevant indoor criterion for the land use zone within which the developed property is located; and / or
- c) At the time of subdivision of that land, Council may impose a condition for the creation of a restriction on the title of the proposed lots, requiring certain noise attenuation measures to be incorporated into the design and construction of any proposed dwelling in that subdivision to enable the indoor criteria to be achieved.

3.9 What happens if complaints are received about an existing frost control fan?

- Initially, a resident should leave a message with the land owner / Council after hours number, that the fan operation is of concern. Council would ascertain whether approval was required or issued for the frost control fans under contention.
- Council will endeavour to establish a dialogue between the affected resident and the owner of the frost control fans, 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 any associated development consent.
- Where complaints are received, the complainant should be prepared to allow Council's Officers or the proponent's acoustical consultant reasonable access to their property for the purpose of measuring the sound from the frost control fan if it is deemed necessary, during normal operation atmospheric conditions (i.e. during a frost when the fans are operating, which could be during the night or early hours of the morning).
- Should Council receive a complaint concerning the operation of frost control fans, 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. The noise level set for the frost control fans 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.
- If the frost control fan and its operation comply with its development consent and/or this policy, no further action will be taken. Should the subject frost control fans 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.



Note:

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

1. The sound level meter must be set to measure fast response A-weighted sound pressure levels and the levels must be measured in terms of the equivalent continuous sound level (Leq) metric and the duration of the measurements must be no less than 15 minutes or two full revolutions of the frost fan gear head.
2. Noise measuring instruments must be equivalent to Type 2 (or better) as defined in Australian Standard 1259 "Sound Level Meters", Parts 1 and 2. The instrument is to be calibrated prior to use.
3. 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", Parts 1 and 2.

4 Definitions

Noise sensitive zone is a land use zone adjacent to the frost fan property, primarily meant for noise sensitive land uses, typically meant for residential development under Griffith Local Environmental Plan, 2014.

Non-noise sensitive zone is a land use zone adjacent to the frost fan property, primarily meant for primary production or other general development under the Griffith Local Environmental Plan, 2014, and may include rural, some environmental protection and industrial zones.

5 Exceptions

None

6 Legislation

- Environmental Planning & Assessment Act 1979
- Protection of the Environment Operations Act, 1997
- Griffith Local Environmental Plan, 2014

7 Related Documents

- Sumar Produce Pty Ltd v Griffith City Council [2000] NSWLEC 104 (7 June 2000)
- Sumar Produce Pty Ltd v Griffith City Council [2000] NSWLEC 72 (11 April 2000)
- Sumar Produce Pty Ltd v Griffith City Council [2000] NSWLEC 27 (15 February 2000)
- NSW Environment Protection Agency Noise Guide for Local Government

8 Directorate

Sustainable Development



Frost Control Fan CS-CP-309 (LOCAL POLICY)

1 Policy History

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2 Policy Objective

- 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 Griffith City Council LGA the Murrumbidgee Irrigation Area for the— installation and operation of frost control fans.
- To allow for sustainable agriculture and continued agricultural growth.

3 Policy Statement

3.1 Introduction

Griffith City Council supports the horticultural industry within the Murrumbidgee Irrigation Area.

~~With the 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.~~

The Frost Control Fan Policy seeks to provide guidelines for the installation of permanent fans and use of mobile fans to reduce the adverse impacts of frost on horticultural crops, while reducing the likelihood of land use conflict within the locality.

~~The initial policy drafted in 2000 was a result of the Frost Fan Working Group which comprised representatives from Griffith City Council, Leeton Shire Council, Environment Protection Authority, MIA Council of Horticultural Associations Inc, NSW Farmers Association and NSW Agriculture.~~

With increasing the interest expressed by fruit and nut growers the local community to install frost control fans or mobile wind machines in our rural areas, the need has arisen to revise the initial guidelines as population density increases, in an effort to maintain primary production and to reduce land use conflict. 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.

3.2 What is a frost control fan?



—The principal 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 horticultural crops.

A frost control fan is a machine that consists typically of a tower approximately 10 - 11 metres in height with a 52.5 - 6.3 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 drive shafts and gearing. The head of the fan rotates through 360 degrees on a vertical axis with the blade spinning between 400 -750 at around 600 revolutions per minute. The head of the fan takes approximately 5 minutes to complete one 360 degree rotation.

