

The University of Sydney

Air Conditioning Policy

1 July 1999

1. Aim

The aim of the University's Air Conditioning Policy is to ensure all requests for air conditioning (heating and cooling) are addressed in a consistent manner. The Policy deals with requests for the provision of conditioned environments in teaching and research areas, functional and comfort requirements, Occupational Health and Safety issues and the aesthetic protection of building facades.

2. Criteria to be Met

The University nominates several critical categories of need for the air conditioning of building spaces, defined by use, function and comfort level. Requests for air conditioning will be assessed by the Facilities Management Office (FMO). Where justification meets with the following criteria, FMO will seek funding through the Capital Development Program:

- (a) spaces where there is a clear case for the control of temperature and humidity,
- (b) areas such as offices occupied by the Chancellor, Vice-Chancellor and other senior executive staff,
- (c) large common meeting rooms (areas greater than 20 m²),
- (d) lecture theatres and rooms, computer rooms and libraries,
- (e) any space where the indoor temperature will exceed 30⁰C for more than 15% of normal working hours in the summer or where the temperature exceeds 30⁰C for more than 72 hours per annum.

These criteria have been validated by a technical report prepared by Gutteridge Haskins & Davey Pty Ltd, July 1996, "Air Conditioning Policy Development".

3. Functional Air Conditioning

3.1 Air conditioning for functional (i.e. scientific and technical) requirements is to be limited to those instances where there is a clear case for the control of temperature and/or humidity and where this can not be achieved by passive thermal control, such as shading and insulation.

- 3.2 Computer rooms, rare book library stacks, rooms housing specialised equipment, animal houses, metrology and measurement laboratories and museums are examples of areas that may require air conditioning owing to function. In the selection of equipment, preference should be given to machines that do not require a controlled environment. Where a controlled environment is essential for a piece of equipment which is to be located in an existing large room, consideration must be given to subdividing the space so as to provide a smaller area specifically for housing the equipment. This would not only reduce the size of air conditioning equipment, but would also avoid costly systems associated with areas such as chemical laboratories, where air recirculation is likely to be unacceptable.
- 3.3 The total cost of justified air conditioning for functional reasons will be met by the Capital Development Program (CDP), provided funds are available specifically for that purpose. Such funds are limited. When prearrangements have not been made for funds, and Users are not prepared to wait until a future program, Users are to fund the installation themselves. The total cost is to include supply, installation, replacement if necessary and reinstatement of building fabric when the unit is removed. Funding for maintenance will be met from the Capital Development Program. Operating costs will be met from the University's Overheads budget.
- 3.4 The technical standards are to be determined by the Facilities Management Office based on the User's brief. Occupational Health and Safety issues will be discussed with both the User and Risk Management, particularly in relation to the recirculation of air in chemical and biological laboratories.

4. Comfort Air Conditioning

- 4.1 Comfort air conditioning in University spaces set aside for University purposes (not leased or occupied by external organisations) will be approved only for those spaces which would otherwise have intolerable conditions for the occupants, and special areas where controlled environment is judged as being necessary. This is provided passive thermal control, such as shading and insulation, is not effective or appropriate, either on architectural or structural grounds.
- 4.2 Rooms located in attics, under flat metal roofs or slate roofs which cannot be successfully treated by various techniques of insulation and sunshading, and are utilised fully during the summer period, would be strong contenders for comfort air conditioning.
- 4.3 Where comfort conditioning is judged to be necessary, careful consideration will be given to installing systems with the capacity to reduce indoor room temperatures to a maximum of approximately 5⁰C to 9⁰C below ambient, with a minimum set point of 27⁰C.

- 4.4 The cost of air conditioning for comfort reasons of those areas where the University considers air conditioning to be essential will be met from the Capital Development Program, provided funds are available specifically for that purpose. Such funds are limited. When prearrangements have not been made for funds, and Users are not prepared to wait until a future program, Users are to fund the installation themselves.
- 4.5 Comfort air conditioning of areas which would not be supported from University funds under this policy will be agreed to only if the full cost is met from User's funds. In this instance full cost means the capital cost of the system required to meet technical and aesthetic considerations, maintenance and restoration of building fabric on removal.

