



Government
of South Australia

Department for
Energy and Mining

Technical
Regulator
Guideline

Demand response capability requirements for installation of all air conditioning types

Subject to Greenhouse and Energy
Minimum Standards (GEMS)
(excluding portable and close
control air conditioners), up to a
cooling capacity of 19kW inclusive.



Energy and Technical Regulation

Department for Energy and Mining
Level 4, 11 Waymouth Street, Adelaide
GPO Box 320, Adelaide SA 5001

Phone +61 8 8463 3000

Email DEM.smartappliances@sa.gov.au

www.energymining.sa.gov.au

South Australian Resources Information Gateway (SARIG)

map.sarig.sa.gov.au



© Government of South Australia 2023

With the exception of the piping shrike emblem and where otherwise noted, this product is provided under a [Creative Commons Attribution 4.0 International Licence](https://creativecommons.org/licenses/by/4.0/).

Disclaimer

The contents of this document are for general information only and are not intended as professional advice, and the Department for Energy and Mining (and the Government of South Australia) makes no representation, express or implied, as to the accuracy, reliability or completeness of the information contained in this paper or as to the suitability of the information for any particular purpose. Use of or reliance upon the information contained in this paper is at the sole risk of the user in all things and the Department for Energy and Mining (and the Government of South Australia) disclaim any responsibility for that use or reliance and any liability to the user.

Preferred way to cite this publication. Department for Energy and Mining 2023. Demand response capability requirements for installation of all air conditioning types subject to Greenhouse and Energy Minimum Standards (GEMS) (excluding portable and close control air conditioners), up to a cooling capacity of 19kW inclusive. Energy and Technical Regulation. Department for Energy and Mining, South Australia, Adelaide.

Approved by

Rob Faunt	Technical Regulator		September 2023
-----------	---------------------	---	----------------

Revision History

Revision	Revision Date	Summary of Change	Author
1.0	2022	Final Version for Publication	Justin Ward
1.1	13 February 2023	Amended scope to not include close control air conditioners.	Ian Furness
1.2	May 2023	This revision clarifies an expected timeframe for a separate part or component to be supplied when requested. It also adds some general exemptions.	Justin Ward
1.3	September 2023	Amended scope to clarify that the following air conditioners are not within the scope of this guideline – evaporative air conditioners and air conditioners supplied with a mains plug for connection into a mains socket/wall socket and that are not permanently installed via hard wiring.	Justin Ward



Contents

1. OBJECTIVES	4
2. SCOPE	4
3. DEFINITIONS.....	4
4. DEMAND RESPONSE CAPABILITY REQUIREMENTS FOR AIR CONDITIONERS UNDER THIS GUIDELINE	6
5. INSTALLER REQUIREMENTS AND GUIDANCE FOR SUPPLIERS AND MANUFACTURERS	7
6. APPLYING TO REGISTER AIR CONDITIONERS UNDER THIS GUIDELINE.....	8
7. EXAMPLE OF FORM A	10
8. EXEMPTIONS.....	12

1 Objectives

The objectives of this guideline are to:

- specify demand response capability requirements for air conditioning types within the guideline's scope, set by the Technical Regulator under Regulation 58A of the *Electricity (General) Regulations 2012*; and
- specify how installers of these air conditioners must comply with these requirements; and
- suggest how suppliers and manufacturers of these air conditioners can ensure that these air conditioners comply with these requirements.

2 Scope

This guideline applies to the installation and connection to the South Australian electricity distribution network of air conditioning types subject to Greenhouse and Energy Minimum Standards (GEMS) (excluding portable and close control air conditioners), up to a cooling capacity of 19kW inclusive.

Additionally, the following air conditioners are not within the scope of this guideline and do not need to meet the guideline's demand response requirements:

- Evaporative air conditioners;
- Air conditioners supplied with a mains plug for connection into a mains socket/wall socket and that are not permanently installed via hard wiring.

This guideline will apply as of 1 July 2023.

