



energy efficiency certificate creators association

# **EECCA Submission**

## **ESS Rule Change Consultation**

23 December 2016

Energy Efficiency Certificate Creators Association  
161 Victoria Parade  
Collingwood VIC 3066

## **Rationale**

The Energy Efficiency Certificate Creators Association (EECCA) welcomes the opportunity to provide feedback on the proposed Energy Saving Scheme Rule Change

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## 2 General ESS Rule

***Question 1 Is the proposal to require Electricity and Gas Savings data at an Activity Definition level for the HEER and HEAB sub-methods reasonable?***

Yes, EECCA believes this proposal is reasonable and supports its inclusion.

***Question 2 Do you think Electricity Savings and Gas Savings data should be reported at an Activity Definition level for the SONA and ROOA sub-methods?***

EECCA agrees that it should not be necessary to report gas and electricity savings at the activity definition level for the SONA and ROOA sub-methods

## 3. Project Impact Assessment with Measurement and Verification Method

***Question 3 Are these proposed requirements reasonable and sufficient?***

EECCA agrees that the proposed change regarding Effective Range is reasonable and sufficient.

EECCA fully supports the re-introduction of the Sampling Sub-Method as it is an important innovation to incentivise a broader range of projects and technologies. The process and requirements drafted for the Sampling Method are a great start but EECCA members are not yet clear on how this method will work in practice. The OEH workshop held on this method during the consultation seemed to raise as many new questions as it answered. EECCA suggests that additional materials, such as worked examples, method guides and tools, are needed to help the industry to understand and apply the method.

***Question 4 Should the business classification also be included in the minimum Eligibility Requirements, or is End-Use Service sufficient?***

EECCA believes that the End-Use Service is sufficient and appropriate. Business classifications will add red tape with minimal benefit, and preclude eligible projects that are sufficiently similar for the method, but happen to be implemented in different types of businesses.

***Question 5 Is the measurement and statistical requirement for Regression Analysis when using the PIAM&V sampling sub-method reasonable?***

Yes, we believe this is reasonable.

***Question 6 Is the requirement for the minimum number of Sample Sites to be 6 times the number of Site Constants appropriate?***

EECCA members would appreciate some further explanation on the statistical basis of this requirement.

We assume that the  $6 \times (IV + SC)$  has been established using statistical confidence levels. If so then this seems reasonable. There is no reason the number of samples needs to be related to the population size, it only needs to capture a reasonable number of the different variables in the population to allow the model to have a decent confidence interval. The decision on what the real SC and IV are is critical to the success of the sampling and the overall model and will need to be verified by the M&V professional.

## 4 Metered Baseline Method

***Question 7 Is the proposal to expand the ESS Metered Baseline NABERS sub-method to include hospitals appropriate?***

Yes, we believe this is appropriate because it will provide another option for verifying energy savings that may be useful since hospitals are generally complex energy loads for which appropriate PIAM&V energy models may not be possible.

## 5 Deemed Energy Savings Method

### 5.1 General Changes

***Question 8 Are there changes to ESS Rule requirements around the purchaser co-payment that could meet the objectives of consumer engagement and quality lighting outcomes while reducing red-tape and compliance costs?***

EECCA members are supportive of the objectives of the \$5 co-payment; consumer engagement, quality lighting outcomes, encouraging sustainable business models and avoiding dubious practices. However, we feel that the current \$5 co-payment mechanism causes significant challenges in ACP compliance, to auditors, and we question how well it can be enforced where parties intentionally choose to circumvent this requirement and conceal the evidence. We are also concerned that the co-payment drives up the cost of abatement and the speed of adoption.

EECCA suggests that further targeted consultation be carried-out, or an industry/OEH working group established, in order to develop practical and effective improvements to the current arrangements. EECCA members are keen to participate in this activity.

The proposal of the \$5 / MWh paid PRIOR to ESC registration is not acceptable as it prohibits or further complicates the use of financing for the consumer to pay costs through energy savings.

**Please see addendum EECCA has written an extensive section on the co-payment challenges.**

### 5.2 Sale of New Appliances

***Question 9 Do you agree with the proposal to update the SONA Equipment Energy Savings tables?***

EECCA notes that the ESS Rule Change 2016-17 Consultation Paper proposes "...to adjust the Equipment Energy Savings to use a baseline that reflects the sales weighted average star rating of appliance sales in 2016". Also, that it is proposed to continue the practice of discounting the baseline by 0.5 energy stars to provide an incentive to retailers such that they are only rewarded where they go above-and-beyond. We believe these two measures, especially when taken together, are excessive and that the impact on the ability of the SONA method to change the long-term behaviour of retailers will be subsequently degraded. We estimate a 30% reduction in the incentive retailers must continue actively promoting appliances more energy efficient than baseline. We would like the NSW Government to consider an annual adjustment methodology that would have a less deleterious impact on the incentives retailers need to bring about enduring behaviour change.

### 5.3 Commercial Lighting

**Question 10** *Are the percentages of cooling season and heating season reflective of an average of how often buildings across NSW are in cooling and heating mode respectively?*

EECCA does not have access to sufficient data to assess the suitability of the proposed season duration percentages. However, we raise the following concerns related to the suggested changes to the air-conditioning multiplier:

1. EECCA would like to understand better how this has been calculated. The VEET scheme uses a factor of 1.05 and hence a factor of 1.07 for NSW seems inconsistent. Also if the calculation is based on the number of days HVAC is running based on CDD/HDD then it is unlikely to have taken into account the additional days running for humidity. This may or may not be relevant, but we are unable to assess if such large change in the proposed A/C multiplier is valid without more data on how it was calculated.
2. The quantity of the interactive effects between lighting and HVAC loads is not expected to be constant across NSW, or across different building types. We suggest that a table of different air-conditioning multipliers be created that are appropriate for each climatic zone across NSW, and also for some specific types of buildings / applications, such as Data Centres.
3. The proposed change will significantly reduce verified savings, and so its implementation should be preceded by a notice period of at least 12 months so as not to adversely affect projects already committed for 2017 based on ROIs that factor-in ESC revenue. This will allow existing Commercial Contracts and Energy Performance Contracts to be delivered.

