

23/01/2012

The Secretary  
Australian Association of Live Steamers Safety Committee  
[aagricon@bigpond.com](mailto:aagricon@bigpond.com)

Dear Sir,

I refer to your e-mail dated 5<sup>th</sup> November 2011. DVR appreciates your positive comments concerning our submission to the 2011 Consultation process and it being conveyed to all clubs via the Website.

As requested, and after reviewing your comments, we would make a number of further proposals as follows:

#### **Passenger Carriage Dimensions:**

The 7<sup>1/4</sup>" design dimensions as published relate primarily to the straddle car design and do not conveniently convert to the requirements for sided carriages which are completely different. The aim is to achieve a safe vehicle, and to achieve this, all of the dimensions of the carriage must be considered together. It is proposed that there should be a separate table for sided carriages so that there is clarity in the specifications of these cars.

In doing so, recognition also needs to be given to the fact that sided carriages are built essentially to a 2" scale, and that as a consequence of their specific design characteristics, have an integrated 'safety cell' design envelope that cannot be readily altered without affecting other parameters. As this specific carriage design is for 7<sup>1/4</sup>" gauge, it should only be approved for clubs that predominantly operate heavy duty, or what might be described as 'Narrow Gauge' equipment in public passenger running.

DVR has adopted a set of 7<sup>1/4</sup>" passenger carriage guidelines that reflect the proven and accepted integrated standards evolved by this section of the hobby and it would be confusing to now seek to mix and match the AALS straddle car standards with that required for the safe operation of heavy duty sided carriages.

#### **Seat Height and Carriage Centre of Gravity**

With reference to seat height, the 250 – 300mm dimension should be read as only referring to the seat width that the DVR considers appropriate. Among the other critical dimensions to be included is the height above rail to the crush height of the seat. A recommended maximum would, in our view, be 430mm.

In sided carriages, there are critical footwell widths to accommodate wide feet on the floor of the carriage to assist in decreasing the centre of gravity and a requirement that bogies must be fixed to the carriage to prevent separation and so help maintain the low centre of gravity mass of the car. Air storage tanks should be fitted under the floor where possible so as to achieve the lowest possible centre of gravity. It is also relevant that drop centre footwells are discretionary and not a mandatory requirement, their inclusion being dependant on the basic design of the car.

DVR has adopted a safety cell package for 'Narrow Gauge' 7<sup>1/4</sup>" passenger vehicles and we would be happy to liaise with you about the inclusion of the package among the AALS Passenger Car specification if you so wish.

#### **Passenger Car Length**

The DVR remains concerned, as we indicated in our earlier submission, at the implications of the intended guidance advice about the length of 7<sup>1/4</sup>" Gauge passenger carriages being limited to 2.5 metres. The guidance length of heavy duty passenger carriages has traditionally since the 1970's, been considered to be 12 ft and is particularly relevant to those situations where 2" scale narrow gauge rather than fine scale train units are operated. This length was incorporated into the 1999 AALS Code of Practice. Given that more carriages continue to be built to the increased length, a new table for 'Heavy Duty' sided carriages should be incorporated showing a maximum recommended length of 4.5 metres in order to allow some flexibility and recognition of current practice in the developments in carriage design in heavy duty 7<sup>1/4</sup>" railways.

The wording of your proposed revision of the code fails, in our view, to overcome the difficulty associated with the reference to the 2.5 metre length. However, in the interest of achieving some level of agreement and moving forward, we propose the following further revision of the code wording:

'Length of 7<sup>1/4</sup>" narrow gauge carriages can be extended beyond 2.5 metre to 4.5 metre when the design provides adequately for such length and includes design features which ensure a low centre of gravity. Such features may

include drop centres, underfloor location of air tanks and suitably weighted and strengthened bogies which are bolted to the car body where necessary.'

We would emphasise again, however, that a separate set of specifications should be drawn up for narrow gauge sided carriages so that there is no confusion with fine scale design or Straddle Cars.

As some narrow gauge diesel locomotives now in Australia are between 4 and 6 metres long, it will be necessary to make provision for this length of bogie vehicle by giving discretion to clubs 'to test such vehicles and to make their own assessment of the vehicles suitability to operate, based on its operating history, underlying stability and design envelope suitability, so that they can be operated safely at a club track in public passenger running.'

### **Speedometers**

A view is strongly and clearly emerging that speedometers are a significant accessory to be included in the cab of all locomotives used in public running. The Spartanburg incident in the USA and the Havelock North rollover recently (which is subject to a government report on the cause of the accident) may all have been ameliorated by the mandatory fitting of speedo's. We view this as an absolutely essential safety initiative that is supported by evidence and experience. It is a necessary tool for the training of drivers and an essential element in the efforts of clubs to control speed on their tracks. For these reasons, AALS member clubs may benefit by having the opportunity to consider a recommendation on the desirability of installing speedo's into their locomotives and that it be considered a necessary safety fitting. DVR has accepted this position as a policy and all DVR Loco's will be modified as they are shopped for maintenance over the next 12 months.

### **Gas Firing of Loco's**

DVR Members have participated recently in the preparation of a draft module for our Safety Management System on the subject of gas firing of loco's. This draft has been forwarded to David Proctor and, we believe, Brian Carter. Its status is that of a preliminary draft and further consultation with a former engineer who held a senior position in ESV (Victoria) is pending, and it is expected to be finalised within the next three months.

We trust that the above comments are useful. Should you wish to enter into further discussion at any time, please do not hesitate to contact me.

Yours sincerely,



Ted Brierley  
Honorary Secretary  
Diamond Valley Railway Inc