5. Energy and Replacement Issues

- 5.1 Energy management control/timing devices are to be fitted to control hours of operation where maintaining constant temperature conditions is not critical, in order to limit the use to those occasions when it is warranted by the ambient conditions.
- 5.2 Air conditioning plant or units serving rooms that are no longer being used for purposes which justify air conditioning under the policy will either be removed or deactivated.
- 5.3 When any unit becomes unserviceable, the unit to replace it will be subject to the same criteria used to assess requests for new installations.

6. Aesthetic Considerations

- 6.1 The facades of buildings within the University which are of special architectural merit, (known as "protected facades") are shown on the appended list.
- 6.2 Window air conditioner units or other mechanical apparatus must not be located on or about the protected facades, even though their use might represent the cheapest and most technically acceptable solution. In some instances it might be necessary to install a more expensive "split" system. In this case the added cost will be met from the Capital Development Program provided funds are available.
- 6.3 Where window units are acceptable both on aesthetic and functional grounds, an 'inboard' model shall be installed, unless space considerations prohibit.
- 6.4 In the case of an externally sponsored research project, such as an ARC grant or private industry donation, the full cost of the acceptable installation designed to meet both functional and aesthetic considerations must be met from the research funds.
- 6.5 Where plant is located in proximity to a building, architectural aesthetic considerations are to be addressed by FMO.

7. External Organisations

External organisations, commercial or non-commercial, which are occupying space within University buildings, or buildings on a University site, may air condition spaces for either functional or comfort condition reasons, provided they meet the full cost of the installation and comply with the University's buildings and grounds restraints concerning location of equipment. In this instance full cost means the capital cost of the system required to meet technical and aesthetic considerations, recurrent maintenance costs and restoration of building fabric on removal.

8. Procedure

All requests for air conditioning spaces are to be submitted to the Area Manager, Facilities Management Office, for initial consideration. All air conditioning installations are to be approved by the Facilities Management Office. The detailed procedures are set out in the appendices:

- | | |
|-------------|--|
| Appendix 1. | Procedures for Air Conditioning, Request and Installation
"Request for Installation of Air Conditioning" form |
| Appendix 2. | Guidelines for Air Conditioning Installation |
| Appendix 3. | Building Facades to be Protected |
| Appendix 4. | Area Managers |

9. Approval

This policy was approved by the Vice Chancellor on the advice of the Senior Executive Group on 9 September 1997.

Appendix 1

Procedures for Air Conditioning Request and Installation

Background

The University has had an Air Conditioning Policy in place since 1986 which was revised in September 1997. Its objective is to ensure all requests for air conditioning are dealt with in a consistent manner. The policy deals with such matters as air conditioning for functional and comfort reasons, Occupational Health and Safety requirements and protected building facades.

University policy charges the Facilities Management Office (FMO) with the responsibility for the approval of air conditioning requests and arranging major installations. However, the responsibility for arranging minor installations, such as window or split units, has now been transferred to academic colleges and administrative groups under the Space management Policy approved by the Senate Finance and Planning Committee in December 1993.

The procedures relating to approval of air conditioning requests have been devised to reduce the processing time.

Procedures

1. All requests for air conditioning installations are to be endorsed by the relevant PVC (College) or DVC (central administration). Requests are to be submitted to the Area Manager, (identified in Appendix 4) on the FMO form, "Request for Installation of Air Conditioning".
2. FMO will evaluate the request against the policy and advise the originator accordingly.
3. FMO will arrange for all air conditioning installations.

Contact your Area Manager for:

1. Clarification of the procedures.
2. A copy of the current air conditioning policy.
3. A copy of the "Request for Installation of Air Conditioning" form.
4. A list of recommended contractors.

**The University of Sydney
Facilities Management Office**

Request for Installation of Air Conditioning

Building

Building No.

Room No (s).....

Department/Service/Centre/External Organisation.....

.....

Name of person requesting Air Conditioning

.....

Title

Extn

A. The Need

What is the intended use of this space and why is air conditioning necessary?

.....

.....

.....

.....

.....

B. Other Alternatives

Are there other spaces with suitable air conditioning that could accommodate the function or piece of equipment?

