23rd September 2019

smartappliances2019@sa.gov.au.

Dear Sir/Madam,

Consultation Paper: 'Smart' Demand Response Capabilities for Selected Appliances August 2019

The Consumer Electronics Suppliers Association (CESA) welcomes the opportunity to comment on the ***Consultation Paper: 'Smart' Demand Response Capabilities for Selected Appliances August 2019***. CESA commends the Commonwealth and States for the productive consultation and consensus process followed in developing both the relevant regulatory standards and the Determination as the legislative instrument in Australia.

CESA is the premier national industry body in Australia representing the consumer appliance industry. CESA has been heavily involved in various national schemes aimed primarily at energy efficiency and energy conservation methods, for example, the development and implementation of the zoned energy label for air conditioners, and the industry led adoption of the IEC household refrigeration Standard for test methods and the associated local regulatory Standard setting performance requirements.

General Comments

CESA endorses the broad objectives of the GEMS policy in promoting energy efficiency and informed consumer awareness. It acknowledges that those involved in producing, selling and using products have a shared responsibility to ensure those products use minimum energy to achieve expected performance.

CESA supports a process of consultation and consensus amongst all stakeholders, best exemplified by the Standards process. As noted above, CESA commends and welcomes continued application of the Standards process in coordination with legislative instrument development.

CESA supports adoption of international standards and opposes uniquely Australian regulation.

CESA supports reasonable transition times, at least 2 years (and preferably 3) from "black-letter" law, to allow industry to economically implement supply chain changes.

CESA supports a holistic energy efficiency program, ensuring reliable supply at minimal cost and adverse environmental impact. CESA firmly believes this has the added flow on benefit of active consumer acceptance and take-up of new schemes as they see industry is fully supportive the implementation of such schemes.

While endorsing a demand response management plan as a component of a holistic and integrated energy efficiency program, CESA does not support implementation by

focusing on product demand-response capability alone. A project approach is needed to resolve critical points and timing in the entire chain, from lawmaker through energy regulator and operator, energy suppliers, demand response aggregators, product suppliers, retailers and the consumer.

Specific Comments

Written submissions were invited on any of the material in this Consultation Paper, but particularly on the following questions:

1. *Do you support the proposal to mandate compliance with AS/NZS 4755 for the nominated priority appliances? Please give reasons.*

   CESA supports demand response but not as proposed, we recommend voluntary participation.
   - Mandating demand response inclusion is inefficient as it applies cost burden for all consumers to benefit only a small proportion that activate demand response.
   - CESA supports voluntary demand response as an option part to minimise burden on residential consumers.
   - Air conditioner manufacturers already offer demand response capability in more than 65% of the models on the market (Information source - GEMS Regulator - see notes on page 7). Consequently, mandating demand response capability is unlikely to increase participation by consumers.
   - It appears the barrier to consumer participation is not the availability of demand response air conditioners. This is reason CESA is highlighting the holistic approach - and in fact it could be argued that this point alone says the focus now should be entirely shifted from appliance to whole system development with a focus on consumer awareness.
   - AS/NZS 4755 must be based on international standards implemented with experience elsewhere. Assurance was given that air conditioners meeting Japanese requirements would also meet AS/NZS 4755. CESA requests similar undertakings for electric resistive storage water heaters and other nominated product.

2.

   a. Are there any viable alternative options for meeting the objectives of the proposal, apart from the BAU case or mandating compliance with AS/NZS 4755?
   Japan was mentioned, ROK would be interesting, has a full study of major DR user countries been undertaken? Primarily, as stated already, a consumer awareness program using existing DR products which in turn will lead demand for these products. Using the usual technology growth patterns is an obvious alternative - if consumers can be shown the benefit of DRM (along similar lines to recycling programs - i.e. conscious decisions for environmental care etc) then this will encourage manufacturers/suppliers to follow the consumer demand for these products.
   b. Do you agree that including demand response capabilities on energy efficiency labelling and voluntary compliance with AS/NZS 4755 is not a viable alternative option?
   No, insufficient data and argument provided.

3. *Do you support:*
   a. permitting compliance with either AS/NZS 4755.3 or (DR) AS 4755.2?
   b. requiring compliance with all Demand Response Modes (DRMs)?
   Insufficient data and argument provided, CESA currently only supports compliance with AS/NZS 4755.3 :2012
   CESA does not support DRM4 or similar proposals because they seem to be very inefficient ways of using excess supply energy. Surely it would be better to store that energy for later use either in battery energy storage systems, owned by the DRSP, or pumping water uphill etc.

