



21st June 2018

Sarah Stephen

Director, Energy Efficiency

Victorian Department of Environment, Land, Water and Planning

Email: energy.upgrades@delwp.vic.gov.au

Genesis Now VEU Feedback

Dear Ms Stephen,

Genesis Now would like to thank you for the opportunity to comment on the Review of Victorian Energy Efficiency Target (VEET) Regulations.

We are aware that the submission date has now passed. We humbly apologise and wish to add that the content below adds context to other submissions but does not necessarily require to be considered as a submission in itself.

We are an accredited person with the scheme, involved with Schedule 34 lighting and as an energy efficiency consultancy with two CMVP qualified personnel, potentially also involved with Project Based Activities.

We wholeheartedly believe the VEET legislation to be a success. It has been critical in the ongoing improvement in Victoria's energy efficiency performance, providing an equivalent benefit to the state of a great deal of energy generation to meet energy service demands of the growing population at a fraction of the cost of the provision of new energy generation, without any emissions or significant costs.

We have noticed 2 areas we feel need to be improved in the proposed re-vamp of the scheme. We have notified the Energy Efficiency Council of these and believe there may be a submission made by the EEC mentioning these items. However we feel that it is important to inform you of them in our own words also.

Proposed new lighting variant to include in Schedule 34: Photo-Luminescent (PL) Exit signs

Genesis Now would like to notify DELWP of a new form of energy reduction which could be deemed under the VEU scheme.

The benefits could be widespread, and the nature of the work is that exit signs, which currently are not frequently changed when Schedule 34 upgrades are undertaken, can be included at a marginal cost (plus a BCA submission) to the client, for a significant benefit in energy and ongoing maintenance. Under law electrically powered exit signs need to be tested every six months. Typically, the batteries will fail within 3 years. Unfortunately, it is now common practice for building managers to simply dispose of any exit signs which fail the test rather than diagnosing a problem with a rechargeable battery, charging system or lamp. The result is wasteful and expensive as parts are thrown out and replaced. These lamps never turn off, running 8760 hours per year. Although some are as low as 3W, many exit signs consume over 20W.

The energy saving measure involves the decommissioning of electric Exit signs including lamps, ballasts, batteries and their charging gear. The electrical units are to be replaced with Exit signs which are photo-luminescent and are regulated by the Australian Building Code, NCC E4.8.

In each case the installation will be covered by a relevant building permit including an inspection and sign-off by a surveyor.

Under the National Construction Code 2014 and since, it is now possible to go ahead with these upgrades. I have attached the relevant pages from the NCC 2016 and from an associated Victorian Publication "Building Interim Regulations 2017"

It makes sense to include this in VEU, as a subsidy would assist the business case considerably and provide an incentive for Schedule 34 APs to do a more complete and useful job rather than just changing office and high bay lighting. It is also largely an un-tapped market with very few installations of these signs. Notable exceptions have been Bunnings, who are rolling out PL exit signs nationwide, and some other companies such as VISY and Huntsman Polyurethanes. It has been estimated that there are some 500,000 electric exit signs in Victoria.



Figure 1: A "Glowbright" PL Sign Installed at Huntsman Polyurethanes, Deer Park



Figure 2: A PL Exit sign and other PL technology at a VISY site in NSW

Under current legislation a permit has to be obtained under the BCA in order for these signs to be installed. This is because there is a different classification of the signs required. Under the new BCA the lights are classed as "illumination in an emergency" rather than "emergency lighting". The technology is now mature, having been much lower performance in the past.

Genesis Now is happy to provide contact to a company, Glowbright, who can provide further technical information or explanation as required.

Genesis Now proposes that all signs which pass the stringent performance requirements for the BCA are exempt from product application, in the same vein as the MEPS initiative, so as to reduce red tape and improve access to the upgrade.

Use of efficient Fan Motors :

Genesis Now welcomes the inclusion of these fans in VEU.

However we note that the restriction in size to 600W for an internal rotor motor and 800W for an external rotor motor means that it is unlikely to be practical for any commercial AHU applications. The largest Electronically Commutated (EC) fan you can use below that level is a 250mm plug fan. Many AHU fans are 500mm or more and up to 6kW rated input. For example to fill a 500mm space with

250mm fans it can be feasible to build an array of 4 smaller fans and for some AHU applications this would suffice, but the limitation of 800W means that it may not be useable in some AHUs. If the air movement cannot be matched to the design intent as built, it is likely that problems such as freezing of cooling coils can result when under-driven. Also 4 fans instead of 1 fan can cost 4x the cost despite the fans being smaller. Any VEET/VEU benefit could be wiped out by the requirement to use a more expensive installation in order to claim the benefit.

To cover most commercial AHU's much larger fans are typically specified at a much lower cost than an array of smaller fans, at the same energy expenditure. Rated input power level needs to be at least 4 or better 6kW to cover majority of AHU applications.

EBM PAPST, a highly reputed German Fan company who specialise in Electronically Commutated fans have assisted Genesis Now in specifying EC fans to replace belt driven ones in a typical Melbourne commercial building. Out of 15 Air Handling units on four floors there are 4 types of installation, each with an individual choice of EC fan for the retrofit, averaging a 70% energy saving. None of the installations would meet the proposed requirement. We believe that is a strong indicator that the proposed guidelines can be revised.

Summary

Thank you for the opportunity to participate in the feedback process and I hope our comments have been useful. Please don't hesitate to contact me if there is anything I can help clarify or refer you to any subject matter experts in the respective fields.

Yours Sincerely,



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