**Question 11** *Do you agree with the proposed amendments to Table A9.2?*

Yes, EECCA supports the proposed amendments to Table A9.2 for fluorescent lighting control gear.

### 5.4 Public Lighting Energy Savings Formula

**Question 12** *Do you wish to be part of a targeted consultation on potential rewording of Clause 5.4(c) in order to make this clear?*

Yes, EECCA wishes to be part of the consultation.

### 5.5 Home Energy Efficiency Retrofits

**Question 13** *Do you agree with amending the definition for Small Business Building to allow Energy Savings to be calculated for BCA class 5, 7b and 8 buildings? If not please indicate why and provide us with an evidence base to support your justification.*

Yes, EECCA agrees with expanding the definition of Small Business Buildings. Smaller businesses are discriminated against by the commercial lighting administrative burden, hence this is welcome change that will lead to implementations in many business premises too small to attract special interest from ACPs active under the commercial lighting method.

**Question 14** *Do you agree with amending the definition for Residential Building to allow Energy Savings to be calculated for BCA class 4 buildings? If not please indicate why and provide us with an evidence base to support your justification.*

Yes, EECCA agrees with expanding the definition of Small Business Buildings.

### **5.5.2 Small Business Building default savings factors**

**Refer to the draft ESS Rule: §9.8 Activity E1 - E5 and E11**

**Question 15 Do you agree with the following? If not please indicate why and provide us with an evidence base to support your justification:**

- **Provide separate Electricity Savings Factors for Small Business Buildings based on 4,200 operating hours in Activity Definitions E1, E4 and E5.**
- **Provide a separate Deemed Activity Electricity Savings equation based on 3,000 operating hours in**
- **Activity E11.**
- **Provide separate Electricity Savings Factors for Small Business Buildings based on 3,000 operating hours for 'LED Lamp only – ELV' replacements in Activity Definition E1 and E3.**
- **Provide separate Electricity Savings Factors for Small Business Buildings based on 1,000 operating hours in Activity Definitions E2.**
- **Provide a Lifetime deeming period of 10 years for Small Business Buildings.**

Yes, this is welcome change that will lead to implementations in many business premises too small to attract special interest from ACPs active under the commercial lighting method.

### **5.5.3 ELV Halogen to 240V LED**

**Refer to the draft ESS Rule: §9.8 Activity E1**

**Question 16 Do you agree with the proposal to expand Activity E1 to allow Energy Savings to be calculated when replacing an ELV halogen downlight with a 240V LED?**

Yes, this change is welcome and will create greater flexibility for ACPs active in the HEER method, and lead to better and more efficient outcomes for the OES.

Please also see our Addendum on HEER Lighting and Magnetic Transformers.

### **5.5.4 Replacing a T8 or T12 Luminaire with a LED Luminaire**

**Refer to the ESS Rule: §9.8 Activity E5**

**Question 17 Is the proposal to replace the 10W banding in Table E5.1 with 5W banding appropriate?**

Yes. EECCA believes this is appropriate.

**Please also see addendum** advocating for LED Linear Lamps to be more easily access under the ESS. There is a very substantial amount of low cost abatement that can be achieved safely and with high quality outcome to energy savers.

## 5.6 High Efficiency Appliances for Businesses

### 5.6.1 Installing a New High Efficiency Air-conditioner in Small Business Buildings

**Refer to the draft ESS Rule: §9.9 Activity F4**

**Question 18** *Do you agree with the proposal to expand the eligible BCA classifications under the HEAB sub-method?*

Yes, EECCA believes this is appropriate.

### 5.6.2 Business operating hours for Chillers and Air-conditioners

**Refer to the draft ESS Rule: §9.9 Activity F2 and F4**

**Question 19** *Do you agree with the proposed hours? If not please indicate why not and provide us with an evidence base to support your justification.*

Yes, EECCA believes this is appropriate.

### 5.6.3 Proposed Deemed Gas Efficiency Activity Definitions

**Refer to the draft ESS Rule: §9.9 and Schedule F**

**Question 20** *Are the Building Code of Australia building classifications appropriate in each of the four proposed Activity Definitions?*

Yes, EECCA believes this is appropriate.

**Question 21** *Should there be additional requirements for any End-user Equipment if they will use biogas or another Gas variant?*

No, EECCA sees no reason for additional requirements.

**Question 22** *Is there a form of evidence that can be provided that would prove that a steam boiler or water heater has or has NOT been down-rated?*

It is difficult to tell by simply looking at a boiler that it has been down-rated. There are two options for determining this.

1. Obtain a photograph of the control panel during initial firing under full load.
2. Maintenance record from the boiler company will show the rating of the boiler. This could include a signed statement if required. The manning requirements are based on the rating, so it is a stringent requirement to know what the rating is.