~~3.3 Does the installation & operation of a frost control fan require Development Consent & 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 landusers.~~

~~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.~~

3.3 Are all Frost Control Fans covered by this Policy?

From the date of adoption, this policy will apply to the installation of permanent and to the use mobile Frost Control Fans in the Griffith City Council local government area, with regard to noise emission / compliance.

Permanent Frost Control Fans require development consent where the use of mobile fans do not require Council's approval however, they are included in this policy for equity purposes with regard to noise emission. For further information see FAQ sheet.

3.4 In what planning zones under the Griffith Local Environment Plan 2014 are frost control fans permitted?

Griffith City

Frost control fans will only be permitted with Council consent in rural zones where intensive plant agriculture (e.g. orchards and vineyards) are permissible without consent. The primary production zones are RU1 Primary Production, RU2 Rural Landscape, —RU4 Primary



Production Small Lots and RU6 Rural Transition zones under Griffith Local Environmental Plan 2014.

3.5 What standards application requirements will apply to the installation of a permanent frost control fan/s?

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

- Scaled site diagram showing the proposed location of the frost control fan/s particularly in relation to dwelling houses within 1000 metres of the fans.
- Structural engineer's certification 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; e.g. citrus, almonds, grapes, and the like.
- 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 and cut out to cease fan operation.
- The number of frosts on average per year, which currently affect the crop/s to be protected, according to currently available climatic data. For example, Eg from CSIRO, Department of Agriculture or Bureau of Meteorology data, or site specific data collected for the past 3 or 4 seasons. For further information see FAQ sheet.
- ~~A~~ The applicants are referred to Section 79(c) 4.15 of the Environmental Planning and Assessment Act, 1979 to address its provisions in their statement of environmental effects, including the provisions of environmental planning instruments, development control plan, the likely impacts of the development and other relevant matters associated with their proposal.
- An acoustic report, prepared by a suitably qualified acoustical consultant, is to be submitted with the application documentation, modelling the extent of impact of the proposed frost control fans upon surrounding dwellings, with all proposed fans operating simultaneously. The model should be based upon manufacturer's sound level data, a copy of which is to be provided with the application. A map should be included in the report with the extent of the



modelled 55 dB(A) and 45 dB(A) sound level 'contours'. Further, the report should provide a clear description of the parameters and atmospheric conditions upon which the modelling is premised (e.g. terrain - actual or theoretical, wind speed, temperature, inversion layer present, local known reflective surfaces such as Lake Wyangan, and the like).

- In relation to the manufacturers' sound power level data, the LAeq measurements 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 manufactures' readings must be included in the information submitted with the Development Application.
- If there are no dwellings within 1000 metres of the proposed frost control fans, the acoustic modelling report will not be required.
- However, if there are other permanent frost control fans within 1000 metres of the proposed frost control fans, the accumulated noise may impact upon surrounding dwellings, and an acoustic report will be required, taking into consideration the cumulative impact of all of the fans, including those on the site.
- —
- The acoustic report should demonstrate how compliance will be achieved with the following criteria, for the closest dwelling outside the subject site or ownership, on a property not associated with the land over which the application is made, based upon zone of that land adjacent to the application property.
 - 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.
- The following criteria apply to existing adjacent land use zones:

Location of affected residence	Outdoor Criteria (LAeq)	Indoor Criteria (LAeq)
Noise Sensitive Zone (adjacent to non-noise sensitive zone)	45 dBA (max)	25 dBA (max)
Non-noise Sensitive Zone (ie, Rural (General) 1(a))	55 dBA (max)	35 dBA (max)

- If the indoor criteria can be met through the provision of noise attenuation measures at the closest non-associated dwelling rather than the external noise criteria, compliance will be determined at Council's discretion. Internal criteria can also be achieved through the installation of double glazing and insulation for example.

Note:



b)1. A noise sensitive zone is a land use zone adjacent to the frost fan property, primarily meant for noise sensitive land uses typically meant for located in the R1 General Residential development, R5 Large Lot Residential, and the RU5 Village zones under Griffith Local Environmental Plan, 2014. It may also include other sensitive noise receptors (eg rural dwellings) on RU1 Primary Production or RU4 Primary Production Small Holdings. The noise sensitive zones are R1 General Residential, R5 Large Lot Residential and RU5 Village Zone, along with E4 Environmental Living Zone.

