

Noise Management Program

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1. Introduction

The University of Queensland recognises that education and training are activities that do generate noise, but are values that deserve protection. The University of Queensland Environmental Noise Program aims to provide a set of procedures to effectively manage and limit the nuisance environmental noise generated from the University's educational, research and recreational activities.

The objectives of this program are as follows:

- To determine areas in which the application of environmental noise control is required;
- To ensure that all relevant licences, permits and approvals for environmental noise emissions are in place;
- To insure legislated activities do not exceed levels defined;
- To set procedures in line with Quality Management in order to manage environmental noise emissions by application of 'Best Environmental Management Practices';
- To determine the acoustical effect the University activities have on the surrounding noise sensitive areas; and
- To educate University stakeholders on environmental noise issues.

2. Program Scope

The Environmental Noise Program is limited to the following noise sources:

- Machinery owned by The University of Queensland;
- Activities (teaching, research, sporting, social, etc) under the control of The University of Queensland or authorised by The University of Queensland on any of its campuses.

This program **excludes** the following:

- Any activity or event covered by special agreement or licence from the administering authority;
- Noise within The University of Queensland campuses which is regulated by the Workplace Health and Safety Act (1995);
- Traffic (excluding University and contractor vehicles and plant during operations that are not transitional) noise;
- Behavioural noise;
- Noise from animals other than those held by the University;
- Noise originating from University Colleges which operate independently from The University of Queensland; and
- Emergency Warning Systems.

3. Management of activities which generate noise

The following measures shall be adopted to abate and control noise levels from the University. These are used in order to maximise the benefits of noisy activities within the University and minimise the impact on surrounding properties.

3.1 Environmental Noise Controls

The following measures are control strategies which can be applied to noise generating activities to limit, control or abate noise levels affecting noise sensitive locations neighbouring The University of Queensland campuses.

3.1.1 Time Limits

Time limits are applied to activities which may generate intrusive environmental noise at neighbouring properties external to the University. Time limits will vary depending on the nature of the activity.

However, in all circumstances, no noise that can be heard inside a habitable room at a noise sensitive location will be generated during the night time period (10 pm to 6 am)¹.

3.1.2 Noise Limits

Noise limits are applicable to certain activities which may generate intrusive environmental noise at sensitive, surrounding properties and during sensitive times. Noise limits will vary depending on the nature of the activity and time.

For activities not listed in this procedure, the sound levels shall not be intrusive at any noise sensitive locations¹.

3.1.3 Designated Areas

Some activities due to their expected noise levels, shall be restricted to defined locations in the University to distance the activity from noise sensitive locations and/or take advantage of existing structures and/or landscape to abate noise levels.

3.1.4 Acoustic Barriers

Acoustic barriers shall be applied primarily for fixed machinery and plant with identified noise issues. Acoustic barriers will include the following:

- Acoustically treated walls to absorb noise;
- Enclosed rooms or enclosures for stationary machinery such as central air conditioning units and compressors; and
- Noise attenuated equipment (mufflers, etc).

3.1.5 Natural Barriers

Trees, grass and all other forms of vegetation will be maintained on University campuses to (i) act as natural noise barriers for direct emission from the campuses; and (ii) act as barriers to noise reaching reflective surfaces.

¹ Adopted from the Environmental Protection (Noise) Policy, 1997 for *unreasonable noise*.

3.1.6 Acoustic Planning

Noise prevention and abatement will be considered during the planning of sporting and entertainment activities. This includes the following:

- Speakers, amplified musical instruments and public address systems shall be directed towards the centre of the University when possible;
- Avoid directing speakers, musical instruments and public address systems towards reflective surfaces which direct the sound toward noise sensitive areas;
- Erecting of acoustic or natural barriers if feasible;
- The use of a series of speaker systems instead of block systems where applicable and/or feasible;
- Placing machinery as far as it is feasibly possible from noise sensitive areas; and
- Buffer zones.

3.1.7 Noise Enforcement

The University Security Section and farm, research station and other property managers and police as applicable have the authority to enforce limits on all operating activities which contravene licence conditions and/or the environmental noise program. The same can also force the closure of any activity on complaint (*refer to section 5 - Complaints*).

