AS/NZS 4755.3.5:2016

Australian/New Zealand Standard™

Demand response capabilities and supporting technologies for electrical products

Part 3.5: Interaction of demand response enabling devices and electrical products—Operational instructions and connections for grid-connected electrical energy storage (EESS) systems

STANDARDS Australia

STANDARDS NEW ZEALAND PAEREWA AOTEAROA

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-054, Remote Demand Management of Electrical Products. It was approved on behalf of the Council of Standards Australia on 18 May 2016 and by the New Zealand Standards Approval Board on 2 June 2016.
This Standard was published on 21 June 2016.

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
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS 4755.3.5:2015.

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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.

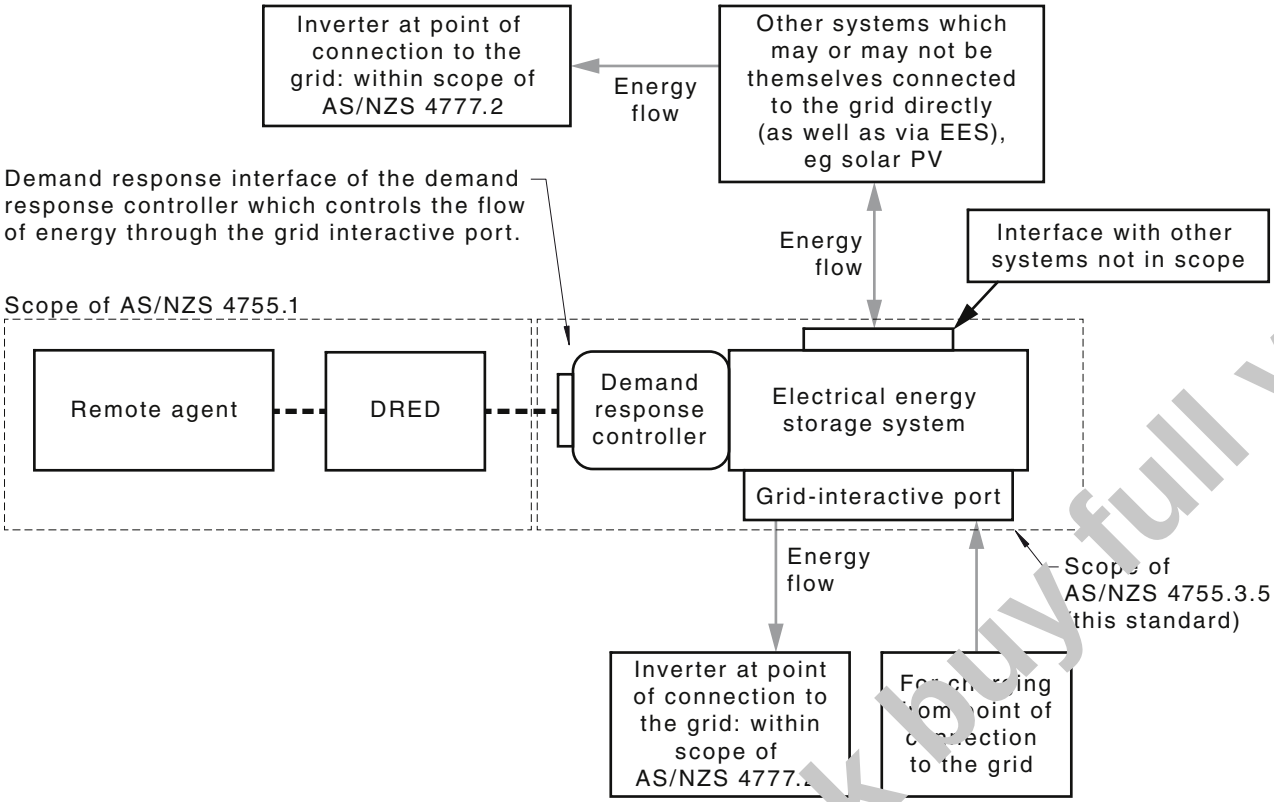
This Standard forms part of the evolving AS/NZS 4755 series of Standards, which is intended to define the nomenclature, architecture and operational instructions for systems that can be used to remotely control electrical products. At the time of publication of this Part, the AS/NZS 4755 series is proposed to comprise the following:

AS/NZS		
4755	Demand response capabilities and supporting technologies for electrical products	
4755.1	Part 1:	Framework for demand response capabilities and requirements for demand response enabling devices (DREDs) (in preparation to supersede AS 4755—2007)
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 (this Standard)

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

Statements expressed in mandatory terms in notes and footnotes to tables are deemed to be requirements of this Standard.

The diagram below depicts the relationship of this Standard to other related Standards within the AS/NZS 4755 framework. This Standard covers the interaction of the demand response controllers of electrical energy storage systems with DREDs to control the flow of energy through the grid interactive port of the system.



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 users.

This Standard does not cover all aspects of construction and performance, which may be subject to other standards.

The term 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard—

(a) applies to electrical energy storage (EES) systems that—

(i) do not contain a demand response enabling device (DRED);

(ii) have a demand response interface intended to connect to a DRED;

(iii) have a low voltage, permanently wired connection to the grid (whether single-phase or three-phase); and

(iv) are capable of importing energy from the grid, exporting energy to the grid, or both.

(b) specifies a set of operational instructions to control the demand response of EES systems;

(c) specifies methods of connecting the demand response interface to the DRED; and

(d) provides methods of testing to verify compliance.

EES systems covered by this Standard include, but are not restricted to—

(i) electrochemical storage systems (e.g. batteries);

(ii) mechanical storage systems (e.g. flywheel);

(iii) electrical storage systems (e.g. capacitors);

(iv) uninterruptible power supplies (UPS);

(v) thermal and chemical systems; and

(vi) generation systems that are dispatchable.

An EES system may also meet the definition of an inverter energy system as defined in AS/NZS 4777.2.

NOTE: Examples of EES system configurations are given in Appendix E.

An EES system complying with this Standard may also have additional interfaces and other means of achieving demand response.

This Standard does not cover any other electrical product within the scope of AS/NZS 4755.3 series Standards.