2. A non-noise sensitive zone is a land use zone adjacent to the frost fan property, zone primarily used meant for primary production under the as Griffith Local Environmental Plan, 2014, being RU1 Primary Production, RU2 Rural Landscape, RU4 Primary Production Small Lots RU6 Rural Transition.

3. Other non-noise sensitive land use zones include Environmental Protection Zones (e.g. E2 Environmental Conservation, E3 Environmental Management) and Industrial Zones (e.g. Industrial General) where existing dwellings may be located adjacent to primary production lands.

4. Manufacturers' sound power level data must not just be based on the sound power output at 300 metres only, but readings taken at a range of distances & provided to Council.

c)5. Note that Council will retain all submitted acoustic reports, which will be made available upon request, for an application within 1000 metres of another property containing frost control fans.

d) ~~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.~~

e) ~~For outdoor and indoor measurement criteria, see Section 7 of this policy.~~

f) ~~If the indoor criteria can 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.~~

3.6 What standards will apply to the operation of all a-frost control fan/s?

Once permanent a-frost control fans haves been approved by Council, theyit must operate under the following conditions:

- The frost control fans s must have an auto-ignition thermostaticthermostatic control that is set at all times to a temperature appropriate to the crop being protected, with an anemometer set to shut down the fan operation when wind speeds exceed 7km per hour.
- The driving engine for the frost control fan must be housed in a noise attenuating housing with an integrated acoustic muffler.



- As an initial compliance check, noise levels are to be taken following the installation of approved permanent frost control fans. This will be imposed as a condition of consent to ensure that the installed fans do actually achieve the applicant's stated decibel level. The compliance check should be conducted during the atmospheric conditions under which the fans are intended to operate (i.e. during a frost event). Compliance acoustic reports will be undertaken by a suitably qualified acoustical consultant, at the cost of the owner of the frost control fans.
- The minimum sound data collection for a compliance check should be taken at a range of distances from 10m to 500m from the frost control fans. Further the sound data collection should also be taken at a distance of one (1) metre from a bedroom of the closest dwelling to the fans. Both data sets should be recorded for a minimum of 15 minutes. The resultant compliance report is to be provided to Council to complete the condition of consent, permitting Council to be satisfied that compliance has been achieved, or to advise that amelioration measures need to be taken to bring the fans into compliance.
- 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 ~~all 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/s, must not exceed the outdoor or indoor limit as listed below:

<u>Location of affected residence</u>	<u>Outdoor Criteria (L_{Aeq})</u> <u>+2dBA considered compliant</u>	<u>Indoor Criteria (L_{Aeq})</u> <u>+2dBA considered compliant</u>
Noise Sensitive Zone	45 dBA (max)	25 dBA (max)
Non-noise Sensitive Zone	55 dBA (max)	35 dBA (max)

- Compliance checks may be requested at any time, should official complaints be received by Council and there is doubt as to whether the subject frost control fans are operating in accordance with the development consent or this policy in the case of a mobile frost fan. Compliance acoustic reports will be undertaken by a suitably qualified acoustical consultant, at the cost of the fan operator.
- If, when measured in an approved manner, the noise from frost control fans is within 2 dBA of the limits listed within this Section, the frost control fans will be deemed to be in compliance.
- The noise limits contained in this Section apply to the noise from all frost fans on the premises under investigation, operating simultaneously.

<u>Location of affected residence</u>	<u>Outdoor Limit (L_{Aeq})</u>	<u>Indoor Criteria (L_{Aeq})</u>
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Noise Sensitive Zone (adjacent to non-noise sensitive zone)	45 dBA (max)	25 dBA (max)
Non-noise Sensitive Zone (ie Rural (General) 1(a))	55 dBA (max)	35 dBA (max)

Note:

1. For a definition of noise sensitive and non-noise sensitive zones, see Notes 1 & 2 of Section 3.56 of this Policy.

a)

c)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.

d)3. When a noise level check is carried out, the measurement period must be for at least 15 minutes.

e)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 suitably qualified acoustical consultant.

