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Department for Energy and Mining  
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By email: [DEM.REES@sa.gov.au](mailto:DEM.REES@sa.gov.au)

### **RE: Proposed Retailer Energy Productivity Scheme (REPS) – activities, credits and targets**

ERM Power Retail Pty Ltd (ERM Power) welcomes the opportunity to respond to the Department of Energy and Mining's consultation paper on proposed retailer energy productivity (REPS) activities, credits and targets.

#### **About ERM Power**

ERM Power (ERM) is a subsidiary of Shell Energy Australia Pty Ltd (Shell Energy). ERM is one of Australia's leading commercial and industrial electricity retailers, providing large businesses with end to end energy management, from electricity retailing to integrated solutions that improve energy productivity. Market-leading customer satisfaction has fuelled ERM Power's growth, and today the Company is the second largest electricity provider to commercial businesses and industrials in Australia by load<sup>1</sup>. ERM also operates 662 megawatts of low emission, gas-fired peaking power stations in Western Australia and Queensland, supporting the industry's transition to renewables.

<http://www.ermpower.com.au>

<https://www.shell.com.au/business-customers/shell-energy-australia.html>

#### **General comments**

ERM Power is a strong supporter of energy schemes which enable optimisation of energy use to benefit customers and the energy system. As highlighted in our submission to the proposed retailer energy productivity scheme (REPS) regulatory framework and activities, we consider that further gains can be made to improve energy productivity within South Australia with the inclusion of large energy users. However, further consideration will be required on how this can be done in a manner that does not impose undue burdens on participants.

Our main concern with the proposed REPS is the suggested commencement date of 1 January 2021. There is still a large program of work required to finalise the details and operationalise the scheme and a start date of less than three months is ambitious. We are concerned that participants will not be ready in time to fully participate, given that an administrator has yet to be made and changes to the Code and Guidelines will be required in consultation with industry. There is a risk that a rushed start, with undeveloped concepts, could result in unintended consequences to the detriment of the REPS objectives.

ERM has aimed to manage its obligations as efficiently as possible to minimise costs to our customers. Under the REES customers who consumed more than 1000Mwh through an individual contract were excluded so that the REES didn't interfere with large customers' retail contracting decision. With the exemption proposed to be removed from the REPS, a commencement date of 1 January 2021 does not leave large energy customers sufficient time to understand if their commercial retail contracts are impacted and to what degree.

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<sup>1</sup> Based on ERM Power analysis of latest published information.



As such, we consider a transitional implementation plan is required to ensure that REPS is delivered effectively and efficiently and does not become cumbersome for participants. As we have previously suggested, it may be more useful to commence a simplified version of REPS from the 1 January 2021. This could focus on shifting demand out of the maximum window and clarifying the parameters of this window, with full participating commencing from 2022.

### **REPS targets**

We support the REPS targets for 2021-2025 being set at similar levels to the REES 2018-2020 (3.3 million GJs per year). However, we consider that the targets should be ramped up from 2022. This is for two reasons. It will enable a smoother transition from REES to REPS while the REPS is further refined. The second, is for retailers with commercial customers. Under the proposed Commercial and Industrial Demand Savings (PIAM&V DM) CD1 activity, 12 months will be needed to generate the certificates to fully participate in this activity.

### **Proposed REPS activities**

ERM considers further work is required to refine the activity methodologies and a transitional approach for implementation will enable this to occur. We have focused our comments on the key aspects of the activity specifications that should be adjusted to enable a greater delivery of REPS.

### **Definition of gas**

For all activities, it is proposed that any reference to gas refers to either natural gas or liquefied petroleum gas. We consider this definition to be limiting, particularly for the participation of industrial energy users. For example, the generation/capture of biogas or off-gas processes (such as coke ovens gas) to offset the consumption of natural gas or LPG would be excluded. ERM recommends that a more inclusive definition of gas should be adopted, similar to the NSW Energy Savings Scheme (ESS):

“Gas” means any fuel listed in *National Greenhouse and Energy Reporting (Measurement) Determination 2008 (Cth) Schedule 1 Part 2 – Fuel combustion – gaseous fuels* or liquefied petroleum.

### **Commercial Lighting Upgrade CL1**

While the consultation paper does not suggest caps, we want to highlight the risk that maximum claimable energy limits pose. Under the REES activities for commercial lighting, participants could only claim up to a maximum of 900 GJ, no matter the volume of savings in GJ achieved at one job (per site). This is limiting for participants and we support not having capped targets introduced for activities.