**Question 23** *Are the savings factors representative of the average efficiency improvements achieved by replacing a boiler?*

These seem reasonable

**Question 24** *Is the turn-down ratio requirement of 4:1 for replacement End-User Equipment with a nameplate capacity of 1000 kW or more reasonable? Will it help ensure that Gas Savings are achieved?*

This seem reasonable

**Question 25** *An Equipment Requirement that an oxygen trim system must be included on replacement End-User Equipment with a nameplate capacity of 2000 kW has been included in the proposed Rule text (Schedule F8). Is this reasonable? Will it help ensure that Gas Savings are achieved?*

Yes, EECCA believes this is appropriate.

**Question 26** *Is it necessary to further define Gas fired steam boilers or water heaters by referring to definitions in standards AS/NZS1200:2000 and AS3500.0:2003?*

No, EECCA believes this isn't required.

**Question 27** *Are the 80% and 85% efficiency requirements for replacement steam boilers and water heaters reasonable? Is there an evidence base to support alternative efficiency requirements?*

Undecided

**Question 28** *Should any warranty requirements be included for steam boilers, water heaters or any other technologies?*

EECCA don't see a requirement for longer warranties than the statutory warranties. Standard warranties should apply.

**Question 29** *There is a wide range of quality in new burners and oxygen trim systems. Are there (a) distinguishing features of either system, or (b) testing standards to determine quality and expected lifetimes that should be considered as an equipment requirement to ensure that savings are achieved?*

No answer

**Question 30** *Is a stack test a good measure of the minimum and maximum stack temperature? What would be suitable evidence of the results of this test? Should a position on the stack be specified to measure temperature?*

A stack test would be good and isn't overly expensive. They should specify that it needs to be within a certain distance of the boiler - e.g. within 4m of the economiser, or boiler. May be worth referencing that it should be at the same location as the exhaust tests that are done as part of EPA emissions requirements; there are usually holes already in the stack for it.

**Question 31** *Is a 2% average blowdown a reasonable basis for the calculations?*

Yes, EECCA believes this is appropriate.

**Question 32** *Is there an evidence base that demonstrates that one or multiple industry sectors are significantly disadvantaged by the approach to estimating LUF?*

EECCA does not have appropriate data available at this time, but it would seem to be logical that some industry sectors will have a much higher LUF than the proposed average.



***Question 33 Are there pipes, valves or tanks in multi-dwelling residential, commercial or industrial buildings that aren't currently insulated? If so, why not?***

Yes definitely, for the variety of reasons that other efficiency measures are usually not fully implemented. Consider giving a certain rebate for valve covers on steam piping, with the quantity of ESCs relating to the diameter of pipe, and steam temperature. Valves are often not insulated, and the valve covers are now a 'commodity' and can be incentivised strongly with a fixed rebate.

***Question 34 Is there a case to provide an incentive to go beyond current Australian Standards or NCC specifications for insulating pipes, valves and tanks? If so, how?***

Yes, it makes sense to incentivise users to maximise efficiency rather than meet a minimum threshold. So the method could use a sliding scale of deemed abatement for insulation above the minimum standards. The abatement incentives would need to be large enough to drive activity in this space.

# Addendums

## Addendum A - Energy Consumer Co-Payment- \$5 Rule

**This addendum has ideas from several EECCA members and due to time constraints is not fully coherent. As proposed in the rule change submission above, EECCA notes serious challenges with the current approach and welcomes the opportunity to form a working group with OEH to find a viable solution.**

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As far as commercial lighting is concerned, the significant reductions in costs of LED lighting (and the current high value of certificates) has meant that in some instances the activity can be installed for free. The requirement for a co-payment has led to some undesirable practices by solution providers (refer to recent IPART guidance).

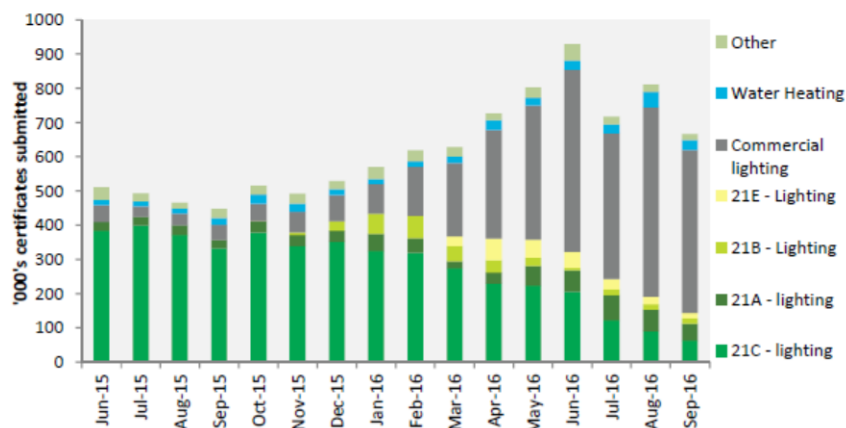
In some ways, this development is a sign that the scheme is working. Market transformation is occurring and innovative business models associated falling technology costs has meant that the cost of installing some activities has reduced dramatically. Essentially, we have seen technology and installation costs fall much further than government or industry expected.

The requirement for a co-payment under such circumstances is slowing the rollout of attractive abatement activities. This results in higher certificate prices than would otherwise apply and this leads to higher energy prices to customers. Increased supply of abatement would lead to a reduction in certificate prices which in turn would eventually result in these activities not being able to be given away for free.

Essentially the market will sort these activities out such that it would not be sustainable to provide these for free. We can see this at work in the Victorian Energy Efficiency Certificate (VEEC) market (refer to Figures 1 and 2). LED installations in largely residential premises (Schedule 21C) increased dramatically as technology costs reduced and VEEC prices increased (refer to attached charts). As the VEEC price reduced with increased supply then Schedule 21 activities could not be given away for free and the resultant level of activity reduced dramatically.

