Bendigo Heritage
ATTRACTIONS

RIS submissions
Risk, Regulatory Planning & Policy
Energy Safe Victoria
PO Box 262
Collins St West,
Victoria 8007

21st October 2020

To Whom It May Concern,

RE: Application of New Electrical Safety (Registration and Licensing) Regulations 2020 to Heritage Tramway Operators.

There are three heritage tramway operators in Victoria utilising a 600V DC overhead systems to enable their operations.

1. Bendigo Heritage Attractions (BHA) operates 4 km heritage tram system through major public streets in Bendigo.
2. Ballarat Tramway Museum (BTM) which operates a tramway of approx. 1.1 km in a public street in Ballarat adjacent to Lake Wendouree.
3. Melbourne Tramcar Preservation Association (MTPA) which operates on private property at Haddon.

Bendigo Heritage Attractions (BHA) is writing on behalf of all three organisations. We note the comment period for the new regulations has expired however we did not become aware of the new regulations until it was too late to meet the comment deadline. The requirement for linepersons working on traction systems to hold an R Class License is the issue that creates difficulty for heritage operators.

We accept the thrust of the new regulation, but we are small not-for-profit organisations located well out of Melbourne. The organisations are fearful that a strict interpretation of the new regulations would force closure of their operations.

The Bendigo and Ballarat operations are an important part of their respective city's tourist infrastructure. Hadden is an operation dedicated to the restoration and demonstration of historic tramcars operating entirely on private property.

We are seeking a means to continue our operations through an interpretation of the new regulations that will, in limited circumstances, allow alternatives to the use of fully qualified R Class linespersons for maintenance of our existing systems. All three systems have been operating successfully and safely for over 40 years.

It is our belief that all three systems have personnel who could qualify for a licence under Clause 31 b of the act in respect of their own systems and we seek ESV's views on this matter.

Bendigo Tramways (BT), as the most exposed to potential risk of the 3 organisations mentioned, has addressed the management of its electrical network as follows:

- BT over the last three years, has reviewed the electrical risks associated with its operations and undertaken a program to update its assets and processes with the aim of reducing the risks to as low as reasonably practical.
- BT has adopted the relevant requirements of the "Orange Book 2019" with some additional requirements such as the Safe Approach Distance to live parts for BT's Instructed Persons is 1200mm versus the Orange Book's 300 mm.
- BT does not allow "live-line" work on its 600V system. All work which requires human contact with overhead lines is done under Access Permit conditions with a manually applied earth/short circuit in place. (BTM and MTPA also do not allow "live-line" work on their 600V systems).

As part of this risk mitigation process, BT has stopped using its own staff or volunteers on overhead line works. It has engaged a Bendigo based distribution line contractor to provide the lineperson resources required. Support for the contract linepersons is given by BHA staff experienced in the BT overhead line requirements.

It is BHA's view that there are four major hazards associated with its line work. These are working at heights, electrical hazards, the mechanical hazards associated with tensioned aerial conductors and hazards associated with road traffic. These are essentially the same hazards associated with distribution line work.

This view is supported by analysis of the requirements of the two documented training qualifications, UET30712 Certificate III in ESI - Power Systems – Rail Traction and UET30619 Certificate III in ESI – Power Systems – Distribution Overhead. There are numerous common elements in both documents. The detailed differences are specific to traction overhead wiring.

Railway traction overhead wiring using a fully tensioned catenary supported contact wire is more complex than much of the distribution network. The BT overhead system is a single trolley (contact) wire simply supported by single span wires between kerbside poles or attached to simple cantilevers on a short section.

The main difference in our view between our simple trolley system and distribution conductors is that the trolley wire must be installed in a particular position in space over the tram track. We believe and have proven over the last three years that distribution linepersons with assistance where required can safely and satisfactorily undertake the line work required by BT. In cases where more complex works are to be undertaken, BT will hire an experienced tram overhead supervisor to assist with the works.

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Regarding specific electrical issues, as stated previously, BT only allows access to the 600V system under Access Permit conditions. The BT system has a single 600V substation making the switching of power a simple exercise. All switching is undertaken by trained BT personnel to predefined switching schedules and processes that comply with the Orange Book. The other electrical hazards are approach to the distribution assets which share many of the supporting poles. This hazard is part of the normal day-to day work of Distribution Linepersons.

Using companies that employ R Class Linepersons for BT's work would create difficulty since they will be based in cities where electric traction systems are used for public transport and there is a reasonable probability of obtaining contract work on traction overhead lines. Use of these companies will also involve considerable expense in travel and mobilisation fees.

Due to the various major projects that are taking place in cities that use electric traction systems over the next few years, it is anticipated that these resources will be in high demand. The scale of BT's operation is unlikely to gain any attention from these companies as they meet the demand of these major projects.

Employment of an R Class qualified linesperson is considered impractical as our small 4 km network of single trolley will not generate enough work to keep any such person gainfully employed on a full-time basis.

Using Bendigo based contractors currently allows BT to have resources available in case of emergency. Most incidents are due to road traffic accidents involving kerb side poles. Most kerb side poles are managed by Powercor however BT owns and manages approx. 20% of the supporting poles. To bring in contractors from Melbourne in this instance, by the time they got organised, it would most likely take four hours to have them on-site to respond. In our view, this would be an unacceptable response time.

In respect of the mechanical hazards associated with tensioned overhead conductors and road traffic, we do not believe there is any significant difference between BT's work and distribution works.

BTM and MTPA uses Licenced Electricians and trained personal with over 20 years experience in Overhead work. BT, BTM and MTPA have procedures in place that the overhead must be isolated and short circuited before any trained and competent personnel works on the overhead.

BT, BTM and MTPA therefore seek to discuss with ESV a way forward that will meet their safety objectives and allow us to continue our roles in tourism and the preservation of historic electric tramways in Victoria.

Yours Sincerely,

[redacted]

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Operations Manager