AS/NZS 4755.1:2017

Australian/New Zealand Standard™

Demand response capabilities and supporting technologies for electrical products

Part 1: Demand response framework and requirements for demand response enabling devices (DREDs)

STANDARDS Australia

STANDARDS NEW ZEALAND PAEREWA AOTEAROA

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The following are represented on Committee EL-054:

Airconditioning and Refrigeration Equipment Manufacturers Association of Australia
Australian Industry Group
Clean Energy Council
Consumer Electronics Suppliers Association
Consumers Federation of Australia
CSIRO
Department of Industry, Innovation and Science, Australia
Electricity Engineers Association, New Zealand
Energy Efficiency and Conservation Authority of New Zealand
Energy Networks Association
Heating, Ventilation and Air Conditioning, New Zealand
International Copper Association, Australia
Smart Grid Australia
Swimming Pool and Spa Association of Australia

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Australian/New Zealand Standard™

Demand response capabilities and supporting technologies for electrical products

Part 1: Demand response framework and requirements for demand response enabling devices (DREDs)

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-054, Remote Demand Management of Electrical Products, to supersede AS 4755—2007, *Framework for demand response capabilities and supporting technologies for electrical products*.

This Standard, together with the other parts of AS/NZS 4755, is intended to define the nomenclature, architecture and operational instructions for systems that can be used to remotely control electrical products. At the time of publication of this Part, the AS/NZS 4755 series comprises the following:

4755.1	Part 1:	Framework for demand response capabilities and requirements for demand response enabling devices (DREDs)
4755.3.1	Part 3.1:	Interaction of demand response enabling devices and electrical products—Operational instructions and connections for air conditioners
4755.3.2	Part 3.2:	Interaction of demand response enabling devices and electrical products—Operational instructions and connections for devices controlling swimming pool pump-units
4755.3.3	Part 3.3:	Interaction of demand response enabling devices and electrical products—Operational instructions and connections for electric and electric-boosted water heaters
4755.3.4	Part 3.4:	Interaction of demand response enabling devices and electrical products—Operational instructions and connections for grid-connected charge/discharge controllers for electric vehicles (EVSEs) [proposed new Standard]
4755.3.5	Part 3.5:	Interaction of demand response enabling devices and electrical products—Operational instructions and connections for grid-connected electrical energy storage (EES) systems

Note that there is currently no Part 2.

The AS/NZS 4755 Framework is also relevant to AS/NZS 4777, *Grid connection of energy systems via inverters*.

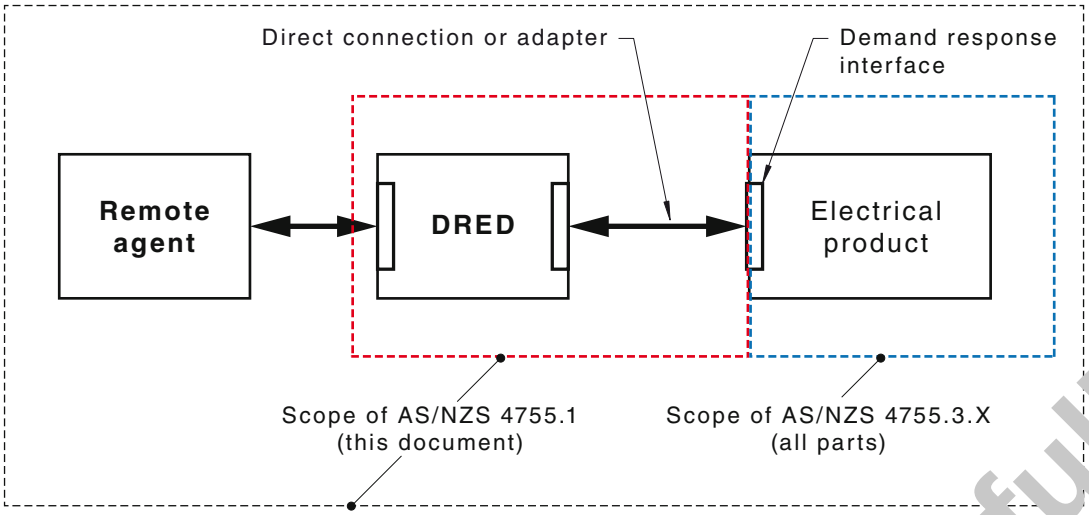
This Standard is intended to support demand response programs which optimize the operation of the electricity supply system and allow the efficient planning and use of capital equipment, while minimizing the risks to the comfort and amenity of the users of electrical products.

