Aboriginal Housing Office
Air Conditioning Guidelines

12 March 2017

These guidelines outline the AHO's requirements for
the provision of air conditioning systems in Aboriginal housing in NSW.

NSW GOVERNMENT Family & Community Services

Aboriginal Housing Office

Document approval

The Aboriginal Housing Office Air Conditioning Guidelines has been endorsed and approved by:

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Director	CEO
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1 Purpose of guidelines

1.1 Purpose

The purpose of the AHO Air Conditioning Guidelines is to support the AHO Air Conditioning Policy.

1.2 Background

These guidelines should be read in conjunction with the AHO Air Conditioning Policy. The policy was initiated from a need expressed by tenants and Aboriginal Community Housing Providers (ACHPs) to provide cooling systems in social housing located in areas of NSW which experience high summer temperatures. The AHO endorsed this need while also recognising that there are health and social benefits to be gained from installing cooling systems in areas which experience severe summer temperatures.

The methodology used to determine which housing is eligible for the installation of cooling systems is housing located within the Isotherm 33 boundary.

Isotherms are climatic lines related to temperature zones with the data being obtained from the Bureau of Meteorology. The Isotherm 33 boundary covers most of the far west and north west of NSW. The average January maximum temperature within Isotherm 33 is between 33 - 36 degrees Celsius, with many areas in NSW within this boundary experiencing consistent temperatures in the high thirties and above forty degrees. See Appendix 1 for Isotherm coverage.

Residents with certified medical conditions may also be eligible for installation of air conditioning systems.

2 Definitions

The table below is a list of terms, keywords and/or abbreviations used throughout this document.

Term	Definition
ACHP	Aboriginal Community Housing Provider
AHO	Aboriginal Housing Office
Community Housing Provider	A social housing provider registered under the National Regulatory System for Community Housing
FACS	(Department of) Family and Community Services
Registered ACHP	An Aboriginal Community Housing Provider registered under Section 26 the Aboriginal Housing Act (1998).
AIRAH	Australian Institute of Refrigeration, Air Conditioning and Heating
MEPS	Minimum Energy Performance Standards
AS	Australian Standard
NCC	National Construction Code

3 Guidelines

3.1 Mechanical cooling system selection

Refrigerated single split systems (non-ducted) have been selected as the preferred cooling system type for air conditioning systems for the following reasons:

- Good performance in humid or extremely hot weather
- Ability to provide very efficient heating
- A very significant cost benefit, both in terms of capital cost, ongoing costs and whole of life costs

The provision of cooling is by geographical location, which is determined as being within the Bureau of Meteorology Isotherm 33+ area (see Appendix 1).

More specifically:

- For all AHO owned properties within the Isotherm 33+ area that have no cooling in living areas – a split system will be installed as follows:
    - smaller houses up to 3 bedrooms – one split system will be installed in the living area
    - larger houses 4 bedrooms and above with 2 living areas – two split systems will be installed (one in each living area)
    - where this is not clear (for example larger houses with only one living area) the AHO will determine the number of split systems to be installed on a case by case basis.
- The split system also provides an efficient heating source hence:
    - any new AHO property within the Isotherm 33+ area will be provided with a split system which also provides an adequate heating source.
    - existing AHO properties within the Isotherm 33+ area will retain their existing heating source.
- For all AHO owned properties within the Isotherm 33+ area that have an adequate existing cooling system (split system or whole of house evaporative) in the living area – these dwellings will be left as is.

The following guidelines relating to existing cooling systems in dwellings reviewed by the AHO also apply:

- Window rattlers or split systems in bedrooms – if deemed safe will be retained. If deemed unsafe a duty of care letter will be issued to the tenant by the Provider to make safe or decommission/remove. If the tenant does not make safe the unit will be decommissioned and/or removed by the AHO.
- Window rattlers - in living areas these are to be removed by the AHO and replaced with the more efficient split system.
- Single room evaporative coolers – in living areas these are to be removed by the AHO and replaced with the more efficient split system.

In bedrooms these are to be removed by the AHO if acceptable to the tenant.

3.2 Split system sizing

The split systems are to be sized appropriately for the specific living area to be air-conditioned. The units are to be neither over or under sized.

The Fair Air calculator[1] is to be used to size air-conditioning systems. The Fair Air calculator has been developed by Australian Institute of Refrigeration, Air Conditioning and Heating (AIRAH). The inputs required by the calculator include:

- Region
- Area and height of room to be cooled
- Insulation and shading
- Window area

3.3 Split system selection

Systems are to be provided from a reputable manufacturer and are to have the following attributes (minimum standards):

- Factory assembled, fully automatic, split, refrigerated air cooled, heat pump with one condensing unit connected to one fan coil unit
- Inverter type, capable of continually adjust its cooling and heating capacity to suit the temperature in the room
- Easy filter removal for cleaning
- Compressor delay start protection
- Inbuilt safety controls
- Thermostatic controls
- Able to meet acoustic requirements
- Able to provide cooling and heating

The systems are to provide and maintain comfort conditions within the rooms to scheduled parameters.