3 Definitions

Air Conditioner

A device that:

- (a) is capable of cooling, heating, or both cooling and heating, a conditioned space using a vapour compression cycle driven by an electric compressor; and
- (b) contains one or more condensers, one or more evaporators, and one or more fans; and
- (c) is designed for cooling, heating, or both cooling and heating, of a conditioned space primarily for human comfort.

whether it has additional functions such as dehumidification, air purification, ventilation, heat recovery, sanitary water heating, and supplementary air heating via electric resistance heating.



Close Control Air Conditioner

Close control air conditioners are used where temperature and humidity are required to be monitored and maintained within narrow limits, for example, use in computer rooms, data processing units, telecommunications facilities and other industrial process areas. This guideline, close control air conditioners are defined in Clause 4.1 of AS/NZS 4965.1:2008.

Demand Response Mode (DRM)

Mode of operation within specified conditions, constraints, or parameters during a demand response event (Table 1).

Table 1 Demand response modes

DRM	General description of required response
0	Disconnect, if equipped with a disconnection
1	No load, or minimal load
2	Restrict load to no greater than 50% of reference value
3	Restrict load to no greater than 75% of reference value
4	Commence operation or increase load
5	No discharge of energy to the grid
6	Restrict discharge to no greater than 50% of a reference value
7	Restrict discharge to no greater than 75% of a reference value
8	Commence or increase discharge of energy to the grid

Portable air conditioners

An air conditioner is portable if it:

- (a) is designed to be portable; and
- (b) is supplied and offered for supply for portable applications only; and
- (c) complies with AS/NZ 60335.2.40; and
- (d) has the following features:
 - (i) a casing that encloses the entire air conditioner, including the back;
 - (ii) castors, wheels or feet;
 - (iii) flexible ductwork that is:
 - (A) either supplied with the air conditioner or available as additional accessories, for adapting to various portable installation situations
 - (B) designed to temporarily fit, via specialised attachments, to a partially opened window or door;
 - (iv) a length of power cord with a mains plug

- (e) does not have any of the following:
- (i) permanent wall or window mounting brackets, either on the air conditioner, in the packaging, or as a separately supplied accessory;
 - (ii) available instructions that demonstrate how to fix the air conditioner (other than the ductwork) to a wall or window;
 - (iii) other accessories, such as pipes and flanges, designed to allow permanent wall or window mounting

Remote Agent

A person, organisation, or entity, other than the user or owner, who is:

- (a) authorised to initiate demand response by transmitting commands and operational instructions
- (b) responsible for secure communications with the electrical product.

4 Demand response capability requirements for air conditioners under this guideline

Air conditioners within the scope of this guideline shall comply with any of the following standards:

- AS/NZS 4755.3.1:2014; or
- AS/NZS 4755.2 (when published); or
- the equivalent of the superseded AS/NZS 4755.3.1.2012 (for a limited period until 1 July 2025 or 12 months after the publication of AS/NZS 4755.2, whichever is the later date).

These air conditioners are also required to comply with three DRMs - DRM1, DRM2, DRM3. The Technical Regulator may add other standards in future revisions of this guideline.



5 Installer requirements and guidance for suppliers and manufacturers

5.1 Installer requirements

An installer must not install or connect an air conditioner of a type that is within the scope of this guideline unless the product complies with the demand response capability requirements in Part 4 of this guideline. To assist with determining this compliance, installers can view a list of air conditioner types that the Technical Regulator has registered as complying with this guideline (compliance list). They can access this list via the Office of the Technical Regulator's (OTR) website portal: www.energymining.sa.gov.au/airconregs

Regarding Category 3 on the compliance list, the Technical Regulator is not specifying a timeframe for supply of this separate part or component. However, the Technical Regulator expects suppliers and manufacturers to identify the part or component and undertake to supply the part or component (upon request) within a reasonable timeframe.

The following is a summary of the installer requirements for products under this guideline.

If the product is eligible under the Energex PeakSmart program (Peaksmart)

The installer can install the product and only needs to complete an eCoC. When doing this, they will need to register details of the location of the installation. They will also need to nominate the model that they have installed, using the compliance list drop down menu on the OTR's electronic Certificate of Compliance (eCoC) portal.