### **High Efficiency Refrigerated Display Cabinet RDC1**

ERM supports the proposed requirements for case eligibility being from GEMS. We consider the absence of a dedicated registry will create efficiencies for the scheme. A dedicated registry of products only creates a delay in having products transferred from GEMS to the registry.

We question the restrictions on the temperature classes. This will result in some confusion and inefficiencies as cabinets that are eligible in other state schemes, such as non-applicable temperature classes, appear to be not eligible under the REPS. The consultation paper does not provide any solid evidence why these restrictions have been made and we request that further clarification and consideration is given to eligibility.



## **Commercial and Industrial Demand Savings (PIAM&V DM) CD1**

ERM considers, in the first instance, that this activity in REPS should be harmonized with the NSW Peak Energy Reduction Certificate Scheme from the start. This will incentivize the outcomes from the commercial and industrial sector, where load is moved from periods of negative demand to periods of high demand.

The following comments related to the proposed specifications for CD1:

### ***Limitation of one activity per premises***

There does not appear to be a specific permission included in the activity specification to allow the premises to conduct more than one activity. This is extremely limiting as it is very common for large commercial and industrial energy users to conduct multiple energy efficiency/productivity measures over a period of years. It is also quite common that the visibility of energy savings is only possible for a sub-system boundary vs total site boundary and therefore multiple sub-system activities may be implemented each with a discreet measurement boundary.

For example, an industrial facility may implement a compressed air upgrade and refrigeration upgrade 12 months apart. Compressed air may account for 10% of the site's energy while the refrigeration accounts for 15%. Energy efficiency projects on these systems are likely to be small, relative to the total sites energy consumption, and as such, a total site measurement boundary would not be appropriate. Adequate measurement and verification could therefore only be conducted with two separate sub-system approaches.

A second example is the implementation of VSD controls on a refrigeration system (as activity implementation 1). A further control upgrade of Variable Head Pressure Control on the same refrigeration system is also done (activity implementation 2). These activities may be implemented at separate times or only after the first activity has been proven to be successful. The current limitation of one activity per premises is overly restrictive and would greatly discourage the participation of industrial energy users.

Further to this, the REPS credits calculations for CD1 include a counted savings component which implies it is possible to conduct this activity more than once at the same premises. We would support the removal of this limitation and further clarity around this permission would be beneficial.

### ***Estimate of the Mean***

The definition of 'estimate of the Mean' is proposed to be *"based on energy consumption measurements, Independent Variables and Site Constants where the Coefficient of Variation of the energy consumption over the Measurement Period is less than 15%"*. We consider that this should include the wording 'where relevant' as below:

"Estimate of the mean is based on energy consumption measurements, independent variables and site constants, **where relevant**, where the Coefficient of Variation of the energy consumption over the Measurement Period is less than 15%"

An energy consuming system with a Coefficient of Variation (CoV) less than 15% is one that does not vary in energy consumption greatly. As such, it is highly unlikely that there are any significant/material independent variables that drive changes in energy consumption. It is therefore not reasonable to require an estimate of the mean approach to be based on or document independent variables.

A common example of this is a fixed speed fan that operates continuously where is to be converted to a VSD control mechanism. In the baseline period, the fan operates at a fixed speed and therefore a relatively constant energy consumption (minor energy variations may occur due to network supply voltage however the CoV would remain under 15%). This fan will operate and not be impacted by ambient temperature or other potential independent variables. Following the installation of a VSD control, the fan can be maintained at a temperature set point in a



room. The fan will vary its speed (and therefore energy consumption) based upon the room temperature. In the baseline measurement period, air temperature may vary, but the control logic of the fixed speed fan does not recognise this and does not change the fans operation. As such, air temperature is not an independent variable in the baseline.

### ***Effective range***

ERM considers that the definition of Effective Range is very broad and does not provide any indication as to how the effective range of each model is determined to be valid. The International Performance Measurement & Verification Protocol (IPMVP) does not provide prescriptive effective range limitations and allows measurement and verification to be conducted where production levels (or independent variables) have increased significantly over the course of the upgrade implementation. This is evidenced by Figure 2 in the IPMVP's Core Concepts (2016) where an energy efficiency upgrade coincides with an increase in production. This indicates that valid energy savings can be documented even when the range of independent variables in the operating period exceeds the range observed in the baseline period.