3.2 Exemptions to Limits of Operating Procedure

In certain circumstances, the strategies above still may not be adequate to limit noise from particular activities. If this is expected, **prior to the event** the convenor must seek approval from the administering authority (currently local council), where noise levels and time limits can be agreed which are acceptable to both the administering authority and the convenor. This however does not exempt the convenor of the activity from taking every step possible and implementing all feasible strategies to lessen the impact of noise from the event.

The convenor must then hold a copy of any licence or agreement in writing at the event and have a copy forwarded to University Security or Managers of farms, research stations or other sites as appropriate (*refer to Section 5 - Complaints*).

Only when all these conditions have been met is the event exempt from the noise limits and/or time restraints within this procedure.

3.3 Identified Noise Generating Activities

Table 1 identifies activities common to the University environment that are potential sources of noise at levels that may be found intrusive at noise sensitive locations. This table and explanations of the activities is expanded upon in the appendices.

Table 1 - Noise management for University activities.

ACTIVITY	Control Type							Appendix
	Time Limit	Noise Limits	Designate Areas	Acoustic Barrier	Natural Barrier	Acoustic Planning	Noise Enforcement	
University Ceremonies	✓	✓	✓		✓	✓	✓	1
Sports	✓	✓	✓		✓	✓	✓	2
Entertainment	✓	✓	✓	✓	✓	✓	✓	3
Construction, Renovation and Demolition	✓	✓		✓			✓	4
Grounds Maintenance	✓					✓	✓	5
Public Address Systems	✓	✓			✓	✓	✓	6
Air Conditioning/Refrigeration		✓		✓	✓	✓		7
All other Noise	✓	✓						

4. Emergency Noise

Emergency noise is used to alert people to risk to their personal safety. This includes alarms, loud speakers (used specifically for this purpose), sirens, etc. Application and use of these systems is as determined by the University Security and noise levels are set as per AS 2220-1989 *Emergency warning and intercommunication systems in buildings*.

5. Complaints

5.1 (St Lucia, Gatton and Ipswich)

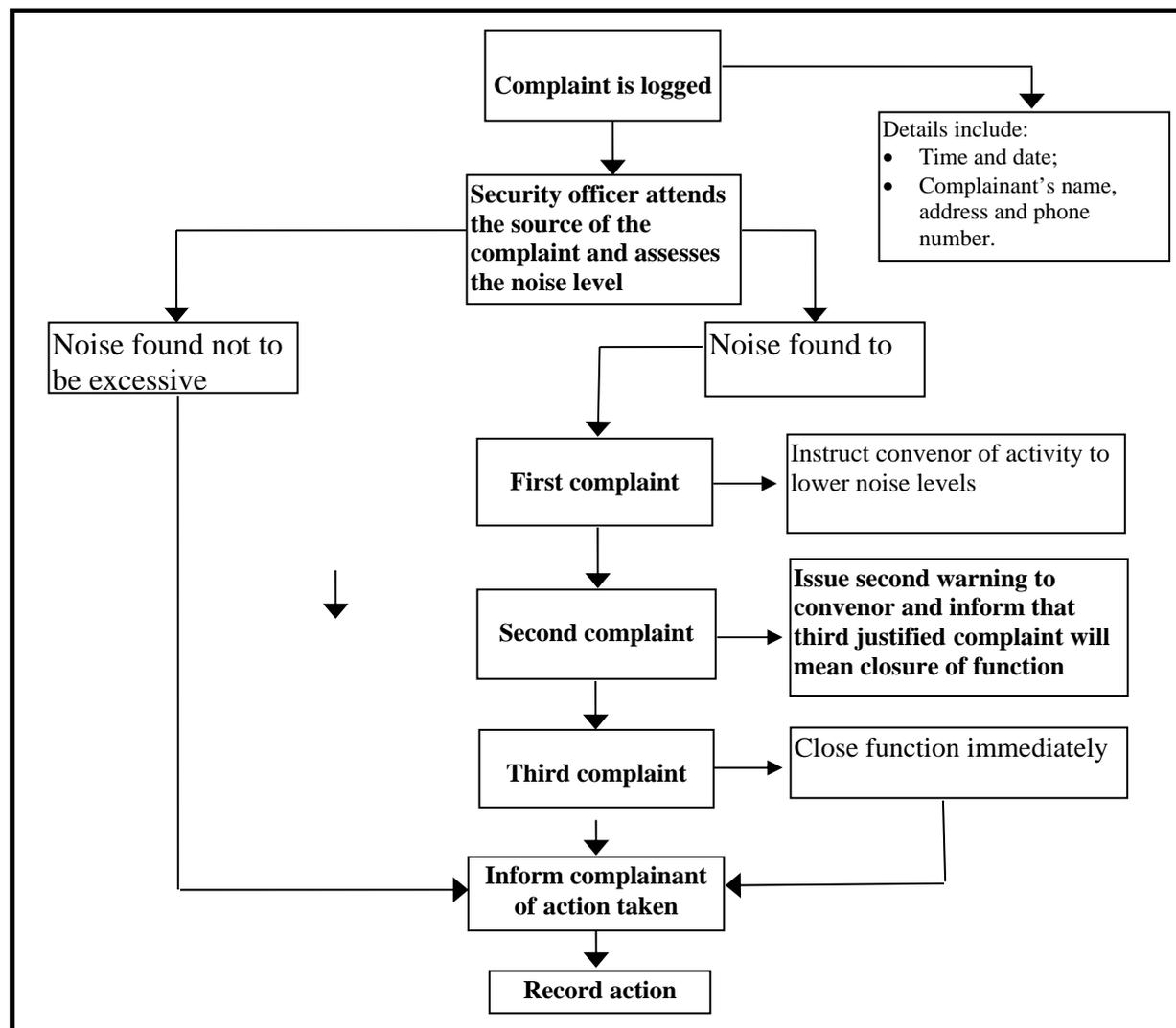
Any complaint made directly to The University of Queensland about St Lucia, Gatton or Ipswich campuses are to be dealt with by the Security Section. Complaints made to the police or regulatory authority may be dealt with in one of the following ways:

1. Forwarded to The University of Queensland Security Section; or

- Passed to the administering authority (from police if not directly received) and investigated by the administering authority with results and actions forwarded to the convener of the offending function and/or the Environmental Engineer as appropriate.

When a complaint is lodged with The University of Queensland Security Section, the flow chart in figure 1 is followed.

Figure 1. Security Noise Complaint Flow Chart



5.2 Complaints outside of St. Lucia campus (Farms, Research Stations and Other Properties)

Noise complaints regarding the University Farms, Research Stations and other properties should be addressed to the Head, Director or Manager from the establishment where the noise originates. Upon receiving the complaint, the Head, Director or Manager have the same authority and may follow the same procedures as in 5.1 above.

5.3 Absolute Exclusions

Noise complaints made against the following are excluded from the actions in sections 5.1 and 5.2:

- Behavioural noise;
- Traffic noise;

- Occupational and Health related noise;
- Noise generated from animals other than domestic animals held by the University;
- Noise generated from the University Colleges which operate independently from The University of Queensland; and
- Emergency warning noise.

6. Records

All documents issued concerning the environmental noise program will be held by the Property and Facilities Division (except for complaints made to farms, research stations and other properties). The term documents for the purpose of the environmental noise program includes the following:

- Operating procedures;
- Checklists;
- Notes;
- Correspondence;
- Invoices; and
- Reports.

Documentation concerning environmental noise complaints shall be held according to Table 2:

Table 2 - Custody of environmental noise complaint documentation.

Campus	Division	Section
St Lucia	Property and Facilities	University Security
Gatton	Property and Facilities	University Security
Ipswich	Property and Facilities	University Security
School of Medicine	Property and Facilities	University Security
Farms	Directors or Managers	Not applicable
Dental School	Property and Facilities	University Security
Customs House	Manager	University Security
Indooroopilly Mine	Manager	Not applicable
Research Stations	Managers	Not applicable
Other Properties	Heads, Directors or Managers	Not applicable

7. Audits

Environmental noise audits will be carried out in accordance with the procedures set out in The University of Queensland Auditing Program. It is the responsibility of the Property and Facilities Division to conduct environmental noise audits on the University campuses and budget for auditing activities.