The Technical Regulator will deem the product to comply with the demand response capability requirements in Part 4 of this guideline. The Technical Regulator will automatically register the product and include it on the compliance list.

If the product is not eligible under PeakSmart and is not on the compliance list

Before installing the product, the installer needs to be sure that it meets the demand response requirements in the guideline.

A way that installers can assure themselves about this is by contacting their product supplier or the product manufacturer and asking them to apply to register the air conditioner under this guideline. Part 6 of this guideline outlines the registration process. Once registered, the Technical Regulator will add the air conditioner to the compliance list.

Following the installer installing an air conditioner that meets the demand response requirements in the guideline, they need to complete an eCoC. When doing this, they will need to register details of the location of the installation. They will also need to nominate the model that they have installed. If applicable to this model, they can use the compliance list drop down menu on the eCoC portal.

5.2 Guidance for suppliers and manufacturers

Air conditioners of a type that is within the scope of this guideline cannot be connected to the South Australian electricity distribution network unless they meet the demand response capability requirements in Part 5 of this guideline.

Whilst registration of products under the guideline is optional, the Technical Regulator encourages suppliers and manufacturers to apply to register products that are not eligible under PeakSmart. This will assist installers with their responsibilities under the guideline.

Suppliers and manufacturers can view the compliance list to determine whether products are eligible under PeakSmart. This list is available on the OTR's website portal: www.energymining.sa.gov.au/airconregs

The following is a summary of the guidance for suppliers and manufacturers of products under this guideline.

If the product is eligible under PeakSmart

The Technical Regulator will automatically register the product and include it on the compliance list.

If the product is not eligible under PeakSmart

Whilst suppliers and manufacturers are not required to register the product, the Technical Regulator encourages either of them to apply to register their product under this guideline. Part 6 of this guideline outlines the registration process. Once registered, the Technical Regulator will add the product to the compliance list.

6 Applying to register air conditioners under this guideline

This section describes how a product supplier or manufacturer applies to register a product that **is not eligible under the Energex PeakSmart program**.

The Technical Regulator reserves the right to:

- Seek further information regarding an application for registration, whether from the applicant or other sources Request further evidence that a product meets the requirements of these guidelines
- Commission independent testing to verify that a product meets the requirements of this guideline. This includes verification of a product's performance through physical testing. Performance means the ability of the product, when properly installed and commissioned, to respond to commands or instructions from an actual or simulated remote agent
- Remove a product from the compliance list. The Technical Regulator can do this if they assess that the information supplied with the application for registration was incorrect. They can also do this if they assess that the product no longer complies with the requirements of this guideline, or the registrant voluntarily requests removal.



6.1 Registration application process

To apply to register a product that **is not eligible under the Energex PeakSmart program**, the product supplier or manufacturer must submit to the Technical Regulator a completed Form A. The product supplier or manufacturer can access and submit this form using the OTR's web portal: www.energymining.sa.gov.au/airconregs. Part 7 of this guideline provides an example of what the form will look like.

- Approved by the Technical Regulator to perform the relevant test or examination. If the characteristics of the product (as offered for supply or as already installed) change in future so that it no longer complies, it is the obligation of the registrant to inform the Technical Regulator.

6.2 Form A

The product supplier or manufacturer is to complete and sign Form A. It is a declaration about a product's compatibility with the demand response capability requirements in Part 4 of this guideline.

The Technical Regulator may accept this declaration as sufficient for registration. Or they may request the applicant to submit additional information to prove that the product complies with demand response capability requirements in Part 4 of this guideline.

This additional information may include a copy of a test report from an accredited test laboratory or facility that satisfies the Technical Regulator. Examples of these accredited test laboratories or facilities include those:

- Accredited by the National Association of Testing Authorities, Australia (NATA) to perform the relevant test or examination; or
- Accredited by another body, operating under a reciprocal agreement with NATA, to perform the relevant test or examination (i.e., this refers to ILAC Mutual Recognition Arrangement (MRA) signatory bodies); or

7 Example of Form A

The below form is an example of what Form A will look like.

