

Independent Pricing and Regulatory Tribunal
Energy Savings Scheme
Level 15 / 2 – 24 Rawson Place
SYDNEY NSW 2000

A.O.: Scheme Administrator

Friday, 22 November 2019

RE: *Draft PIAM&V Method Requirements*

Dear Scheme Administrator,

With reference to the consultation paper on PIAM&V Method Requirements, please accept this written submission detailing our views on the draft requirements. We trust you will give this submission due consideration.

Question 1:

“What types of supporting evidence and explanatory reasoning should be included in the Preliminary M&V Professional Report?”

Response 1 –

If IPART requires a preliminary M&V professional report, then this report could provide a review of the **M&V Plan** and **Baseline Model(s)** and identify if these works meet both professional M&V standards and any requirements and rulings which IPART has publicised relating to the delivery of M&V projects under the ESS. The M&V professional preparing the report would therefore need to have up to date information on IPART requirements and rulings and access to IPART M&V experts to check on issues if in doubt.

Having this preliminary check on both M&V standards and IPART requirements and rulings, the ACP should then be able to proceed with the confidence that, provided they follow the evidence collection and methodology endorsed by the Preliminary Report and conduct accurate calculations, they will receive a positive assessment from the final M&V Professional Report and can create ESCs and pay rewards to the OES without the risk that IPART will retrospectively introduce new requirements and rulings at a later date and decide that the creation is invalid.

If the situation arises where project circumstances require changes to the M&V Plan changes, we note that the consultation paper states that:

*“If any changes need to be made to the baseline Measurement Procedure parameters after the Preliminary M&V Professional report is completed, this may be reflected in the final M&V Professional report with **appropriate** explanatory reasoning.”*

This might be an acceptable way to proceed, providing that IPART is ready to accept the M&V Professional's professional, independent opinion of what represents appropriate explanatory reasoning. If this is the case, the ACP can still proceed to create ESCs without the risk that IPART will later take a contrary view and dispute certificate creation.

Without reasonable certainty that IPART will accept the M&V professional reports, there is a risk that an additional Preliminary Report will only add time and expense to the M&V project. To this point we consider that the first appropriate stakeholder consultation question should have been: ‘Do you as a stakeholder believe that there is utility in a Preliminary M&V Professional Report?’

Question 2:

“What types of evidence and justification can be provided to demonstrate that a proposed Measurement Period covers the full operating cycle for implementations where energy consumption is affected by weather?”

Response 2 –

The application of Effective Range to this issue may not solve all concerns, but it would provide a reasonable basis by setting restrictions on the number of ESCs which could be created if there is uncertainty whether a Measurement Period covers the full operating cycle for implementations where energy consumption is affected by weather.

We would like to note that, although, the requirements listed in the consultation paper and Clause 7A.5(f1) are said to be consistent with each other, they may sometimes be expressly inconsistent with each other in that the presumption underpinning the clarifications is that within an operating cycle of 12 months, all time periods during which Independent Variable(s) may lead to the Implementation increasing electricity consumption or gas consumption (or both) are by definition included. That is not true, because temperature records are broken year on year. You wait long enough and there is a time period during which energy consumption can reasonably be expected to go up. As such, the requirements provided by the Scheme Administrator and clause 7A.5(f1) are not expressly consistent with each other.

Furthermore, it is possible that all observations of the independent variable that could possibly lead to the Implementation increasing consumption are included before 12 months have come to pass. At that point, the ACP reports the savings with a precision which places the reported savings within a band – commensurate with the confidence level – where the savings are within a margin above or below the estimate. Once again, every subsequent calculation of savings, no matter how many years in, may land a margin equal to the relative precision above or below the initial estimate with equal probability. If it falls within the margins below the estimate, this is not evidence of an unreasonable expectation. It is evidence that the initial estimate was correct.

We do strongly believe that the Scheme Administrator needs to move on from making decisions of what warrants a reasonable expectation based on the outcome, where an apparent under-creation means it was reasonable and an apparent over-creation means it was not reasonable, even if the outcome is still within the margins of the uncertainty propagation. There is no evidence that could demonstrate that an operating cycle was full, and be right every time. Every subsequent calculation of savings, no matter how many years in, may land a margin equal to the relative precision above or below the initial estimate with equal probability.

A more appropriate stakeholder consultation question is: ‘Do you as a stakeholder believe that the clarification of requirements as listed in section 2 of the paper are consistent with clause 7A.5(f1)? This is the pertinent question the Scheme Administrator should be asking. Listing clarifications and then asking stakeholders to respond to a presumptive question does not provide a full consultation process.

Question 3:

“What other factors should be considered when defining normal operating conditions?”

Response 3 –

That non-routine events must be included in the M&V Plan is not expressly consistent with the ESS Rule. A non-routine event can be an unforeseen event. You can't plan for an unforeseen event. To require it in the M&V Plan is a non-starter. It is better articulated in section 4 where it lists it as: *‘the measures in place to record and exclude non-routine events’*.