If YES state room No (s).....

.....

.....

.....

C. Design Requirements

1. Size of Room

Length.....

Width

Height

2. Window size

Height

Width

3. Window orientation (circle one) North South East West

Are the windows shaded? YES/NO

If YES by what?

4. How many people work in that room?

5. No. and rating of lights. Watts

6. Electronic equipment & power rating Watts

Personal computer power rating.....Watts

Other

7. Are there any fume cupboards in the room? YES/NO. If yes how many?

- 8. No. of laboratory animals
- 9. Other heat producing sources

 - Photocopier
 - Refrigerator
 - Dishwasher
 - Oven
 - Other

- 10. Temperature requirements..... 0⁰C +/-..... 0⁰C
- 11. What governs conditions? (circle as appropriate)
Human Comfort - Electronic Equipment - Books - Artefacts
Laboratory Animals - Instruments - Other
.....
- 12. Is outside air flow rate critical? YES/NO
Why?.....
- 13. Is air filtration requirement critical? YES/NO
Why?.....
- 14. Will there be any chemical, radioactive or biological hazards in the rooms?
If YES state what type.....
.....
- 15. Are there any other occupational, radioactive or biological hazards in the rooms?
If YES state what type.....
.....
- 16. Operational hours of the room.....Hours/day
- 17. Other comments or information.....
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.....
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D. Funding of Air Conditioning Installations

Functional

All costs including supply, installation, reinstatement and replacement will be from the Capital Development Program, provided specific funding is available. If Users have not prearranged funds and cannot wait until the next program, they may fund the installation themselves.

Comfort

The costs of installations necessitated by human comfort criteria will be funded from the Capital Development Program, provided specific funds are available. Where the criteria are not met, the costs shall be funded by the User.

Source of Funds

Is the work User funded? YES/NO

If YES (State Account Code)
.....

I acknowledge the design requirements as being correct.

Principal User of Room

Date

Head of Department

Date

I recommend the work as requested

Dean, Faculty of.....
(or Head of Administrative Group)
PVC/DVC's recommendation

Signature.....

Date

Approval of DVC (Planning & Resources)

Signature.....

Date

Appendix 2

Guidelines for Air Conditioning Installation

1. Design and Selection of Air Conditioning System

Design and selection of any air conditioning system will depend mainly on the following factors:

1. Outdoor design conditions.
2. Indoor design requirements of the space as nominated by the User.
3. Internal heat gain from equipment and people.
4. External heat gain depending on space location and building structure.
5. Requirements of statutory authorities.
6. Approval given by the Facilities Management Office and/or other affected tenants for any interference with the fabric or services of the building.

The User shall nominate the design requirements, equipment heat load, etc of the space and advise the chosen contractor from the list provided by the Facilities Management Office.

2. Quotation Procedure

1. All quotations must comply with the University's "Purchasing Policy ,Guidelines and Procedures", and be obtained in a form similar to the attached Facilities Management Office "Works and Services Quotation Form".

Recommended Contractor List

Contact the Facilities Management Office Engineer or Mechanical Services Officer for a current listing of recommended small air conditioning installation contractors.

Appendix 3

Building Facades to be Protected

4 December 1996

Bldg Code	Building Name	Remarks
A04	R.D. Watt Building	Classified by National Trust South Facade
A08	Zoology Building and Insectarium	Classified by National Trust South & East Facade
A09	Holme Building - Union	Classified by National Trust South, East & West Facade
A10	Science Road Cottage	South & West Facade
A11	Old Geology Building	Classified by National Trust South & West Facade
A12	Botany Building and Macleay Museum	Classified by National Trust All Facades
A14	Main Building	Classified by National Trust All Facades
A15	Pharmacy and Bank Building	Classified by National Trust North Facade
A16	Badham Building	Classified by National Trust North & South Facade
A17	Mungo MacCullum Building	South Facade
A18	Christopher Brennan Building	South Facade
A19	Griffith Taylor Building	South Facade
A20	John Woolley Building	External walls of building only All Facades
A22	Teachers' College	External walls of building only All Facades
A23	Manning House	All Facades
A26	R.C. Mills Building	North, South & East Facade
A27	Edward Ford Building	Classified by National Trust North & East Facade
A28	Physics School	Classified by National Trust North, East & West Facade
A30	Sports Centre	East Facade
B01	J.D. Stewart Building	Classified by National Trust North, South & East Facade
B10	Evelyn Williams Building and Veterinary Clinic	North, South & East Facade
B19	R.M.C. Gunn Building	North & East Facade
D02	Q.E.2 Res. Inst. and Cop. Post. Med. Inst.	South & East Facade