To access and submit Form A: [Submit an air conditioner product for registration on the Technical Regulator Compliance list](#)

Product Registration Form

South Australia Technical Regulator Guideline

Demand response capability requirements for installation of all air conditioning types subject to Greenhouse and Energy Minimum Standards (GEMS) (excluding portable and close control air conditioners), up to a cooling capacity of 19kW inclusive, Version 1.2, May 2023.

Company information	
Supplier or manufacturer company name (as applicable)	
Company Australian Business Number	
Company website	
Company registered address	
Contact person (A name, address and contact details for a person in Australia shall be provided)	
Name	
Address	
Position/title	
Telephone	
Email	
Mobile	
Product information	
Brand name of the product	
Model designation. Please list all model designations of this product that you are submitting for registration. These designations can include numbers or names or combinations of characters, including wildcards. Please use a comma to separate individual model designations.	
Model number of separate part or component that can be added to the product to give it demand response capability (if applicable)	



Product manufacturer	
Date the manufacture of this model commenced/will commence.	
Country of manufacture. If the model designation/s you have listed above have multiple countries of manufacture, you can list up to three countries. If the models have more than three countries of manufacture, please provide the main three countries of manufacture by volume.	
Have you commissioned a test report or certificate that verifies that the product complies or can comply with the demand response capability requirements in Part 5 of this guideline?	
Does the product support DRM 1?	
Does the product support DRM 2?	
Does the product support DRM 3?	
Does the product have other demand response related capabilities? If so, please attach a description.	
What communications network technology does the product support (e.g. ethernet, WiFi, 3G, 4G, powerline or other)	

Declaration of Compliance
I (insert full name) on (insert current date) confirm that I am an authorised representative of (insert supplier or manufacturer company name) AND the product has (please tick appropriate box):
A demand response capability built into the product that is ready to use as supplied.
OR
A demand response capability or a potential demand response capability if a separate component or part is added.
I confirm and declare that all information provided is true and accurate, and hereby apply for registration of the product as eligible for installation in South Australia in accordance with Technical Regulator Guideline Demand response capability requirements for installation of all air conditioning types subject to Greenhouse and Energy Minimum Standards (GEMS) (excluding portable and close control air conditioners), up to a cooling capacity of 19kW inclusive, Version 1.2, May 2023

To submit an air conditioner product for registration on the Technical Regulator Compliance list:
<https://forms.sa.gov.au/#/form/62ce11e1ad9c5f1088dc0e87/>

8. Exemptions

The Technical Regulator grants the exemptions in this section under regulation 89 of the *Electricity (General) Regulations 2012*. Regulation 89 states that the Technical Regulator may grant an exemption from a specified provision or provisions of Part 10 of the regulations on terms and conditions the

Technical Regulator considers appropriate. The Technical Regulator has published this guideline using Regulation 58A, which is in Part 10 of the regulations.

The Technical Regulator may remove or alter these exemptions from time to time.

8.1 Air conditioning installations that are being performed as part of vocational training

Air conditioning installations that are being performed as part of vocational training being delivered by organisations currently registered as training organisations with the Australian Skills Quality Authority (ASQA), are

exempt from Regulation 58A of the *Electricity (General) Regulations 2012*. This means that the requirements in this guideline do not apply to them.

8.2 Installation of an air conditioner within the scope of this guideline that has previously been installed and used

Installations of air conditioners within the scope of this guideline that have previously been installed and used are exempt from Regulation 58A of the *Electricity (General) Regulations 2012*. This means that the requirements in this guideline do not apply to them.



Acknowledgement of Country

As guests here on Kurna land, the Department for Energy and Mining (DEM) acknowledges everything this department does impacts on Aboriginal country, the sea, the sky, its people, and the spiritual and cultural connections which have existed since the first sunrise. Our responsibility is to share our collective knowledge, recognise a difficult history, respect the relationships made over time, and create a stronger future. We are ready to walk, learn and work together.

Further information

Department for Energy and Mining
Level 4, 11 Waymouth Street, Adelaide
GPO Box 320, Adelaide SA 5001
T +61 8 8463 3000
E DEM.smartappliances@sa.gov.au
www.energymining.sa.gov.au/airconregs



Government
of South Australia

Department for
Energy and Mining