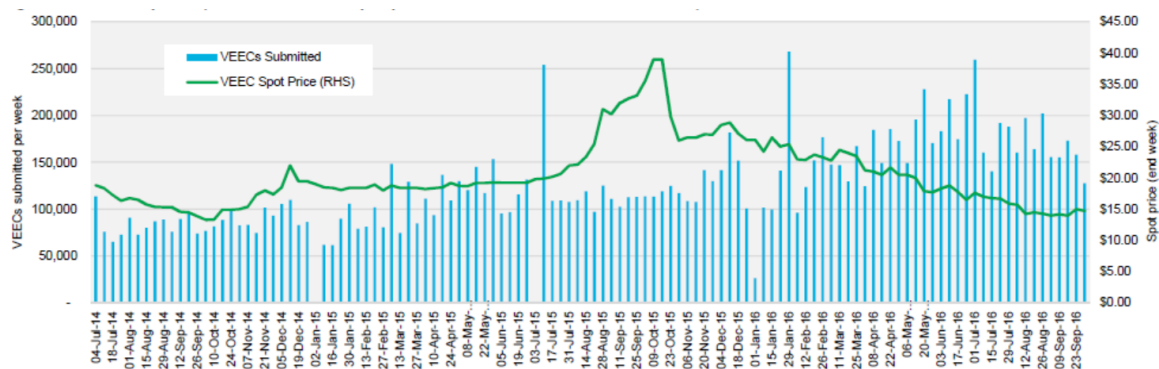
Commercial lighting activity is now the dominant activity, and at the current level of VEEC prices is not a free activity. The potential for free activities acts to keep a brake on certificate prices. It is quite interesting to compare how the activities and costs of the Vic and NSW schemes compare - currently Victoria is delivering significantly higher commercial lighting abatement at a lower cost to NSW (refer to Figures 3 and 4). This is the case even when we allow for the removal of LED tubes in NSW.

**Figure 1 – VEECs submitted for creation by month by activity**



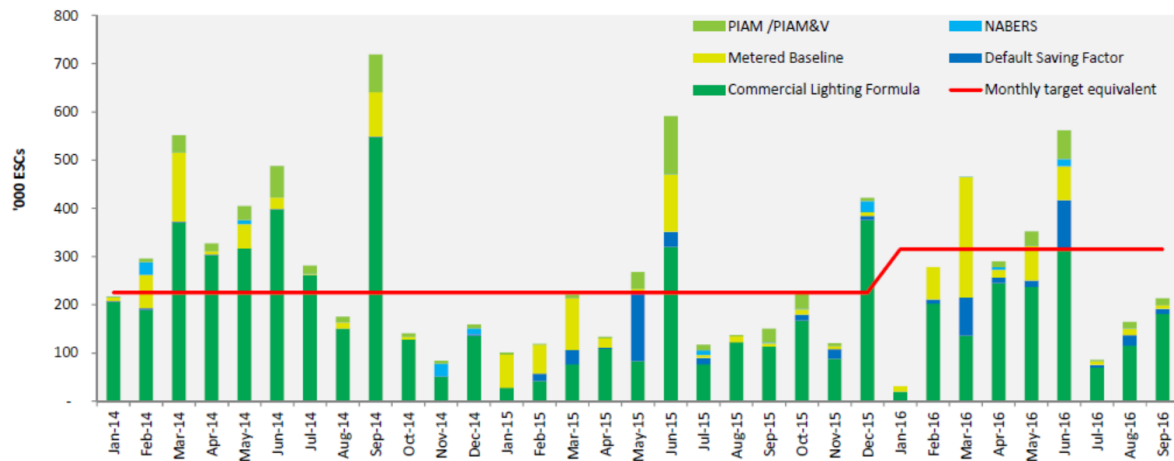
**Note:** the target is equivalent to 450,000 VEECs per month, so the market has been significantly oversupplied since December 2015.

**Figure 2 – VEECs submitted each week (LHS) compared to VEEC spot price**

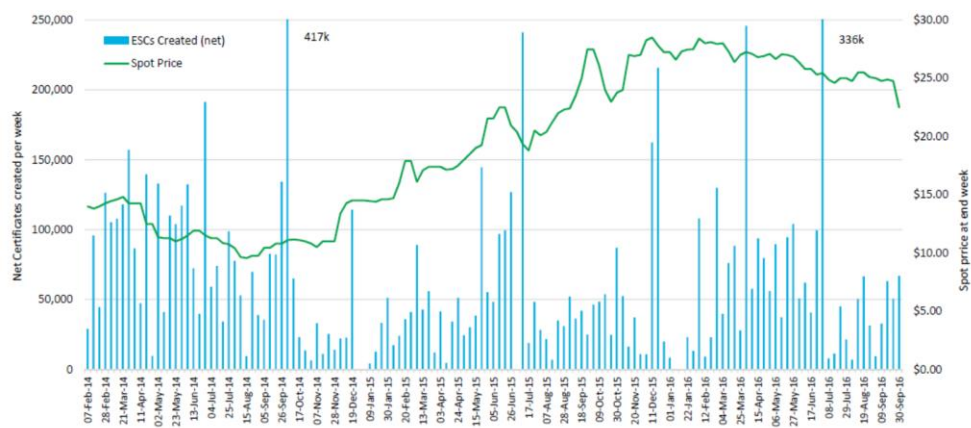


**Note:** As the level of creation increased above the equivalent weekly target of 104,000 from November 2015, the price has been falling.

**Figure 3 – ESCs submitted for creation by month by activity**



**Figure 5 – ESCs submitted each week (LHS) compared to ESC spot price**



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EECCA members have seen in other schemes the following issues.