8. Monitoring

Monitoring programs will be implemented when required for noise generating activities. Monitoring may be required by:

- Audit results;

- Response to complaints; and
- On order of the administering authority.

It is the responsibility of the Property and Facilities Division to set up monitoring programs of the University campuses and budget for monitoring activities.

9. Training

It is the responsibility of Heads of Schools and Centres, Managers of Farms and Research Stations, and other Senior Officers to ensure that their personnel are adequately trained in environmental noise management

Refer to the training program for further information.

10. Enquiries

Further information concerning noise can be gained from the following:

Table 3 - Enquiries at The University of Queensland.

Subject	Contact	Person	Telephone
Enforcement (St Lucia and Gatton)	Property and Facilities Division Security Section	Manager Security	(07) 336 <u>52335</u>
Ceremonies	Protocol and Ceremonies	Manager	(07) 336 <u>53159</u>
Student Union Complex	Student Union	Administrator	(07) 337 72200
Sports	UQ Sports	Facilities Manager	(07) 336 <u>56038</u>
Licence conditions, restrictions, auditing and technical advice	Property and Facilities Division Environmental Services section	Environmental Engineer	(07) 336 <u>51587</u>

11. Definitions

11.1 **Concert**

Under Schedule 2 of the *Environmental Protection (Noise) Policy 1997*, “concert” means “a public performance or other public event from which music (whether recorded or performed live) is a significant source of noise.

11.2 **Day Period**

Under Schedule 5 of the *Environmental Protection (Noise) Policy 1997*, day time means “6am to 6pm”.

11.3 **Environmental Noise**

Environmental Noise is defined as an unwanted sound.

11.4 Evening Period

Under Schedule 5 of the *Environmental Protection (Noise) Policy 1997*, evening period means “6pm to 10pm”.

11.5 Background Level

Under Schedule 5 of the *Environmental Protection (Noise) Policy 1997* background level means “for a specified time interval, in relation to an investigation of a noise, means the A-weighted sound pressure level that is equalled or exceeded for 90% of that part of the interval in which the investigated noise is absent”.

12. References

- Environmental Protection Act 1994
- Environmental Protection Regulations 1998
- Environmental Protection (Noise) Policy 1997
- AS 2436 - Guide to Noise Control on Construction, Maintenance and Demolition Site
- AS 2220-1989 Emergency warning and intercommunication systems in buildings

Appendix 4 – Noise Control Management

Activity – Construction, Renovation, Demolition and Maintenance

Construction, renovation and demolition are activities undertaken to create a new environment, to upgrade the safety of the infrastructure provided by The University of Queensland and to enhance the general upkeep of the campuses.

Examples:

- Construction, renovation and demolition of buildings;
- Construction and/or resurfacing roads;
- Use of equipment with the intent to construct, renovate and/or demolish, i.e. cranes, hoists, trucks, tractors, excavators, compressors, generators, pneumatic drills, etc.; and
- General activities using the above equipment.

Note: State regulatory Building Work restrictions are 6:30am – 6:30pm Monday to Saturday. The University self imposes variations to this as they appear in the table below. Further, local councils may have more stringent levels. These should be checked by anyone undertaking the activity. Where varying levels exist, the most stringent shall be applied.

Control	Management
Time Limits	<ol style="list-style-type: none"> 1. Building Works (demolition, excavation, repairs, etc.) 7.00am – 6.30pm Monday to Saturday Prohibited at all other times. 2. Power Tools (compressors, generators, oxyacetylene burners and impacting tools) 7.00am – 7.00pm Monday to Saturday 8.00am – 7.00pm Sunday or public holidays Prohibited at all other times.
Noise Limit*	No noise limits apply.
Designated Areas	Not applicable
Acoustic Barrier	As per AS 2436:1981 - <i>Guide to Noise Control on Construction, Maintenance and Demolition Site</i>
Natural Barrier	Not applicable.
Acoustic Planning	Not applicable.
Noise Enforcement	The University Security Section has the authority to enforce limits on all activities which contravene licence conditions and/or the environmental noise program.

* Noise limits to be measured at the boundary of a noise sensitive place, or at the boundary of The University of Queensland campuses, which ever is further. This in not at point of source.