~~Noise levels will not be automatically taken following the installation of an approved frost control fan.~~

g) ~~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.~~

i) ~~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.~~

~~The noise limits contained in this Section apply to the total noise from all frost fans on the premises under investigation operating simultaneously.~~

k)

3.7 ~~What will happen if a development causes~~Can adjacent land alter from land in a non-noise sensitive zone to ~~become~~ noise sensitive? (ie the land use changes)

~~Council may rezone land Where a development causes the land use zoning to which alters the type of the land uses within that new zone so that it becomes noise sensitive. Council may consider changes to zones through a strategic land use strategy, though rezoning may also occur through a site specific planning proposal where Council will carefully consider the appropriateness of the change in predominant land use given the nature of the surrounding land.~~



3.8 Do the noise criteria apply to other development?

In the circumstance where land to be developed (e.g. subdivided or new dwellings constructed) is within 1,000 metres ~~change to a noise sensitive area and frost fans are already existing in the locality (within 1 kilometre) of existing frost control fans~~, the ~~future d~~Developer of ~~the~~at land subject to ~~the rezoning or development rezoning application~~, will be responsible for addressing the issue of compliance with this policy.

This may be achieved by doing the following:

- a) The provision of buffers to limit the location of future dwelling houses in relation to their proximity to the existing frost control fans; and / or,
- a)b) Constructing dwellings to achieve the relevant indoor criterion for the land use zone within which the developed property is located; and / or as required by the Local Environmental Plan and Development Control Plan operating in the area; &
- b)c) At the time of subdivision of that land, Council may impose a condition for the creation of a Have a restriction to user placed upon on the title of the land to be developed proposed lots, requiring certain noise attenuation measures to be incorporated into the design and construction of any proposed dwelling in that development subdivision to enable the indoor criteria to be achieved.; &
- c) The possibility of frost control fans being present within certain areas must be raised in Council's Development Control Policies.

3.8 What advice to intending purchasers of land of potential for frost fan **development** can Council's 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.

3.9 What happens if complaints are received about an **approved existing** frost control fan?

- Initially, a resident should leave a message with the land owner / Council after hours number, that the fan operation is of concern. Council would ascertain whether approval was required or issued for the frost control fans under contention.
- Council will endeavour attempt to establish a dialogue between the affected resident and the owner of the frost control fans, 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~~ any associated development consent.
-
- Where complaints are received, the complainant should be prepared to allow Council's Officers or the proponent's ~~noise acoustician~~ acoustical consultant reasonable access to their property for the purpose of measuring the sound from ~~monitoring of~~ the frost control fan if it is deemed necessary, during normal operation atmospheric conditions (i.e. during a frost when the fans are operating, which could be during the night or early hours of the morning).
-
- Should Council receive a complaint concerning the operation of frost control fans, 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. The noise level set for the frost control fans 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.
- If the frost control fan and its operation comply with its development consent and or this policy, no further action will be taken. Should the subject frost control fans s 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:

1. The sound level meter must be set to measure fast response A-weighted sound pressure levels and the levels must be measured in terms of the equivalent continuous sound level (Leq) metric and the duration of the measurements must be no less than 15 minutes or two full revolutions of the frost fan gear head.
- 2. Noise measuring instruments must be equivalent to Type 2 (or b Better) as defined in Australian Standard 1259 "Sound Level Meters", Parts 1 and 2. The instrument is to be calibrated prior to use.
- 3. 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", Parts 1 and 2.



4 Definitions

Noise sensitive zone is a land use zone adjacent to the frost fan property, primarily meant for noise sensitive land uses, typically meant for residential development under Griffith Local Environmental Plan, 2014.

Non-noise sensitive zone is a land use zone adjacent to the frost fan property, primarily meant for primary production or other general development under the Griffith Local Environmental Plan, 2014, and may include rural, some environmental protection and industrial zones.