D04	Bosch Building 1A - Theatres	North, East & West Facade
D05	Bosch Building 1B	East Facade
D06	Blackburn Building	East Facade
F02	Baxter's Lodge	Classified by National Trust North, South & West Facade
F03	Fisher Library	All Facades
F04	Fisher Library bookstack	All Facades
F05	Edgeworth David Building	All Facades
F06	Stephen Robert's Theatre	East Facade
F07	Carlsaw Building and Lecture Theatres	South & East Facade
F09	Madsen Building	External building walls only. All Facades
F11	School of Chemistry	All Facades
F13	Anderson Stuart Building	External walls. All Facades
F18	Gatekeeper's Lodge - City Road	North, East & West Facade
K01	Mackie Building	North Facade
K02	Selle House	North Facade
K07	A.M.A. Building	North, South & East Facade
G01	Wentworth Building	North, South & West Facade
G04	Wilkinson Building	All Facades
G06	International House	North & South Facades
G08	Biochemistry Building	All Facades
G12	Services Building	North, South & West Facades
G15	Old School Building	All Facades
H02	Sydney University Press	Classified by National Trust. All Facades
H03	Institute Building	Classified by National Trust. North, East & West Facades
H04	Merewether Building	External building walls only. North, East & West Facades
H08	University Computing Centre	North & South Facade
H13	86 Darlington Road Economics	Classified by National Trust North Facade
H14	87 Darlington Road Economics	Classified by National Trust North Facade
H15	88 Darlington Road Privately Owned	Classified by National Trust North Facade
H16	90 Darlington Road Privately Owned	Classified by National Trust North Facade
H17	91 Darlington Road Privately Owned	Classified by National Trust North Facade
H18	92 Darlington Road Privately Owned	Classified by National Trust North Facade

H19	93 Darlington Road Privately Owned	Classified by National Trust North Facade
H20	94 Darlington Road Vacant	Classified by National Trust North Facade
H21	95 Darlington Road Protected Tenant	Classified by National Trust North Facade
H22	96 Darlington Road Protected Tenant	Classified by National Trust North Facade
H23	97 Darlington Road Privately Owned	Classified by National Trust North Facade
H24	98 Darlington Road Australian Centre for Gay & Lesbian Research	Classified by National Trust North Facade
H25	99 Darlington Road Protected Tenant	Classified by National Trust North Facade
H26	100 Darlington Road Student Accommodation	Classified by National Trust North Facade
H27	101 Darlington Road Protected Tenant	Classified by National Trust North Facade
H28	102 Darlington Road Golden Key National Honour Society	Classified by National Trust North Facade
H29	103 Darlington Road Protected Tenant	Classified by National Trust North Facade
H30	104 Darlington Road Protected Tenant	Classified by National Trust North Facade
H31	105 Darlington Road Student Accommodation	Classified by National Trust North Facade
H32	106 Darlington Road Graduate School of Business	Classified by National Trust North Facade
H33	107 Darlington Road Protected Tenant	Classified by National Trust North Facade
H34	108 Darlington Road Ocean Sciences Institute	Classified by National Trust North Facade
H35	109 Darlington Road Student Accommodation	Classified by National Trust North Facade
H36	110 Darlington Road Museum Studies	Classified by National Trust North Facade
H37	111 Darlington Road Human Nutrition Unit	Classified by National Trust North Facade
H38	112 Darlington Road Protected Tenant	Classified by National Trust North Facade
H39	113 Darlington Road Graduate School of Business	Classified by National Trust North Facade
H40	114 Darlington Road Graduate School of Business	Classified by National Trust North Facade