Question 4:

“What should be addressed by the explanatory reasoning in the Preliminary M&V Professional Report to demonstrate the appropriateness of factors related to the baseline Measurement Period?”

Response 4 –

First the Scheme Administrator lays out – in section 4 of the consultation paper – all the things that need to be addressed by the explanatory reasoning in the Preliminary M&V Professional Report, and then asks the industry: *‘What should be addressed by the explanatory reasoning in the Preliminary M&V Professional Report?’*

In M&V there are judgement calls that need to be made and different parties and individuals will have different views on these judgement calls. One example is “appropriateness” which is a qualitative and not a quantitative evaluation, and therefore inherently carries a subjective element. Will IPART accept the judgement calls of the M&V Professionals? It is not obvious that IPART has found many – if any – M&V Professional’s explanatory reasoning satisfactory. The regular M&V Professional Reports rarely meet the Scheme Administrator’s expectations and when an auditor appears to place some reliance on the M&V Professional Reports, the Scheme Administrator has often appeared eager to reverse out of it. If IPART reserves the right to judge, then IPART should approve the M&V plans directly, like they do in the VEU.

Question 5:

“What options (other than sub-metering), that can be supported by acceptable evidence, are available to ACPs to define the measurement boundary?”

Response 5 –

Metering is the preferred way of defining the measurement boundary. We believe it would be reasonable, however, to define a measurement boundary in such a manner that it is – for example:

- The NMI minus sub-metered exclusions, like subtractive or virtual metering.
- Or the NMI minus calculated exclusions (i.e. for exclusions which are well-suited for calculation including lighting circuits and such.) These calculations may still be based on spot measurements of electric load.

To not allow for any means to manually adjust a boundary seems unnecessarily prohibitive. It is not always appropriate, it may not be appropriate most of the time, but there are sites where it is a perfectly reasonable proposition and where it should be one of the tools available to us.

Another option is the energy modelling itself. When suitably modelled, separable portions of an energy model can provide acceptable evidence to support a measurement boundary. An example is a multiple change-point model with cooling and heating where the base load can be separated from mechanical cooling and electric heating. Indeed, this requires the appropriate expertise and it will not always be possible, but these options exist and deserve consideration.

Question 6:

“What other modelling criteria and corresponding thresholds should be considered?”

Response 6 –

Nothing which is not being considered already in the Rule. No specific comments.

Question 7:

“Is there supporting evidence that can justify different thresholds than those provided in Table 1 and, if yes, what is that evidence?”

Response 7 –

The IPMVP states:

“Though there is no universal standard for a minimum acceptable R2 value, 0.75 is often considered a reasonable indicator of a good causal relationship amongst the energy and independent variables. The R2 test should only be used as an initial check. Models should not be rejected or accepted solely on

the basis of R². Finally, a low R² is an indication that some relevant variable(s) are not included, or that the functional form of the model (e.g., linear) is not appropriate. In this situation it would be logical to consider additional independent variables or a different functional form.”

Making the 0.75 R² a requirement again would mean that models would get rejected solely on the basis of R² which is at odds with the IPMVP. Indeed, a low R² must be reviewed for example for variable(s) and/or form but it is a mistake to go back to the mandatory 0.75 threshold. The IPMVP does not say that everything below 0.75 classifies as ‘low’ either.

Moreover, the IPMVP states:

“To ensure that the resultant error (uncertainty) is acceptable to the users of a savings report, be certain to manage the errors inherent in measurement and analysis when developing and implementing the M&V Plan. Characteristics of a savings determination process which should be carefully reviewed to manage accuracy or uncertainty are: [among other things]

- []
- *Modeling – the inability to find mathematical forms that fully account for all variations in energy use. Modeling errors can be due to inappropriate functional form, inclusion of irrelevant variables, or exclusion of relevant variables.”*
- []

The IPMVP places the resulting uncertainty in the context of (among other things) the relevant variables and the functional form. For this reason, we are of the opinion that the R² should be assessed in conjunction with the t-statistic of the independent variable, and the propagated uncertainty. If the t-statistic of the independent variable is >>2, and the uncertainty in the savings calculation is, say <10% at the 90% confidence interval, then an R² of 0.6 for example, need not be rejected. The best practice threshold for R² should not be made a requirement again. If a mandatory threshold must apply, we suggest it should be lower, and placed it in the context of uncertainty and t-stat of the independent variable.

Question 8:

“What additional guidance or tools may provide support for the calculation of data uncertainty?”

Response 8 –

No specific comments.

Question 9:

“What other evidence can be provided to support the identification and selection of relevant Independent Variables?”

Response 9 –

No specific comments.

Sincerely,

Jens Mozer | PIAM&V Team Leader

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On behalf of EC Focus Pty. Ltd.