4. *Do you agree with the scope of the proposal:*
   Treating product in isolation, No. As part of an overarching plan, Yes.

   a. air conditioners: up to 19 kW cooling capacity;

   b. pool pump-unit controllers;

   c. electric storage water heaters (excluding solar-electric and heat pump water heaters); and

   d. charge/discharge controllers for electric vehicles (SAE Level 2 or IEC Mode 3).

   e. If not, what products (or capacity limits) would you propose be included or excluded, and why?

5. a. *Do you have information that demonstrates the ability of so-called "smart home" devices and systems to achieve automated demand response for the appliances within the scope of this proposal? Is so, please provide this information and specify which particular "smart" devices? (Please be specific with regard to the capabilities you envisage for such devices or systems, and whether you would expect them to conform to any particular standards).*

   Liaison with IEC and George Wilkenfeld input needed.

   b. Would adoption of proprietary "smart home" systems undermine the benefits of peak demand reduction into the future?
   Yes
   c. How many products currently on the market have the ability to connect to demand response programs? If so, which or what type of programs?
   No information
   d. Is there a risk that a mandatory AS/NZS 4755 standard may become obsolete as new technologies/innovative products achieve the same objectives without using AS/NZS 4755?
   Yes, this is always the case however this is usually overcome by mandating the outcome not the methodology to get there. Keeping technologies compatible however would need to be a goal as well.

6. *What is your estimate of how much complying with the requirement will increase the price of each product?*
   <$100, for electric storage water heaters the cost would be significantly higher owing to flow on effects that require design changes and recertification that have been ignored.
   If a product complies with DRM 1, are there any additional costs incurred for a product to comply with the other DRM modes?
   Capital development cost and hardware/software per unit cost.

7. *Are the data and assumptions used in the cost-benefit estimates reasonable? Do you have information or data that can improve these estimates?*
   No information

8. *Do you think the estimates of activation rates and costs are reasonable? Do you have information or data that can improve these estimates?*
   No information

9. *Do you think the estimates of annual participant costs are reasonable? Do you have information or data that can improve these estimates?*
   No information

10. *Is lack of demand response capable products a barrier to the introduction of demand response programs for small consumers?*
    Yes, obviously

    Do you think that mandating demand response capability for these products will lead to their activation and to consumer enrolment in DR programs?
    Potentially, but the flip side is the risk of destroying and demonising the whole DRM ideal. Hence the comments already made about easing these ideas and concepts into the consumer market, to ensure the correct result is always kept clear for the consumer to see. Transparency is both imperative and essential, otherwise the words "big brother" will enter the discussion very early on.

11. *It is assumed that the cost of communications platforms to support demand response and direct load control services will be low (e.g. through the use of existing electricity supply infrastructure such as ripple controls or smart meters, or general infrastructure such as Wi-Fi or 3G/4G/5G). Do you agree? If not, can you provide estimates of the platform set-up costs?*
    While we do not have specific information or data to validate this, we would assume this to be the case. If DRM can be implemented using these services then clearly costs are going to be kept down.

12. *What implications (positive or negative) would the proposals have for your industry, in terms of activity, profitability and employment?*
    This comes down to the level of government influence in demonstrating to the consumer not just the cost savings, but the environmental benefits, etc. If it is handled incorrectly, intensively etc then the costs to our industry could be enormous.

13. *What can appliance suppliers, installers and energy utilities do to facilitate customer enrolment in direct load control or demand response programs?*
    Reward the user

14. *Do you think the proposal would reduce competition among product suppliers, reduce consumer choice or lead to an increase in product prices (beyond what is expected to occur)?*
    Non-DRM product will be excluded from market, so competition would be reduced. Low-cost product exclusion would provide opportunity to raise prices of conforming product beyond compliance cost.

15. *If the measure is implemented, what is the earliest feasible date by which products could comply? How much lead time should there be after publication of the final requirements?*
    At least 2 years after enactment, preferably 3 years.

16. *Do you consider that there are any major technical or functional issues related to the proposal? If so, how should these be addressed?*
    Treating product in isolation without addressing entire project chain.

17. *How should the changes in demand or energy during DR events involving AS/NZS 4755-compliant products be measured? What would should be the notional "baselines?" Is the estimation of baselines more or less reliable than for other DR approaches?*
    This is outside the scope of this group.

18. *How will the proposal impact on electricity prices and energy network costs and investment requirements?*
    CESA can only comment on the investment costs for equipment. Like any new technology, there will be an increase to develop and roll out the technology into new product but over time the costs will come down - like any new technology price cycle.

19. *Do you think that the effectiveness of the proposal depends on the implementation of more cost-reflective pricing, e.g. time-of-use (TOU) tariffs?*
    Yes, and requires treatment in overarching plan.