- Free products and upgrades may result in the energy consumer seeing no risk and no cost associated with the activity and hence make no judgement of the quality of fit for purpose hence accepting whatever they are given. Later they may regret this.
- When the energy consumer is not engaged in product selection there is the danger that the lowest cost / quality product will be broadly installed having a negative impact and tarnish the integrity of the Energy Saving Scheme.
- Free product may result in overly aggressive sales tactics, especially with the sales and upgrade activity can be undertaken by the same individual in the same visit.

The \$5 co-payment rule, whilst aiming to avoid these issues, has resulted in a number of unintended consequences including:

- Driving up the ESC price, to cover the additional sales and administrative costs to sell solutions that would otherwise be free at the current and significantly lower ESC prices.
- Substantially slowing the uptake of lighting products that have been proven in other schemes to be a high volume, highly reliable, and low cost form of abatement and savings.

See below proposed ideas for consideration to ensure energy consumer engagement and buy-in with regards to the “purchasing” decision. Any one of these is a reasonable approach to ensuring consumer engagement.

1. A seven day cooling off period between the quote / selling cycle during which they can withdraw from the installation.
2. Ensuring consumers are clear on the warranty they have for products installed under the ESS even if they have been provided at no cost.
3. A registration process, whereby the Energy Consumer is required to register an upgrade activity with a new IPART database listing a summary of the activity and proposed products prior to the upgrade. ACPs would need the ID from this database as part of registration of ESCs.
4. Prohibit door-to-door sales under the commercial lighting method and hence ensure that a higher level of sales engagement process is undertaken where the customer wants the upgrade.

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Removing the co-payment requirement in the Commercial Lighting method and the Home Energy Efficiency Retrofit (HEER) method will accelerate the uptake of energy efficiency implementations, greatly assisting the NSW Government to achieve its aspirational target of zero net emissions by 2050. In the residential sector, the 21C activity under the VEET (swapping halogen downlights with LEDs) grew to 1,000 site implementations a day (at its peak), resulting in an estimated 0.75% reduction in household consumption in the first 6 months of 2016. In contrast, there has been little activity in the residential sector in NSW. We believe that removing the co-payment requirement from HEER method of the ESS, especially for low income households, will positively impact uptake. Should the NSW Government decide to replace the co-payment requirement with some other requirement,

Energy Makeovers would welcome the opportunity to participate in a workshop to identify suitable candidates.

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There is no simple solution. If the co-payment requirement is retained. Perhaps the documentary requirements could be based on the compliance risk assessment? So ACPs with clean records and lots of experience can submit higher level evidence? The EECCA code of conduct, which we can distribute to OEH includes push towards higher quality customer engagement.

## Addendum B - Modified Luminaire- LED Linear Lamps

EECCA Request that ESS removes the requirements to have a Certificate of Suitability issued for a Modified Luminaire – LED Linear Lamp.

Linear LED Lamps are now providing a reliable, high volume and low cost form of abatement in other jurisdictions and we recommend that the NSW ESS Scheme review the current approach to these lamps.

As per Lighting Equipment Requirements - LED Lighting, Induction Lamps and Emerging Lighting Technologies - August 2014, the current situation is it is not cost effective nor practical for that LED Linear Lamps to be used under the ESS Commercial Lighting method. This is due to the requirement that a Certificate of Suitability be obtained for each specific type of Luminaire. (pg17 Lighting Requirements).

The situation at the time that OEH last updated the Lighting Equipment Requirements was as follows.

- LED Linear Lamps were somewhat unproven and the performance questionable.
- ERAC had provided a recommendation, but no Australian standards covered the modification of a luminaire for LED lamps.
- Relatively small numbers of LED Linear Lamps had been installed and there had been some complaints on light output.

Since 2014 the following has demonstrated the viability of LED Linear Lamps (LED tubes)

- AS/NZS 60598.2.1:2014 Luminaires has been published with extensive information on modification of using LED tubes, this supersedes the ERAC 2011 recommendations
- VEET, REES and EEIS now all accept modified luminaires through approval of the LED Linear tube alone. The modify luminaire does not require approval or a certificate of suitability.
- Product Approval for LED Linear Lamps is stringent and resulting in good quality lamps being approved under the VEET scheme.
- In 2016 alone the VEET scheme has seen well over 1.5M LED tubes installed with close to zero customer complaints.
- The performance of the LED tubes is such that 13W are generating 1800+ Lumen output and globally LED tubes are becoming a popular alternative to Fluorescent tubes. We regularly hear that the newly installed LED tubes are significantly brighter than the lamps that been replaced.
- A large global market has now developed for LED tubes with product costs in the \$7-\$10 widely available to APs. These are available in the same colour ranges as fluorescent tubes and those with diffusers are typically indistinguishable from a new fluorescent tube.
- The embedded energy and carbon intensity of replacing complete luminaires is vastly higher than lamp replacement.
- Each building typically has a range of different luminaires, some with air conditioning ducts, some with IP65 ratings, some with diffusers, even standard troffer dimensions varying between different manufacturers, and LED tubes allow upgrades of all these fittings without any loss or change of amenity for the energy saver.

- LED Polycarbonate tubes have significant benefits over glass tubes in food manufacturing environments.
- Surface mounted fittings come in wide range of sizes and it is highly unlikely that the new fittings will cover the same space. The result is a poor final solution for the energy saver where unpainted sections of the ceiling is visible, holes in the ceiling, rerouting conduit all these issues require costly rectification.