The split systems selected will be of high quality, suitable for remote regions, widely available and high efficiency.

AHO will determine the specific makes and models to be installed.

The split systems will be installed with a wall mounted control. No remote control will be provided. This is in response to concerns from housing providers regarding remote controls being lost. For people with mobility issues consideration will be given to providing a remote control.

The split systems will be installed with a restricted range of thermostat settings to assist with preventing energy poverty. This is to be achieved

[1] http://www.fairair.com.au/calculator.size.aspx

through the provision of a wired control panel to control the air conditioning units. All proprietary control panels are to be lockable and disabled except for temperature adjustment 20 to 24°C. The restricted range of thermostat settings will enable the systems to provide comfort while minimising energy consumption and costs for tenants.

The split systems condensing units will be installed high up on an outside wall mounted on a wall bracket to minimise accidental/intentional damage and reduce dust/insect intrusion. Outdoor units are to be at least 1200mm above ground level.

3.4 Warranties

A manufacturer's warranty of at least five years is required.

An installer's workmanship warranty of at least two years is required.

3.5 Split system installation

The contractor is to establish safe working procedures applicable to each site. A risk assessment and Safe Work Method Statement are to be developed and used.

Split systems must be designed, installed and maintained to the relevant provisions of AS1677 including pipework, fittings, wiring and accessories necessary for the proper functioning of the installation.

The contractor is required to seal all penetrations to prevent insect infestations.

The outdoor units are to be installed in a shaded position where possible (for example the southern side of the house). Where full shading is not possible an awning or a shade mesh that does not impede airflow around the unit is to be fitted.

The indoor units are to be located as close as practical to the relevant outdoor units while providing effective cooling to the living area.

All contractors shall have as a minimum:

- Relevant builders licence
- Arctick licence
- Electrical licence
- Their own experienced and qualified air-conditioning service and maintenance team

The contractor is to provide training of the tenant in the operation and maintenance of the split system. This training is to include how to use the system efficiency. Training guidelines and materials for the successful contractor will be provided by the AHO.

The contractor is to test and commission all installed systems.

Operating and maintenance manuals are to be provided to the AHO.

3.6 Australian Standards

The contractor is to comply with all relevant requirements of any Australian Standards that are called up by Legislation, Codes or Authorities.

Compliance with the latest edition of the following Australian Standards are required:

- AS1055: Acoustics - Description and measurement of environment noise
- AS1677: Refrigerating systems
- AS3000: SAA Wiring Rules
- AS/NZS3018: Electrical installations - Domestic installations
- AS/NZS3350: Safety of household and similar electrical appliances, Part 2.40 - Electrical heat pumps air conditioners and dehumidifiers
- AS3823: Performance of electrical appliances – Air conditioners and heat pumps
- AS4269: Complaints handling
- AS4426: Thermal insulation of pipework, ductwork and equipment - Selection, installation and finish

3.7 Medical conditions

Tenants with medical conditions are able to apply for an air conditioning system to be installed. To be eligible a tenant must apply in writing and provide a specialist assessment outlining the medical reasons to the AHO to be assessed.

If approved, the tenant will be notified in writing and installation will follow the policy and guidelines. If not approved, a tenant will be notified in writing outlining the reasons for the decision.

3.8 Tenant installation and reimbursement

Tenants can arrange an air conditioning system to be installed at their own expense only if:

- The modification is AHO approved
- Work is carried out by a licensed tradesperson, who is to then provide a certificate of installation
- The cost is at the tenants own expense

If a tenant is approved to install an air conditioning system at their own expense and they are to vacate the property, the tenant will be required to leave the equipment or reinstate the property to its original condition when the tenant vacates.

Tenants can apply for reimbursement for approved air conditioning installations only when the:

- tenant is relocated for management purposes to another property, or
- alterations cannot be removed from the property and relocated to a new property

Reimbursement will be calculated by determining the value of the alteration, less wear and tear.