20. *In regard to the regional aspects of the proposal do you consider that it would provide significantly more benefits in certain regions? If so which ones? Will any regions be largely unaffected? If so which ones? What causes these differences in impacts between regions?*
    This is outside the scope of this group.

21. *(To electricity network service providers, electricity retail companies and DR aggregators specifically). a. Is it your company's intention to offer tariff or other incentives for customers to have demand response capabilities on the appliances in question activated and to participate in demand response programs? Are there any specific barriers (or lack of incentives) that would prevent your company from offering and promoting such programs? b. Would you offer tariff or other incentives to customers to participate in demand response programs using "smart home" device functionality? (if so, please specify the type of functionality/ies). Are there any specific barriers (or lack of incentives) that would prevent your company from offering and promoting such programs? c. In your opinion, what proportion of householders with appliances with the above type of "smart home" device functionality/ies will participate in demand response programs? Do you have survey or other evidence to support your view? d. What would be the total MW of appliance demand response capability (or number of participating appliances) required to defer the need for network investment to manage peak demand in your area/s of operation?*
    Not applicable.

22. *In your opinion, what proportion of householders with AS/NZS 4755-compliant appliances will have the demand response capabilities activated and will participate in demand response programs? Do you have survey or other evidence to support your view?*
    Unless clearly informed and rewarded, consumer participation could be severely restricted to the self-informed.

23. *(To consumer and welfare organisations). In your opinion, what measures should be taken to ensure that consumers are adequately informed of the potential costs, as well as the benefits, of entering contracts that enable the demand response capabilities on their appliances to be activated?*
    Wide-ranging information program funded by those who benefit: Energy providers/regulators/operators.

24. *(To electricity market regulators). Do you consider that the regulatory arrangements provide utilities and potential DR aggregators with sufficient incentive to offer (or commission) small-consumer demand response as a means of reducing investment in supply-side infrastructure?*
Not applicable

25. *How do existing electricity market rules which enable and encourage DNSPs and TNSPs to invest in demand response programs impact on, or interact with the proposal?*
No information, should be part of overarching plan.

26. *a. How would changes to electricity market rules (the Retailer Reliability Obligation and the wholesale market demand response mechanism draft determination announced by the AEMC) impact on or interact with the proposal?*
No information

b. Would a new class of DR aggregators make use of AS/NZS 4755 DR platform? If so, why. If not, why not?
No information

c. Would the potential AEMC wholesale demand response mechanism be material to the benefits of mandating AS/NZS 4755 for the four selected appliances? Why or why not?
No information

d. Would the benefits of deferring investment in network capacity from the wholesale demand response mechanism changes announced by AEMC also reduce the network investment benefits attributable to mandating AS/NZS 4755?
No information

27. *Could an option for Government to require utilities or independent DR service providers to offer incentives, or have the Government fund these incentives, achieve the same benefits as the mandatory standard but at a lower overall cost to the community?*
The reality is, if DRM of appliances can be avoided then CESA believes it should be. DM'ing consumer appliances is actually not the ideal nor is it going to be viewed as such by the consumer, hence the emphasis in CESA's response on the need for transparency and clarity as to why this is being implemented. If the same result can be achieved by other means then these other means should be implemented! The product supplier receives no benefit for the extra cost incurred.

28. *(To manufacturers and distributors of the products in the scope of this proposal). What percentage of the products you sold in Australia and in New Zealand in the last year: a. Meet the minimum requirements of the relevant part of AS/NZS 4755; b. Meet additional requirements (e.g. additional DRMs); and c. Comply with other published DR standards (please state which)?*
Specific supplier information required

Supplementary Comments

The draft GEMS Act review November 2018 comments:
"*The GEMS registration database also indicates that more than 65 per cent of air conditioners available on the market today are demand response capable. The issue appears not to be the availability of demand response appliances, rather the utilisation of that technology. Inclusion of this additional role to the GEMS Program would be a significant shift and is unlikely to be the most effective approach to increasing demand response initiatives within the National Energy Market." Page 78.*

Most air conditioners that support demand response have been designed to the 2012 version of AS/NZS 4755.3.1. This was highlighted by CSIRO Technical Report EP175701 where it identifies: "*The responses to DRM2 and DRM3 commands were observed in some makes … but not in others. This observation suggests that many air conditioners implement the 2012 version of the AS/NZS 4755 standard.*"
This point was discussed at the Sydney meeting with George Wilkenfield advising that he will take this matter up with the standards committee.

CESA looks forward to further consultation and refinement of this proposal, together with inclusion in an overarching energy management project.

Yours sincerely,

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