



## Demand Response AS4755 next steps

George Wilkenfeld has provided the following chronology of demand response developments.

1. The then Australian Greenhouse Office (AGO) commissioned a study on policies to deal with growing AC-related electricity system peak demand in October 2004. This is published at <http://www.energyrating.gov.au/library/details200422-ac-demandmanagement.html>

2. In early 2005 the AGO, AREMA and the Energy Networks Association (ENA) set up a working group to discuss the issue. At the time the networks were not convinced that ACs could be cycled off without customer complaint, but since then there have been trials with over 3000 participants in 4 States, and the networks are now confident that they can recruit and retain residential customers in AC DR programs.

3. A new Australian Standards committee (EL-054) was formed in late 2005 to develop demand response standards for ACs and other products.

4. AS 4755 was published April 2007: "Framework for demand response capabilities and supporting technologies for electrical products". This established a basic 'architecture' of a Demand Response Enabling Device (DRED) that could be part of or integrated in 'electrical product' such as an AC.

5. In 2007 subcommittee EL-054-02 was set up to develop functional specifications for the interface between the DRED and the AC.

6. AS 4755.3.1 was published December 2008. Demand response capabilities and supporting technologies for electrical products, Part 3.1: Interaction of demand response enabling devices and electrical products—Operational instructions and connections for airconditioners.

7. In 2008 the Department of Environment, Water, Heritage and the Arts (DEWHA) published a Regulation Impact Statement (RIS) containing a forward program for increases in the MEPS levels of ACs. This also contained the recommendation for the labelling of DR capability on the energy label. The document is at <http://www.energyrating.gov.au/library/details200809-ris-ac.html>

8. The revision of AS 3823.2:2009 Performance of electrical appliances—Air conditioners and heat pumps Part 2: Energy labelling and minimum energy performance standard (MEPS) requirements contains the requirement for "Mandatory reporting of demand response capability [referring to AS4755.3.1] during the product registration and an option to indicate demand response capability on the energy label where this is present."

It also contains the statement: "It is anticipated by regulatory authorities that a further amendment will be undertaken to this Standard following the stakeholder consultation and RIS process. The anticipated changes associated with this future amendment are as follows:

"...(3) Inclusion of mandatory demand response capability or potential demand response capability."

9. The case for mandating the AS4755.3.1 DR interface has been considerably strengthened by including three relays connecting with the AS4755 interface in the technical specification for Smart Meters (see <http://share.nemmco.com.au/smartmetering/Document%20library/Work%20Stream%20documentation/BRWG/Meeting%2007%20-%2016-17%20Sep%2009/09%20BRWG%20Workshop%2007%20-%20NSMP%20and%20the%20AS4755%20Appliance%20Interface%20version%203%20-%2016-17%20Sep%202009.pdf>).

10. In Feb 2010 the National Smart Metering Stakeholder Committee (NSSC) Business Requirements Working Group agreed to incorporate these relays in smart meters, which will be rolled out from 2012. This means that that every one of the 8 million smart meters will have the basic DRED functions in AS4755 and will be able to link (directly by cable, or via wireless or powerline carrier if there is an appropriate receiver connected to the AS4755.3.1 interface) to AS4755.3.1 functions.

11. Similar interfaces are being developed for water heaters and pool pump controllers. This will establish a consistent national architecture for Demand Response. If international standards for Home Area Networks are developed later, then the AS4755 interface can migrate to those via click-on receivers.

12. I am currently preparing for DEWHA a Regulation Impact Statement on making the AS4755.3.1 interface MANDATORY for all ACs sold in Australia after October 2012 (see point 8 above). The fact that the DRED functions will be incorporated in every smart meter makes the cost-benefit case for doing this very strong. This should be released as a Consultation RIS for public comment by mid-year.

13. We have been keeping overseas policy makers and air conditioner manufacturers updated about these developments since 2006. We are convinced that

(a) there is nothing like this in the world, so we are not in conflict, and

(b) competition between various Home Area Network standards means that there is no prospect of a market-changing international standard for 5 to 7 years, so there is little point in waiting.

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