4 Support and advice

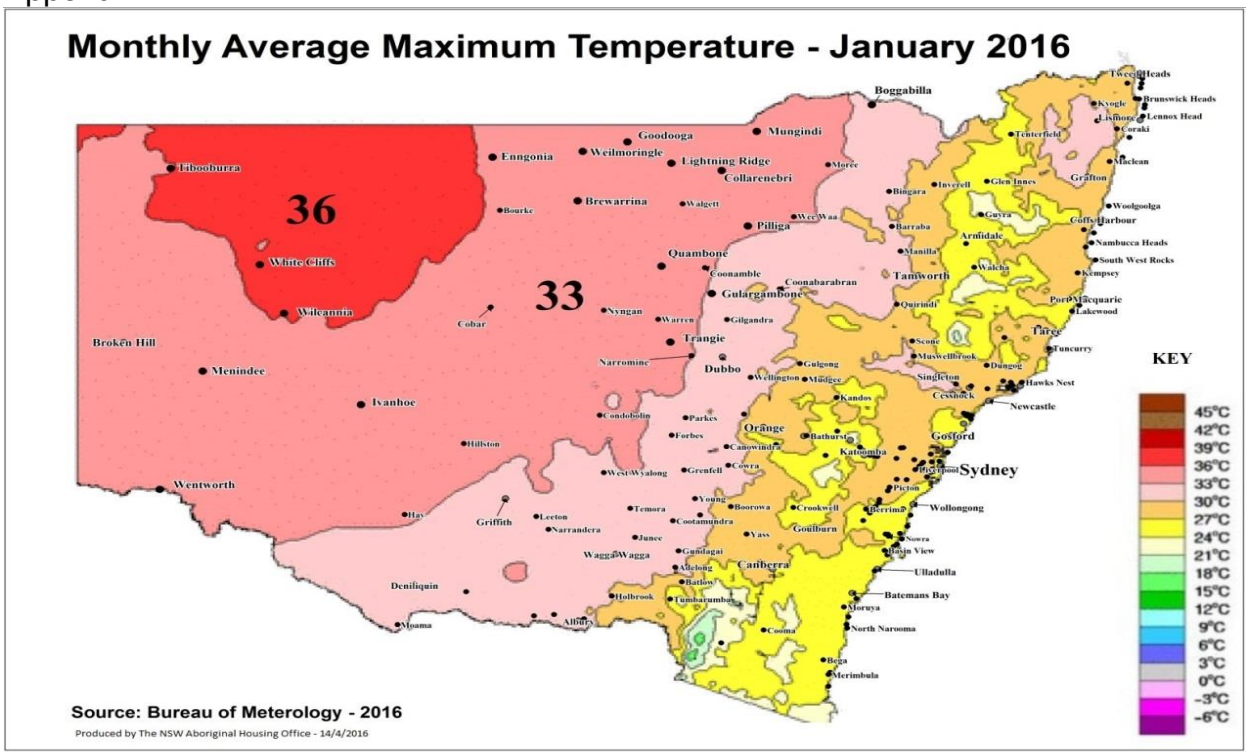
Support and advice about these guidelines can be obtained from:

- AHO Strategic Finance and Asset Management Directorate

If you are reviewing a printed version of this document, please refer to the AHO Internet to confirm that you are reviewing the most recent version of the guidelines.

Following any subsequent reviews and approval, these guidelines will be uploaded to the internet and/or intranet and all previous versions removed.

Appendix 1


Monthly Average Maximum Temperature - January 2016
36
33
Boggabilla
Goodooga
Mungindi
Enngonia
Weilmoringle
Lightning Ridge
Collarenebri
Moree
Tibooburra
Brewarrina
Walgett
Bourke
Pilliga
Wee Waa
Quambone
White Cliffs
Coonamble
Coonabarabran
Gulargambone
Wilcannia
Nyngan
Warren
Gilgandra
Cobar
Trangie
Broken Hill
Narromine
Dubbo
Menindee
Wellington
Gulgong
Mudgee
Ivanhoe
Kandos
Condobolin
Parkes
Orange
Forbes
Bathurst
Hillston
Canowindra
Katoomba
Grenfell
Cowra
West Wyalong
Sydney
Wentworth
Young
Boorowa
Crookwell
Picton
Wollongong
Griffith
Lecton
Temora
Cootamundra
Goulburn
Narrandera
Junee
Yass
Wagga Wagga
Gundagai
Canberra
Deniliquin
Batlow
Ulladulla
Holbrook
Tumbarumba
Batemans Bay
Moruya
Albury
Cooma
North Narooma
Bega
Merimbula
Tweed Heads
Brunswick Heads
Lennox Head
Coraki
Tenterfield
Maclean
Grafton
Inverell
Glen Innes
Bingara
Gunnedah
Barraba
Armidale
Woolgoolga
Coffs Harbour
Nambucca Heads
South West Rocks
Manilla
Tamworth
Walcha
Kempsey
Port Macquarie
Lakewood
Quirindi
Scone
Taree
Muswellbrook
Tuncurry
Singleton
Dungog
Hawks Nest
Cessnock
Newcastle
KEY
45°C
42°C
39°C
36°C
33°C
30°C
27°C
24°C
21°C
18°C
15°C
12°C
9°C
6°C
3°C
0°C
-3°C
-6°C
Source: Bureau of Meterology - 2016
Produced by The NSW Aboriginal Housing Office - 14/4/2016