None

5 Exceptions

None

6 Legislation

- NoneEnvironmental Planning & Assessment Act 1979
- Protection of the Environment Operations Act, 1997
- Griffith Local Environmental Plan, 2014

7 Related Documents

- NoneSumar Produce Pty Ltd v Griffith City Council [2000] NSWLEC 104 (7 June 2000)
- Sumar Produce Pty Ltd v Griffith City Council [2000] NSWLEC 72 (11 April 2000)
- Sumar Produce Pty Ltd v Griffith City Council [2000] NSWLEC 27 (15 February 2000)
- NSW Environment Protection Agency Noise Guide for Local Government

8 Directorate

Sustainable Development



Frost Control Fan CS-CP-309 (LOCAL POLICY)

Addendum - Frequently Asked Questions

Frequently Asked Questions

1. Why does Council have a Frost Control Fan Policy?

Griffith is a growing regional city with wide spread residential / rural residential development, and there is increasing interest expressed by fruit and nut growers to install frost control fans or mobile wind machines in our rural areas, the need has arisen to revise the initial guidelines as population density increases, in an effort to maintain primary production and to reduce land use conflict.

The policy seeks to balance perceived land use conflict between on-going agricultural use of land for primary production purposes and amenity of residents (sensitive receptors) living in the locality.

2. What is a frost control fan?

The principal 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 horticultural crops such as citrus, almonds and grapes. The use of such fans is method of endeavouring to negate the impact of frost by reducing its occurrence.

A frost control fan is a machine that consists typically of a tower approximately 10 - 11 metres in height with 2.5-3 metre long propellers/blades at the top (effectively an overall height of 13 – 13.5m). An engine is mounted at the base of the tower and is used to drive the blade via drive shafts and gearing. The bladed gear head of the fan rotates through 360 degrees on a vertical axis with the blade spinning between 400 - 750 revolutions per minute. The head of the fan takes approximately 5 – 7 minutes to complete one 360 degree rotation.

Frost control fans can be either permanently installed (masts bolted to concrete pads with similarly permanent ground mounted diesel engines) or mobile, where they can be towed to an area of the property which suffers frost and can then be stored in a farm shed outside frost season.

3. Does the installation & operation of a frost control fan require Development Consent & Construction Certificate Approval?

A permanent 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 and adjacent land users. With regard to the Griffith Local Environmental Plan, 2014, the frost control fans is considered to fall within the land use definition of 'farm building'.



Prior to the installation and operation of a permanent frost control fan, development consent must be sought and obtained from Council and construction certificate approval issued by Council or other Principle Certifying Authority, to ensure that the standards contained in this policy are complied with.

All landholders within 1000 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 category of Exempt or Complying Development under either Council's Policy or State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Mobile frost fans however are considered to be farm machinery and do not require the issue of development consent of Council.

4. Are all Frost Control Fans covered by this Policy?

From the date of adoption, yes, this policy will apply to the installation of all Frost Control Fans in the Griffith City Council local government area, with regard to noise emission / compliance only.

While a mobile frost fan is considered to be farm machinery, the use of mobile frost control fans does generate noise which can be considered offensive as defined under the Protection of the Environment Operations Act.

"offensive noise means noise:

- (a) *that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances:*
 - (i) *is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or*
 - (ii) *interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or*
- (b) *that is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances, prescribed by the regulations."*

Further, the NSW Environment & Protection Agency Noise Guide for Local Government provides that:

"Noise is identified as 'intrusive' if it is noticeably louder than the background noise and considered likely to disturb or interfere with those who can hear it."

Intrusive noise is generally considered to be 5 decibels above background noise level and in rural areas at night, background noise levels can be quite low (e.g. 30 dB(A)).



Manufacturers' specifications for mobile frost fans indicate that the sound level heard at a receptor distance of 300m from one fan is 45 to 50 dB(A) for example. Therefore, from a regulation perspective, a complaint will likely result in the issue of a Noise Control Notice to reduce the sound level output to compliance with the above 5dB(A) above background criterion, thus significantly impacting upon the effectiveness of the fans and possibly resulting in future crop loss.

An adopted policy of Council can stipulate sound levels applicable to certain development or noise generating equipment, which can afford a higher level of noise during operation than the general intrusive noise considerations otherwise allow if there is no policy in place.