Appendix 5 – Noise Control Management

Activity – Grounds Maintenance

Grounds maintenance noise is generated by equipment used for the upkeep of the University campuses such as tractors, lawn mowers, brush cutters and chainsaws. The noise level is intermittent and transient.

Examples: General grounds maintenance is undertaken for various reasons including:
 (i) compliance with fire safety regulations, (ii) protecting environmental aesthetic values and (iii) pest control (e.g. weeding).

- Tree surgery;
- Pruning vegetation;
- Mowing of grounds and sportsgrounds; and
- Maintaining and/or upgrading gardens.

Note: All time and noise limits are state wide levels. Local councils may have more stringent levels. These should be checked by anyone undertaking the activity. Where council levels exist, the most stringent shall be applied.

Control	Management
Time Limit	not before 7.00 am) and after 7.00 pm) Monday to Saturday Occasional night activities approximately 2-3 times per year.
Noise Limit*	Not applicable.
Designated Areas	Not applicable.
Acoustic Barrier	Not applicable.
Natural Barrier	Not applicable.
Acoustic Planning	Purchase of appropriate equipment and vehicles fitted with mufflers and labelled as per Environmental Protection (Noise) Policy, 1997, <i>Product Labelling Requirements</i> .
Noise Enforcement	The University Security Section has the authority to enforce limits on all activities which contravene licence conditions and/or the environmental noise program.

* Noise limits to be measured at the boundary of a noise sensitive place, or at the boundary of The University of Queensland campuses, which ever is further. This is not at point of source.

Appendix 6 – Noise Control Management

Activity – Public Address System

Public Address Systems are restricted at The University of Queensland. The use of Public Address Systems is limited to authorised activities.

Examples:

- Tennis Courts at the St Lucia Campus;
- University of Queensland Ceremonies;
- Oval 5 precinct of athletics track
- Grandstand and
- For safety reasons.

Public address systems used in conjunction with any other activity must comply with the noise levels appropriate for the rest of the activities also.

Note: All time and noise limits are state wide levels. Local councils may have more stringent levels. These should be checked by anyone undertaking the activity. Where council levels exist, the most stringent shall be applied.

Control	Management
Time Limit	7am – 10pm Monday to Friday 8am to 6pm Saturday, Sunday, Public Holidays
Noise Limit*	<ul style="list-style-type: none"> • Background +10dB(A) [Approx XXdB(A)]¹ • All other times – no audible noise
Designated Areas	Not applicable
Acoustic Barrier	Not applicable
Natural Barrier	Trees, vegetation and grass are not to be removed.
Acoustic Planning	Public address systems to direct sounds away from noise sensitive areas as possible.
Noise Enforcement	The University Security Section has the authority to enforce limits on all activities which contravene licence conditions and/or the environmental noise program.

* Noise limits to be measured at the boundary of a noise sensitive place, or at the boundary of The University of Queensland campuses, which ever is further. This in not at point of source.

¹ Adopted from Environmental Protection (Noise) Policy 1997 for *Activities at certain indoor venues*.

Appendix 7 – Noise Control Management

Activity – Air Conditioning/Refrigeration

Air conditioning and refrigeration plant are essential to maintaining a working and educational environment at the University. The noise from this plant is constant and needs to be managed to lessen the impact on areas external to the University.

Examples:

- Chiller Units
- Room air conditioners (RACs)
- Cooling towers
- Compressors
- Refrigeration plant.

Note: All time and noise limits are state wide levels. Local councils may have more stringent levels. These should be checked by anyone undertaking the activity. Where council levels exist, the most stringent shall be applied.

Control	Management
Time Limit	As per noise limits.
Noise Limit*	<ul style="list-style-type: none">• 7am – 10pm: 50dB(A)• 10pm – 7am: higher of 40dB(A) or background + 5dB(A) [approx 43dB(A)]¹
Designated Areas	Not applicable
Acoustic Barrier	As required, meeting all building, planning and regulatory requirements.

* Noise limits to be measured at the boundary of a noise sensitive place, or at the boundary of The University of Queensland campuses, whichever is further. This is not at point of source.

¹ Adopted from Environmental Protection (Noise) Policy 1997 for *Activities at certain indoor venues*.