Demand response may be achieved in ways other than the AS/NZS 4755 framework. However, this Standard only covers the AS/NZS 4755 framework.

The following figure depicts the overall structure of AS/NZS 4755 and the place of AS/NZS 4755.1 within that structure.

All the information required to manufacture an electrical product which complies with AS/NZS 4755, Parts 3.1, 3.2, 3.3, 3.4 or 3.5 (collectively termed Part 3.X) is contained in the relevant Part, and it is not necessary to refer to AS/NZS 4755.1. All the information required to manufacture a Demand Response Enabling Device (DRED) which complies with AS/NZS 4755.1 is contained in this document, and it is not necessary to refer to AS/NZS 4755.3.X. However, remote agents and other prospective users and managers of the demand response framework described in Section 2 of this document should familiarize themselves with all Parts of AS/NZS 4755.

AS/NZS 4755.1 does not cover all aspects of construction and performance of the Demand Response Enable Device (DRED), which may be subject to other Standards.



COVERAGE OF PARTS OF AS/NZS 4755

This Standard—

(a) creates a framework that will allow off-the-shelf equipment, communications technologies and electrical products to be integrated and adopted so that demand management solutions may be developed and deployed in a timely and economical fashion;

(b) specifies the minimum functionality of a DRED;

(c) describes additional, optional functionalities which may be incorporated into a DRED; and

(d) describes various means of communicating with a remote agent which enables DREDs to be designated as distinct classes. For example, a DRED meeting the requirements of Appendix B of this Standard is designated a Class B DRED, and a DRED meeting the requirements of Appendix C is designated a Class C DRED. The appendices are normative for DREDs which are designated as belonging to a specific class. Further appendices which would create additional classes of DREDs may be added in future editions of this Standard.

A supplier who wishes to build a DRED that conforms to this Standard (AS/NZS 4755.1) but not with Appendix B or C may do so. However, the supplier would have to be able to demonstrate the ability of the DRED to receive commands from a remote agent via the communications channel(s) of which it is claimed to be capable.

The terms 'normative' and 'informative' are used in a Standard to define the application of the appendices or annexes to which they apply. A 'normative' appendix or annex is an integral part of a Standard, whereas an 'informative' appendix or annex is only for information and guidance.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies a demand response framework, which consists of a DRED complying with AS/NZS 4755.1 and one or more electrical products complying with the relevant parts of AS/NZS 4755.3.

This Standard also specifies the following:

(a) Minimum physical requirements for a DRED.

(b) Minimum levels of functionality for a DRED.

(c) Optional capabilities and functionalities.

(d) Various means of communicating with a remote agent which allow a DRED to be designated as a specific class.

NOTE: For example, a DRED that complies with the means of communication specified in Appendix B is designated a Class B DRED, and a DRED that complies with the means of communication specified in Appendix C is designated a Class C DRED.

(e) Means of connecting a DRED to the demand response interface(s) on one or more electrical products meeting the requirements of AS/NZS 4755.3.X.

NOTE: AS/NZS 4755.3.1, AS/NZS 4755.3.2, AS/NZS 4755.3.3, AS/NZS 4755.3.4 and AS/NZS 4755.3.5 are collectively called AS/NZS 4755.3.X in this document.

(f) Labelling and marking requirements for a DRED.

The Standard sets out an approach to the verification and testing of DRED capabilities.

This Standard does not—

(i) cover products with functions similar to those of DREDs that may interact with or control the operation of categories of electrical products not covered by AS/NZS 4755.3.X;

(ii) specify or limit the means of communication between the remote agent and the DRED (other than DREDs of a class covered by an appendix);

(iii) specify or limit the form of connection or communication between parts of multi-part DREDs; or

(iv) limit additional capabilities that the DRED may have beyond those specified, provided such capabilities do not conflict with the requirements of this Standard.

Other statutory or regulatory requirements may be applicable to the product(s) that fall within the scope of this Standard. It is the manufacturer's, importer's or distributor's responsibility (as appropriate) to ensure that products comply with such requirements.