H41	115 Darlington Road Graduate School of Business	Classified by National Trust North Facade
H42	116 Darlington Road Oceania Publications Journal of Religious History	Classified by National Trust North Facade
H43	117 Darlington Road Protected Tenant	Classified by National Trust North Facade
H44	118 Darlington Road Institute for Study Abroad	Classified by National Trust North Facade
H45	119 Darlington Road Protected Tenant	Classified by National Trust North Facade
H46	120 Darlington Road Privately Owned	Classified by National Trust North Facade
H47	121 Darlington Road EEO Unit	Classified by National Trust North Facade
H48	122 Darlington Road Protected Tenant	Classified by National Trust North Facade
H49	123 Darlington Road Protected Tenant	Classified by National Trust North Facade
H50	124 Darlington Road Protected Tenant	Classified by National Trust North Facade
H51	125 Darlington Road Australian Architect Institution at Athens	Classified by National Trust North Facade
H52	126 Darlington Road Vacant	Classified by National Trust North Facade
H53	127 Darlington Road Women's Study Centre	Classified by National Trust North Facade
H54	128 Darlington Road Student Accommodation	Classified by National Trust North Facade
H55	129 Darlington Road Student Accommodation	Classified by National Trust North Facade
H56	130 Darlington Road Vacant	Classified by National Trust North Facade
H57	131 Darlington Road Student Accommodation	Classified by National Trust North Facade
J01	Chemical Engineering	All Facades
J02	PNR Building & Theatre	All Facades
J03	Electrical Engineering	All Facades
J05	Civil Engineering	All Facades
J07	Mechanical & Aeronautical Engineering	All Facades
J09	Seymour Centre	North & West Facade
L02A	Sydney Institute of Education	West Facade
L02O	Sydney Institute of Education	North, East & West Facade

M02A	Institute of Nursing Studies Mallet Street Newtown	North, East & West Facade
M02B	Institute of Nursing Studies Mallet Street Newtown	East Facade
M02C	Institute of Nursing Studies Mallet Street Newtown	South & West Facade
M02D	Institute of Nursing Studies Mallet Street Newtown	North & West Facade
M02E	Institute of Nursing Studies Mallet Street Newtown	East & West Facade
M02F	Institute of Nursing Studies Mallet Street Newtown	South, East & West Facade
M02G	Institute of Nursing Studies Mallet Street Newtown	North & West Facade
M02H	Institute of Nursing Studies Mallet Street Newtown	North, South & West Facade

Appendix 4

The Facilities Management Office Area Managers

Last Updated 29 April 1999

The names of the Area Managers and the buildings they manage are as follows:

Area Manager	Building Numbers
Linda Pigott Telephone ext 1-2083 Facsimile ext 1-6489 Mobile No. 0419 206 642	Administration and Faculty of Veterinary Science (including Carillon Avenue, Melanie Alexander Child Care Centre & Australian Graduate School of Business Management) A14, A21, B01-22, D07, D11, F02, F03, F04, F06, F18, G10, G11, G12, G13, G14, H05, H07, H08, H12, J10, K01, K07, L02R
Robert Stanborough Telephone ext 1-3442 Facsimile ext 1-6489 Mobile No. 0419 206 656	Humanities & Social Sciences (including Darlington Road Terraces, Law School, Rozelle & Conservatorium of Music) A17, A18, A20, A22, A26, A35, A36, F12, G15, H02, H03, H04, H10, J09
Sid Briggs Telephone ext 1-3457 Facsimile ext 1-6489 Mobile No. 0419 206 660	Health Sciences (includes Cumberland, Mallett Street & Dental Health) A15, A27, A27A/B/C, D02, D04, D05, D06, F13, M01 - M02
Steve Atherton Telephone ext 1-3211 Facsimile ext 1-6489 Mobile No. 0418 262 451	Sciences & Technology (includes Camden, Narrabri & Molonglo excluding Faculty of Veterinary Science) A03, A04, A04A/B, A05, A05A, A06, A07, A08, A10, A11, A12, A13A-F, A16, A19, A28A/B, A29, E01, F05, F07, F09, F11, G02A-C, G03, G04, G05, G07, G08, J01, J01A, J02, J03, J04, J05, J06, J07, J11, J13