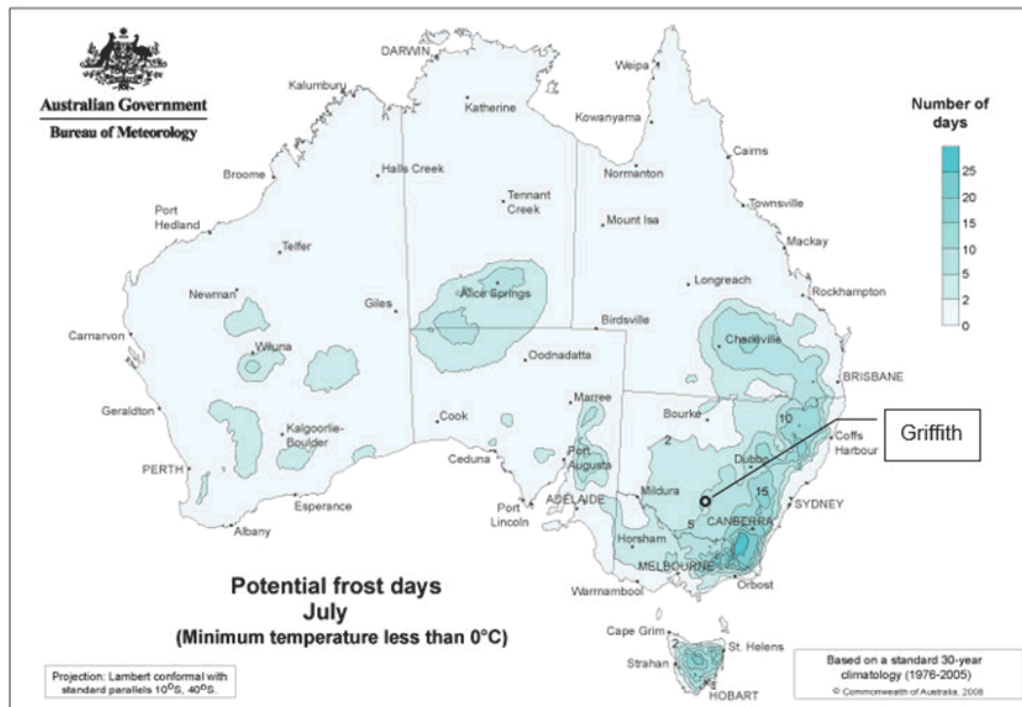
For the above reasons, Mobile Frost Control Fans are now included in this policy so that Council can more effectively control noise and ensure the requirements for both permanently installed and mobile frost fans are covered by the same complaints procedure.

5. What additional information is required for development application submission?

When a development application is submitted to Council for the installation of permanent frost control fans, it must be accompanied by information on the number of days where there is likely to be frost occurrence, relevant to the particular crop being protected.

Frosts may impact citrus from May through October, where frosts may impact almonds only from late July through October.

The following is an example of information available from the Bureau of Meteorology website in regard to the likely occurrence of frost in the Griffith Local Government Area: (see this link for further information: http://www.bom.gov.au/jsp/ncc/climate_averages/frost/index.jsp)



The Bureau of Meteorology has frost potential maps for both 2°C and 0°C for each Month, and that information can be used to calculate the number of days that the crop is likely to be vulnerable to frost. The general climatic data for Griffith Airport is a starting point but is not specific enough to predict actual occurrence of frost.

It is acknowledged that each site is different and may not be impacted by frost on every occasion that it occurs at Griffith Airport, so if the proponent has collected a minimum of 3 or 4 years site specific data, that could be of assistance in assessing the vulnerability of the crop and the likely number of days the frost fans may be in operation.

6. How have the noise sensitive land use zones been selected?

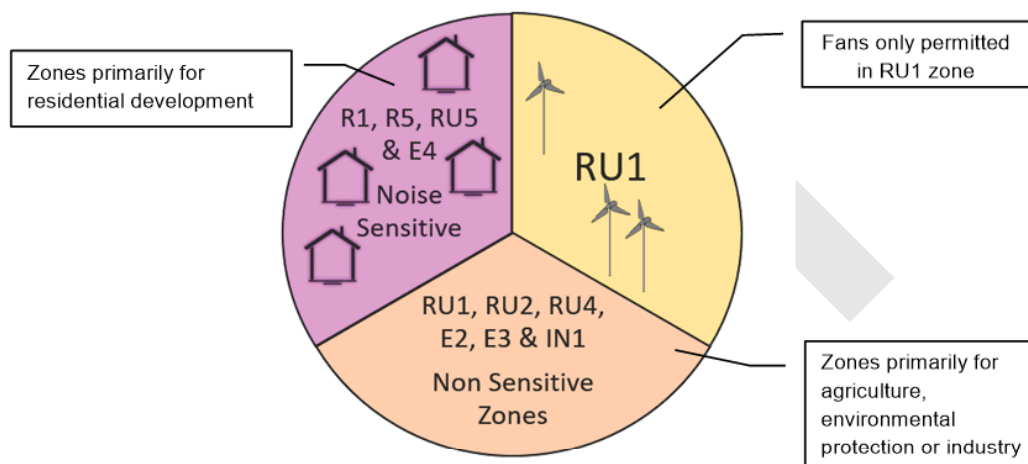
The land adjacent to a frost control fan property can be one of a number of zones under the Griffith Local Environmental Plan, 2014. The primary land use zones are Rural, Residential, Business, Industrial and Environmental Protection.