Note that the VEET scheme has seen good success by prescribing the details of the modification method as follows:

1. Allowing the internal componentry (ballasts and capacitor) to be bypassed, but left in the fitting. This ensures no negative impact on the power factor of the network. Capacitors were introduced into fluorescent fitting to compensate for the lagging power factor of the ballast and fluorescent tube, if these are left in circuit they cause a significant leading power factor issue.
2. APs are not required to take on full warranty for the luminaire after modification. The reality is that most fittings are in a good serviceable state. Some require additional componentry to be replaced (lamp holders/tombstones) and this has been done as standard practice in upgrades.

For an even higher level of safety the ESS could request that the wiring method for the modified luminaire be provided with the LED Linear Lamp product approval and a mechanism to ensure compliance against AS/NZS 60598.2.1:2014.

EECCA commends the NSW Government commitment to maintaining leadership in energy efficiency and the goal of zero emissions by 2050. T8 fluorescent tubes in office and retail and industrial buildings are a great candidate for high quality abatement that can access quickly and safely through LED Linear Lamps with a good energy saver outcomes. Based in Victoria's experience there is at least 2 Million tons of deemed abatement that can be achieved at low cost by allowing this.



## Addendum C - HEERS Lighting

With regard to magnetic transformers with ELV LED lamps the following can be summarised:

- The draw on a magnetic transformer drops considerably with ELV LED lamp (from 13.5w (halogen) to 6.5w roughly)
- Power factor reduces (from 94 to 36). Not ideal however I believe that this is ok for residential under NSW Electricity Supply Act. Must be greater than 0.9 for commercial premises (I think?)
- Amps reduced from (0.27 to 0.14). Good. Results in less strain/heat on circuit.
- With regard to longevity of magnetic ballast when used with ELV LED lamps. Our experience is:
- Magnetic transformers nearly all seem to be compatible with ELV LED lamps. I.e no flickering or buzzing
- Magnetic transformers last for much longer than electronic transformers with halogen lamps.

As I mentioned in the meeting, having a single ELV LED solution would make a substantial difference to developing a commercial model. Based on a \$25 ESC price we would go to market with a lamp only solution around \$8.

I would also suggest consideration of new LED luminaire based on abatement of luminaire life (capped at 30,000 hours). We believe this is an optimal solution, however is more costly for product and installations cost. We modelled a \$18-\$20 customer cost under current ESS rules (\$25 ESC). This may come down to \$10-12 based (estimated) on 30,000 hours.

Test on Magnetic & Electronic transformers						
	Primals Lamp with Electronic Transformer (Viper)	Primals Lamp with Magnetic Transformer (Attco)	Emerald Plant Lamp with Electronic Transformer (Viper)	Emerald Plant Lamp with Magnetic Transformer (Attco)	Halogen Lamp with Electronic Transformer (Viper)	Halogen Lamp with Magnetic Transformer (Attco)
Model No	60va Tridonic Atco	TM50 A-2	60va Tridonic Atco	TM50 A-2	60va Tridonic Atco	TM50 A-2
Lamp Wattage	6	6	6	6	50	50
Volts	248	248	248	248	248	248
Hz	50	50	50	50	50	50
Watts	7.1	12.4	6.9	12.9	52.5	63.4
Amps	0.03	0.14	0.03	0.14	0.21	0.27
PF	95	0.36	94	0.37	100	0.94

## Addendum D - Sale of New Appliances (SONA) method

### Washer-dryer clarification

B1 has been revised in the draft ESS Rule to clarify that, when calculating the energy saving, combination washer-dryers may only count the wash cycle, i.e. an ACP can't claim Energy Savings for the drying function. EECCA supports this clarification.

### Clothes Dryers Purchase Activity B2

EECCA notes that the ESS Rule Change 2016-17 Consultation Paper states: "It is proposed that the Equipment Energy Savings tables be updated to provide Energy Savings factors for appliances with ratings up to 10 stars and 6 stars, depending on the appliance category."

We also note that the draft ESS Rule doesn't propose modifying B2 (dryers) so that energy savings calculations might be made for dryers over 6 stars. We believe the ESS Rule should be modified to recognise clothes dryers up to 10 stars. There are now 65 dryer models achieving between 6 and 10 stars in the GEM database [http://reg.energyrating.gov.au/comparator/product\\_types/35/search/](http://reg.energyrating.gov.au/comparator/product_types/35/search/). All of these are condenser dryers. A purchaser will typically replace a vented dryer when they purchase a condenser dryer, and in so doing, dramatically reduce energy consumption. These energy savings should be recognised by B2. As it stands in the draft ESS Rule, B2 actively discourages appliance retailers (energy savers under the SONA method) from selling condenser dryers, as no ESCs can be created. We do not believe it was the intention of the NSW Government to use the ESS to discourage the uptake of a significantly more energy efficient technology. Therefore, we believe the NSW Government should modify the table in B2 to recognise energy star ratings 7 to 10.

## Addendum E - Home Energy Efficiency Retrofit (HEER) method

### Insulation Installation Activity D6-D9

EECCA makes these observations and recommendations about the insulation activities D6-D9 of the Home Energy Efficiency Retrofit (HEER) method. We believe that the insulation activities D6-D9 should commence immediately under the Home Energy Efficiency Retrofit (HEER) method. A large percentage of houses have insufficient or no insulation and are instead using electricity and/or gas to heat and/or cool. Consequently, there exists a large abatement opportunity which could be realised relatively quickly. We believe that the installation of insulation under D6-D9 could be performed safely and that the development of compliance guidelines to control for what risk exists would be a relatively straight forward matter; that the activity is no less safe than many other activities currently allowed in the ESS. We believe allowing D6-D9 activities under the HEER method would significantly stimulate uptake by ACPs of the HEER method generally, with householders directly benefiting. We would welcome an invitation to participate in a working group to consider ways of quickly and safely activating the insulation installation activities D6-D9 currently dormant under the HEER method, or at least exploring what would need to be in place for the NSW Government to consider activating it in the near future.

