Out Performers Pty Ltd,
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Out Performers' feedback on the new deemed methodologies to create VEECs for gas savings in the Victorian Energy Efficiency Target Regulations

In our review of the proposed new deemed gas methodologies (Parts 37-41), we have come up with the following issues, potential solutions, and potential additions:

Summary:

Conservative nature: Current VEEC return is approximately 10-15% of the NSW ESS return for equivalent activities. EREP (SAP) participants are already excluded and therefore the natural size of the system is going to be limited (say less than 5MW). The payback for improvements on boilers less than 3 MW is often difficult (even with higher gas prices). The overly conservative nature of the VEEC return in these areas is providing minimal incentive to implement these projects and therefore this will be limiting to scheme participation. It is recommended that the conservative nature of the DEI factors be revised and brought in line with the NSW ESS.
Eligible Fuels: The eligibility of project based on fuel type is inconsistent as activities 37 and 38 are limited to natural gas and LPG however other gas activities are not fuel restricted. Recommended that fuel restriction be removed from activities 37 and 38.
Limited Technology Improvements: Commonly implemented improvements such as sensor based blowdown, blowdown flash steam recovery, and residual blowdown heat recovery are not covered by the VEET Scheme when a framework is pre-existing in NSW ESS. Recommended that these options are explored.

Specific Issues:

Activities not included:

The following have not been included as eligible upgrades, but should be considered in some capacity:

- Sensor based blowdown control
- Automatic bottom blowdown control and heat recovery
- Blowdown Flash steam heat recovery
- Residual blowdown heat recovery
- Flash steam heat recovery
- Insulation of steam pipework
- boiler load optimisation (See comment at end of document)

Part 37 Gas Fired Steam boiler:

- Specification that firing rate output is 100-105% of manufacturers output seems excessive and will be costly for AP to prove – this should be removed
- Why is only natural gas or LPG included?
- VERY conservative. Certificate output is 13-14% of NSW qty. Given that EREP (SAP) clients are excluded, the boiler size will be naturally limited to say 3MW. Therefore this activity will yield <500.

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Part 38 – Hot water heaters

- See comments above for activity 37.

Part 39 – Ratio control

- Very conservative
- We suggest that 39 is broken into 2 sections, 'fuel/air ratio controller' and 'combustion trim'.

Part 40 – Burner Upgrade

- Very conservative

Boiler Load Optimisation

The 'boiler load optimisation' looks to address the inherent cycling that is present within heating boilers. Excessive cycling of the boiler means that cold air is pushed through the boiler extracting heat from the system. The more cold air that is pushed through the boiler, the less efficient this becomes. As part of the safety procedures with burners, they are required to perform a pre-purge before lighting the burner, and on occasion a post-purge to ensure no gases remain within the combustion chamber. Therefore, the more the burner cycles, the more purging that occurs.
All burners operate based on the outlet temperature of the boiler, typically running at 70-80C depending on the time of year. However, they do not measure the return temperature to the boiler and, therefore, it is not known if the heat that is being supplied to the system is being used for genuine load demand, or simply to replace the boiler standing losses (roughly .75-1.5% of maximum load) and pipe losses.
By measuring both the flow and return temperatures and an inbuilt algorithm in the controller, the cycling of the boilers should be reduced and offer a gas saving. The optimiser unit stores the flow and return temperatures as soon as the burner turns off and looks for the decay in both of these values, i.e. if the flow temperature decreases but the return does not, then this is identified as dry cycling and will stop the burner from starting. If both parameters decay, then this is acknowledged as a genuine call for heat and the controller unit will allow the burner to fire.