The sensitivity of the zone to intrusive noise has been based upon the primary purpose of that zone, e.g. agriculture, residential, commercial, industrial, or protection. Those primary uses have influenced the categorisation of the land use zones into noise sensitive or non-noise sensitive zones for the purposes of this policy.



Location of affected residence	Outdoor Criteria (L _{Aeq})	Indoor Criteria (L _{Aeq})
Noise Sensitive Zone	45 dBA (max)	25 dBA (max)
Non-noise Sensitive Zone	55 dBA (max)	35 dBA (max)

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



7. Can adjacent land alter from a non-noise sensitive zone to noise sensitive?

Yes, Council may rezone land which alters the type of the land uses permitted within that new zone so that it becomes noise sensitive. An example would be the expansion of the RU5 Village at Yenda which was formerly land zoned Rural 1(b) Rural Agricultural Protection under the Griffith LEP 2002.

Council may consider changes to zones through a strategic land use strategy, though rezoning may also occur through a site specific planning proposal where Council will carefully consider the appropriateness of the change in predominant land use given the nature of the surrounding land.

8. How does the stated policy noise criteria apply to other development?

The policy will also apply to new housing development or subdivision within 1,000 metres of existing frost control fans, to lessen the impact of the noise from existing fans on the future residents of the locality. This is consistent with how land that is bushfire prone or flood prone is taken into consideration in new development.

There are circumstances where vacant lots may have a dwelling entitlement or where new dwellings are constructed to replace existing dwellings within vicinity of existing frost control



fans. In these situations, developers / owners of properties within 1000 metres of existing frost control fans will be required to incorporate the internal noise criterion, for the zone which they are located within, to their dwelling design and construction.

9. What information can Council's provide to intending purchasers of land of the potential for frost control fans in their neighbourhood?

Council advises intending purchasers of the existence of approved frost control fans within a 1000 metre radius of the property upon which the fans are located. Council does this through a buffer notation on a Section 10.7(5) Planning Certificate if purchased for a contract of sale.

10. How do I know whether my property is within a frost control fan buffer?

If you have recently purchased your property, the Planning Certificate attached to your contract may indicate that there is a buffer effecting your land. Council has frost control fan buffer mapping which illustrates properties within 1000m of existing / approved permanent fans; this may be viewed during business hours at Council's Customers Service counter.

11. Is there a complaints procedure?

The complaints procedure starts with a phone call to Council or attendance at the Council's Customer Service counter. You will be asked to provide your name and contact details so that you can be contacted for further clarification if required. If you wish to remain anonymous Council may not proceed with any action in the matter.

Providing as much information to Council as possible is advantageous to assisting in identifying the source of the noise, so that Council can approach the owner of the frost fans to start compliance action.

The owner of the fans which are causing the nuisance may engage a suitably qualified acoustical consultant to measure the noise generated by the fan at your property. This could be both outside the house and inside the house. The policy provides that compliance can be achieved outside or inside the dwelling that is the closest to the operating fans.

If the both the outside and inside reading do not comply with the policy criteria then noise mitigation measures could be employed by the owner to reduce the noise impact on the subject dwelling. This could include reducing the RMP of the fan blade, double glazing the dwelling bedroom windows, or insulating the house, if the house was present prior to the installation of the fans.

If suitable resolution can't be achieved, then Council may institute action to cease the fan use and the owner will need to consider other options available for frost mitigation.