AS 4755—2007

Australian Standard®

Framework for demand response capabilities and supporting technologies for electrical products

This Australian Standard® was prepared by Committee EL-054, Remote Demand Management of Electrical Products. It was approved on behalf of the Council of Standards Australia on 30 April 2007.
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The following are represented on Committee EL-054:

- Airconditioning and Refrigeration Equipment Manufacturers Association of Australia
- Australian Electrical and Electronics Manufacturers Association
- Australian Greenhouse Office, Department of the Environment and Heritage
- Australian Institute of Refrigeration Airconditioning and Heating (Inc)
- CSIRO Energy Technology
- Consumer Electronics Suppliers Association
- Consumers' Federation of Australia
- Copper Development Centre—Australia
- Energy Networks Association
- Energy Users Association of Australia
- The University of New South Wales

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through public comment period.

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-054, Remote Demand Management of Electrical Products.

The objective of this Standard is to provide a framework to concisely describe the capabilities of electrical products to alter their electricity demand in response to information originating from outside the immediate user environment. The likely application of such a demand response framework is to assist energy policy makers, electricity supply utilities or demand response aggregators to plan and implement demand response programs. A common framework is necessary to allow effective consultation between the parties involved (electricity suppliers, electrical product suppliers, metering and control equipment suppliers, consumers and market regulators) in the course of developing demand response programs.

A framework does not seek to address the technical and consumer information matters that arise in the course of implementing demand response programs for electrical products such as air conditioners, water heaters or swimming pool pumps. Standards to clarify these matters will be prepared subsequently as needs are identified.

Although one application of this Standard is the reduction of electricity demand from products at times of peak load or other stress on the electricity supply system, it also applies to the control of embedded generation.

In Australia, product energy efficiency is determined according to tests and performance requirements in various Australian Standards, and the information is communicated to prospective purchasers by standard energy labels. Similarly, demand response capability could in due course be indicated by reference to this Standard.

The terms ‘normative’ and ‘informative’ are used 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.

CONTENTS

Page

STANDARDS AUSTRALIA

Australian Standard

Framework for demand response capabilities and supporting technologies for electrical products

S E C T I O N 1 S C O P E A N D G E N E R A L

1.1 SCOPE

This Standard establishes a framework for describing demand response capabilities and supporting technologies for electrical products that offer scope for reduction in energy use and hence power consumption at times of peak demand or other stresses on the electricity supply system.

This Standard does not override other Standards that may cover these specific areas.

Other Standards covering demand response in electrical products are intended to be consistent with the framework principles set out in this Standard. Detailed Standards covering demand response in air conditioners, water heaters and swimming pool pumps are proposed. Detailed Standards covering demand response in other electrical products may also be prepared as needs are identified.

1.2 TERMS AND DEFINITIONS

For the purpose of this document the following terms and definitions apply:

1.2.1 Demand response

The automated alteration of an electrical product's normal mode of operation in response to an initiating signal originating from or defined by a remote agent.

NOTE: Automated demand response does not require action by the user to initiate a demand response event, although the user may be able to choose whether to take part in a demand response program and may participate in activating, configuring or deactivating demand response capability. Action by the user to alter the operation of an electrical product on request or as a consequence of electricity price information or other information is not demand response within the meaning of this Standard.

1.2.2 Demand response capability

The ability of an electrical product to provide demand response. The capability may reside in the electrical product itself, or in the combination of the product and a separate demand response enabling device. If the demand response capability requires any additional external device to interface with the remote agent's system, details must be specified by the manufacturer or supplier.

1.2.3 Demand response enabling device

A device, integral or external to an electrical product, that provides the functionalities and capabilities to achieve demand response.

1.2.4 Demand response event

The period between the initiation and termination of demand response.