The consultation paper's Appendices 1 and 2 refer to "*demand being accurately measured for a year*" in the underlying assumptions section. This assumes that all CD1 activities have a one-year operating cycle and that the complete range of independent variables will be observed over the one-year period. It also negates the need to consider an effective range of energy models. This is not appropriate for many industrial upgrades which will likely be measured as sub- system approaches and have a natural cycle of weekly or fortnightly based on production drivers (rather than ambient weather drivers). It is also inappropriate to have a one-year baseline measurement period as this period is significantly longer than the scoping, procurement and implementation patterns seen on industrial sites. As a result, adequate sub-metering would not be available for 12 months prior to implementation, thereby excluding these projects from participating. In practice, this would drive activity CD1 to be a total site only approach where historical billing data is available and greatly limiting the participation of industrial energy users in the scheme.

Should effective range remain as a component of CD1, the validity of the range should be deemed appropriate by a measurement and verification professional. Measurement periods of less than the natural operating cycle of the system should be allowed to facilitate energy users seeing a return from REPS credits in a timely fashion. The effective range would be used as a self-limiting factor on the total credits generated from an upgrade. That is, effective ranges of less than 100% should be permitted and the total credits generated in accordance with effective range – 80% effective range equalling 80% of annual savings eligible for credits, 50% range, 50% credits etc.

### ***Measurement and Verification Professional***

ERM recommends that the approval process for Measurement and Verification Professional's should be streamlined, allowing those approved in NSW and Victoria to be readily approved in South Australia. This would minimise the administrative costs and facilitate the uptake of REPS activity by existing Measurement and Verification Professionals.

### ***Existing equipment***

The activity specifications state that 'existing equipment must be in working order at time of the upgrade'. Many industrial energy efficiency projects have multiple drivers such as production limitations, energy savings, equipment longevity/life expectancy and asset depreciation. Projects are typically aligned with the end of life of assets as:



1. Where action is required – whether it needs to be replaced with like for like or with an energy efficient alternative.
2. The asset is typically full depreciated at this point and any remaining asset value does not become a hurdle to project implementation.

It is therefore common for an upgrade to be planned (scoping, capital approval, new equipment procurement) at the time of asset/equipment failure.

The requirement for the equipment to be in working order will unnecessarily limit the participation with the scheme. ERM recommends that this requirement be removed from activity CD1 as it is already a requirement that the baseline be measured under “normal operating conditions”. This shall ensure that the equipment is correctly working at the time of baseline measurements. Maximum scheme participation should be sought to encourage energy efficient upgrades at time of replacement rather than like for like replacements with nil to minimal energy benefits.

### ***Measurement tool***

It is proposed that normalised energy savings must be recorded using an ESCOSA approved calculator.

Participation in the NSW ESS under PIAM&V has demonstrated that it is not possible to develop a single tool that is capable of incorporating all possible variations of projects and calculations required for commercial and industrial energy users. Many issues were identified with the NSW Government tool including:

- Additional administrative costs to both the tool provider and users associated tool updates and utilisation
- Tool testing and ongoing error identification
- Software and operating system compatibility issues
- Slow processing of the tool calculations
- Inability to enter projects that used any other approach than a simple linear regression (that is could not do non-linear regressions, multiple linear regression)

ERM considers that it is not reasonable to enforce the use of such a tool as this will limit the eligibility of complex projects. We recommend that the use of such a tool be voluntary. We also consider that raw data files and final credit calculations could be presented in a known format to ease the administrative burden of auditing, however this needs to remain broad enough as not to exclude complex projects.

### ***Replacement warranty***

It is proposed that new equipment must come with a minimum 2 years replacement warranty. Commercial and industrial projects often involve multiple components any of which may only have a replacement warranty of less than 3 months if at all. For industrial projects, it is unreasonable to expect a 2-year warranty on equipment as the conditions the project is placed/operates under is site specific and unique.

Further to this, commercial and industrial projects are often bespoke solutions rather than product based. Including warranty requirements will exclude many industrial projects and drive the scheme towards product implementation only.

It is also proposed that at the time of installation, the new equipment must be on the list of products accepted for installation under the NSW ESS. The NSW ESS does not have a list of accepted products for commercial and industrial energy projects outside of the Commercial Lighting ELT Portal and the GEMS registry for the deemed



methodologies. In NSW, PIAM&V activities can be conducted using a broad range of technologies without the requirements of the specific products being approved by the administrator.

It is recommended that the REPS CD1 not include requirements for accepted/approved products. The majority of the energy efficiency/productivity measures are a bespoke solution, rather than a product, and may involve many different products brought together to form a solution. For example, a refrigeration system upgrade may involve:

- A refrigeration compressor from an OEM,
- Variable Speed Drives from an electrical supply,
- Pressure and control sensors from an automation company and
- Control logic written and implemented by internal engineering teams within the sites custom SCADA system.

Please contact me if you would like to discuss this submission further.

Yours sincerely,

[signed]

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