### Minimum of 4 ESCs for HEER

In respect of the Home Energy Efficiency Retrofit (HEER) method, the ESS Rule states that:

“9.8.1 The Energy Savings for an Implementation may be calculated using Equation 16, provided that: (f) the Accredited Certificate Provider has implemented sufficient activities from Schedule D or Schedule E or both, to create a minimum of: (i) four Energy Savings Certificates if activities have been implemented at the Site...”

...and that:

“(g) the Purchaser has paid a net amount of at least \$90, excluding GST, which must not be reimbursed, for the Implementation...”

...and, in clause 10.1, that:

““Implementation” means the delivery of a Recognised Energy Saving Activity at a Site...”

EECCA envisages that there will be many circumstances under the HEER method where an ACP will visit a site several times, e.g. first to upgrade the lighting, then later that year, the air-conditioning, then the next year, the hot water service (when it fails). The HEER method rules appear to have been written in the assumption that an ACP will undertake all the activities at the same time, then create the ESCs. Where this is the case, it is no inconvenience to achieve the minimum 4 ESCs per implementation and \$90 co-contribution requirement. However, should an ACP undertake several “implementations” over time (which we think will be the norm), the 4 ESCs per implementation and \$90 co-contribution requirements will become an unnecessary barrier and burden to the OES and the ACP such that they may not choose to engage a second and third time in the HEER method. We believe that the NSW Government should modify the wording in clause 9.8 and/or the definition of “Implementation” in clause 10.1 to require only that the OES achieve the 4 ESCs per implementation

and \$90 co-contribution requirement the first time an ACP implements its RESA at the site and that thereafter, these requirements are deemed to have been met.

## Pool Pump Replacement activity

EECCA makes these observations and recommendations about the pool pump replacement activity D5.

### HEER vs SONA

Swimming pools, in particular pool pumps, can easily represent a third of a household's energy consumption and can be found in approximately 15% of NSW homes (extrapolated from ABS data.) The report "Pool Pumps: An Investigation of Swimming Pool Pumps in Australian and New Zealand, A research report prepared for the Department of the Environment and Energy, August 2016" made these observations (in summary):

1. Price appears to be the main driver in the purchasing decisions of consumers.
2. Many consumers do not know the types of pumps they have in their pool and show a lack of engagement.
3. Consumers are seeking advice from pool professionals to help them in their purchasing decisions showing the importance of these professionals in influencing the decision making in relation to pool and spa pumps.

Energy savings are currently calculated under the Home Energy Efficiency Retrofit (HEER) method. We believe there are several reasons why the pool pump replacement activity D5 should instead be calculated under the Sale of New Appliances (SONA) method, including:

1. Administrative Streamlining: Evidence and validation requirements of the HEER method represents too greater a cost and time impediment to support large scale uptake of pool pump replacement under the HEER. On the other hand, data collection and validation under the SONA method would be relatively low cost and streamlined.
2. Reliance on Expert Advice: Consumers typically rely on expert advice when choosing between pool pump technologies. This advice typically comes from sellers, usually pool shop retailers. The SONA method will provide a financial incentive to retailers if their advice leads to a customer purchasing a more efficient pool pump technology, the HEER method won't. Purchasers of pool pumps typically follow the advice of retailers and will therefore purchase more efficient pool pumps if they're recommended by retailers.
3. Disincentive of Multiple Trades: Pool pumps are not usually replaced by electricians (simply a matter of plugging it in) or plumbers (there's no mains water connection and often no cutting and gluing of pipes), but by swimming pool contractors usually working for a pool shop. Under the HEER method an ACP interested in the pool pump replacement activity will be faced with the prospect of engaging multiple trades, a strong disincentive to taking up the activity. Under the SONA method, no such disincentive exists.

### Working Condition or Not

The pool pump replacement activity D5 requires a pool pump to be in working condition at the time of implementation. The failure of a pool pump represents the best time to incentivise the purchase of a more efficient replacement. EECCA believes that the pool pump activity should be treated in the

same way as the hot water replacement activities D10 and D11, which do not require that the hot water service be in working condition. We believe that requiring that a pool pump should be in working condition is an unhelpful and unnecessary requirement.

### Single phase motors only

Equipment requirements in D5 states that that the pump should be "...single phase, single speed, dual speed, multiple speed or variable speed pump..." EECAA believes this should instead read that the pump should be "a single phase motor and of any of the following types of pool pumps: single speed, dual speed, multiple speed or variable speed..."

### Validation data required

D5 states that "The new End-User Equipment must be listed as part of a labelling scheme determined in accordance with the Equipment Energy Efficiency (E3) Committee's Voluntary Energy Rating Labelling Program for Swimming Pool Pump-units..." The committee's data published at <http://www.energyrating.gov.au/products/verlp-participating-products> is insufficient to calculate energy savings using D5, table D5.1 as the table does not list the flow rate. It may be that sufficient data is collected by the committee but not published. If so, the NSW Government could request that the data necessary to calculate energy savings under D5 be published.

### More than one flow rate

Under D5, the new pump can be a single speed, dual speed, multiple speed or variable speed pump. The speed setting (where this can be changed) is a major determiner of the flow rate used by the energy savings calculation in D5, table 5.1. Because D5 does not specify which flow rate to use, where multiple are possible, the calculation method can lead to more than one possible energy saving.

