



BOB EDWARDS

PBS: a certifier aspect

This important work can be found at <http://www.artsa.com.au/assets/pdf/PBSReportMay2020.pdf>

Important terms

The following terms need to be understood. 'PBS Assessor' means a person authorised by the NHVR to undertake vehicle performance calculations and submit applications for Design Approvals (DAs). 'Design Approval' is an approval issued by NHVR for a specific vehicle or combination dimensions and vehicle components (engines, transmissions, suspensions, etc). Certification and issue of a Vehicle Approval (VA) is required before a combination can operate. 'PBS Certifier' means a person authorised by the NHVR to inspect a vehicle or combination issued with a Design Approval and submit evidence of compliance to the NHVR for issue of a Vehicle Approval. 'Vehicle Approval is an NHVR approval issued to a vehicle owner specifying the VIN(s) of approved vehicles and the conditions of operation including mass limits and routes. The VA may require the operator to obtain permits. In some cases, operation can be undertaken using a NHVR Notice.

PBS certification requirements

The certification process introduced a requirement for inspection of all combinations to verify that they met the Design Approval issued. Certification involves verification of all combination dimensions such as front and rear overhangs, wheelbases, tow coupling and fifth wheel locations, drawbar length, trailer wheelbases (S Dimensions for semi-trailers), truck and trailer rear overhangs, floor, body and top of load heights and track dimensions. Mechanical specifications for trucks and trailers (engine, transmissions, rear axles, suspensions, tyres) are also required to be certified. The process is well established with certification documentation originally submitted

by email. More recently the NHVR has implemented improved systems of electronic submission of documentation. Unfortunately, there have been recent delays in finalising approvals being experienced for a range of reasons including current staffing levels, errors in certification documentation and PBS Team requests for additional information. Over the years there have been many matters that have caused concern and delays in obtaining approvals. In the early days that was often caused by the limited data submitted for obtaining Design Approvals. Therefore, it was common to find dimensions outside of tolerance (lesser of 1 per cent or 20 mm) and engines, transmissions, drive axles, suspensions and tyres not being included in the Design Approvals. These variations either needed correction (some dimensional variations were readily changed) or component replacement (the only practicable component replacement was tyres and that was common). Other components, normally not replaceable, such as engines, transmissions, drive axles ratios and suspensions required related to assessment by the PBS Assessors and updating of Design Approvals or Assessor reports being accepted to the PBS team. Assessor reports, now called Assessor Sign Off (ASO) are the most expedient method.

Inspection requirements

The PBS system relied on personal inspections to gather data. COVID has added a layer of difficulty with personal inspections so at times the use of other reliable sources to complete inspections was necessary. This leaves the certifier at risk if errors occur. We are aware that some certifications have been completed by accepting the manufacturer verification of dimensions. We find this less than ideal as there are occasions where we have been required to inspect certified equipment being added to another approval (typically not complete combinations as there is a process for that), but part of an approved combination being added to a

new approval. It has not been uncommon to find dimensions that are inconsistent with the previous approval. We find it useful to obtain previously approved data and manufacturer specifications as a backup to our own observations. It also provides a chance to recheck data before leaving the inspection site where prior results differ. It's certainly better than travelling across the country to recheck something as this adds costs. Certification of older vehicles Over the last few years there have been more operators with existing equipment wanting to get the advantages of PBS. We have found that 'reverse engineering' is the best approach with inspections being undertaken in advance of obtaining a design approval. It is also at this stage where older vehicles may be found to have braking non-conformities (not having anti-lock brake systems). The reverse engineering approach ensures that the Design Approval is correct for the combination from the beginning. It has certainly been found that if reliance is placed on owner supplied data there is a risk of errors requiring potentially costly and time-delaying resubmission including Assessor Sign Offs.

The good

- There is a standard set of technical requirements across the National Heavy Vehicle Law States and the ACT. As a result, it is only necessary to work through the NHVR for approval, knowing that the specifications will be accepted.
- The opportunity for higher gross mass

and operation on routes previously restricted provides significant payload and economic advantages.

Room for Improvement

- Current delays in approval issue result in certifiers being the go-to point for operators waiting for approvals to be issued. This has resulted in an increase in calls to the PBS team who have been protected from our irate customers. Work is being done by the NHVR that will improve these delays but that will take time.
- Certification submissions are still primarily handled by individual PBS Team members. There seems to be significant potential to move this system to an electronic review process that could enable approvals to be issued automatically once the certifier has provided the data.
- Western Australia and the Northern Territory are not part of the NHVR PBS system but operate their own local schemes. That can mean doubling up for some operators needing to travel in the States and ACT operating under the NHVR PBS system.
- It appears that some certifications are undertaken without inspections. It has been found at times when inspecting previously approved vehicles that our measurements are not consistent with the approved dimensions.
- Tyres remain an on-going problem for some combinations. I have yet to see a proposal that will fully overcome this matter as there are tyres with different characteristics that can improve

the PBS characteristics of some combinations. If there is not a process to provide for improved loading, and access in some cases, I would expect a reduction in advantages for PBS combinations could result.

- Some approvals are issued using component and standard specific terminology. As an example, pin type couplings are supplied by several manufacturers, but it is not uncommon to see the term 'Ringfeder' used. As this is a specific make, approval is required for other brands. It can also occur occasionally where Euro emission terminology is used instead of the Australian Design Rule number. While Euro emission standards are accepted alternatives, the final ADR approval is issued under an ADR designation and should always be included.
- There are many standard type Design Approvals for a range of combinations now, and it is still necessary to submit to the NHVR and wait for a Vehicle Approval. This is time consuming and seems unnecessary as the team of certifiers have the skills needed to be able to complete the approval documents. Some form of audit would be required but there seems to be no reason that a process providing for Vehicle Approvals to be issued through the NHVR Portal on the basis of certifier submitted documentation that is electronically verified.

Conclusion

The implementation of PBS has resulted in far less variation between state and territory requirements and has permitted significant access and payload advantages across the National Heavy Vehicle Law States and the ACT. There are still room for improvements to minimise delays in issuing the final approval and this should be investigated. A fully electronic system for the issue of VAs has the potential to reduce waiting times to less than one week.

Bob Edwards,
Founder of Transport Engineering and Management



Recently inspected Trailer Sales Brisbane PBS Combination.