The NSW Government should consider modifying D5 to require that where a dual speed, multiple speed or variable speed pump is used, the flow rate used to should be same as used to calculate the energy star rating under the labelling scheme.

Alternatively, the NSW Government could consider modifying D5 to align with the calculation methodology for pool pumps energy savings used in 26A of the VEET regulations, as per:

$$0.00674 \times (1622 - \text{PAEC})$$

where PAEC is the projected annual energy consumption (kWh/y) listed on the energy rating label.

We note that the Projected Annual Energy Consumption (PAEC) is already published by the committee at <http://www.energyrating.gov.au/products/verlp-participating-products>.

## Addendum F - Regional Recycling

EECCA would like to take the opportunity of the current rule change consultation to request that the exemption to provide evidence of recycling of mercury containing lights in regional areas is removed. This would then require all ACP's working within the ESS to provide evidence of correct disposal.

EECCA is a member of Fluorocycle and firmly support the Minamata international treaty on mercury as signed by Australia. We also note the NSW EPA position on disposal of mercury.

A secondary consideration is that as there is a cost associated with the disposal, EECCA would like to ensure that those companies doing the right thing by the environment are not being unfairly penalised in a commercial sense. We believe that a level playing field is required.

A third consideration is that the current rules become ambiguous to an ACP where they may mistakenly feel that the scheme administrators are allowing them to dispose of mercury containing equipment incorrectly – is by dumping in landfill. It is our understanding that if they are found to have done this by the EPA then they can be fined a substantial amount. Whilst we also recognise that the EPA do not have the resources to police disposal, this is no excuse for allowing the ambiguity to persist.

EECCA understands that OEH in consultation with IPART and (interestingly) the EPA made the decision to ensure that the cost of recycling in regional areas did not create a barrier that the Regional Network Factor was introduced to try to deal with by encouraging activity in such areas. EECCA understands that OEH was to monitor regional activity and if it had picked up, would then introduce the requirement to recycle at that point.

EECCA believes that this is fundamentally flawed and if the RNF is not working it should be increased – not relate it to allowing ACP's to dump mercury into regional landfill.

We find it surprising in the extreme that the NSW EPA would ever have accepted this premise.

It should be noted that EECCA proposed that the ESS require recycling quite a number of years ago and were informed by IPART that this was an EPA issue and not one they should monitor through a scheme.

So please consider the above and remove the exemption, the reason for ambiguity and potential for an uneven playing field. The outcome will be that less of the dangerously toxic mercury will go to landfill due to the actions of participants in the NSW ESS.

**For more information see Appendix One**

## Appendix One

### 3.5 Recycling requirements – Method Guide p7 NSW ESS

*Accredited Certificate Providers are responsible for ensuring that lighting equipment removed or replaced during the lighting upgrade is disposed of appropriately. Furthermore, if the implementation: is in a Metropolitan Levy Area (ie, an area with a postcode listed in Table A25 of the ESS Rule), and has an Implementation Date on or after 15 May 2016, any lighting end-user equipment containing mercury must be recycled in accordance with the recycling requirements of a recycling program such as 'Fluorocycle' or equivalent.*

**Therefore, in regional areas the proof of recycling of equipment containing mercury is not required.**

From OEH - This requirement was introduced in the 2015-2016 Rule change and the background, including consultation and stakeholder responses, are detailed on the Rule change webpage at <http://www.resourcesandenergy.nsw.gov.au/energy-consumers/sustainable-energy/efficiency/scheme/energy-savings-scheme-rule-change-2015-16>

**Waste and recycling** Proposal ESS Rule: §5.3A - The NSW Government proposed to:

- *include a requirement in the ESS Rule to ensure that mercury is recycled or safely and appropriately disposed of by adhering to the recycling and disposal guidelines of product stewardship programs such as Fluorocycle. The NSW Government is proposing that this recycling requirement will only be applicable to postcodes subject to the Metropolitan waste levy areas listed in Table A25 of the ESS Rule.*

- *ensure that evidence of safe disposal is collected and retained for energy efficiency upgrades implemented under the ESS. Including this requirement will help to ensure that the ESS is consistent with one of the secondary objects of the Act, "to complement any national scheme for carbon pollution reduction by making the reduction of greenhouse gas emissions achievable at a lower cost" (S98 (2) (b)).*

*All stakeholders who responded were supportive of recycling both mercury and refrigerants in the ESS and expressed that this builds confidence in an environmental government program which will have a positive impact on the reputation of the NSW Energy Savings Scheme.*

*In response to whether participants should follow the requirements of a product stewardship scheme, stakeholders agreed it was appropriate although there was a common theme that evidence should not be required to the level of proving each light has been recycled. Instead, it would be preferable to allow receipts showing weights that have been recycled or evidence of NSW Energy Savings Scheme Rule Change Amendments – Consultation Paper 5 NSW Department of Industry, April 2016 regular engagement with the recycling provider.*

*A few responses expressed the need for recycling to be a requirement across the whole scheme and that it should cover transformers and other harmful waste products. The majority of responses did not agree that particular postcodes should be excluded from the requirement. One stakeholder responded in relation to the recycling of refrigerants, saying that the evidence for this is easily obtainable.*

*Government response Whilst it would be preferable to mandate the mercury recycling requirement across the whole State, there is concern that it would be counterproductive to introduce the Regional Network Factor as well as the recycling requirement. Instead, it is preferable to make the change in a two-step gradual process whereby the requirement is extended to regional areas once more activity has picked up in those areas.*

*Regional certificate creation will be monitored and this requirement may be investigated for the next annual ESS Rule Change.*