



HVIA Submission

To the Review of High-Speed
and Stability Standards in the
PBS scheme

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Heavy Vehicle Industry Australia
Represents and advances the interests of manufacturers
and suppliers of heavy vehicles and their components,
equipment and technology.



www.hvia.asn.au



hvia@hvia.asn.au



07 3376 6266

About HVIA

Heavy Vehicle Industry Australia (HVIA) represents and advances the interests of the entire industry involved in the design, manufacture, importation, distribution, modification, sales, service, and repair of on-road vehicles with a gross vehicle mass or aggregate trailer mass over 3.5 tonnes as well as their components, equipment, and technology.

The industry directly employs over 70,000 people and provides some of the world's most efficient, safe, innovative, and technologically advanced vehicles. HVIA seeks to work with government and industry stakeholders to promote an innovative and prosperous industry that supports a safe and productive heavy vehicle fleet operating for the benefit of all Australians.

Summary of HVIA's position

HVIA welcomes the opportunity to comment on the National Heavy Vehicle Regulator's Review of High-Speed and Stability Standards in the Performance Based Standards (PBS) scheme. HVIA acknowledges the extensive and on-going consultations that the NHVR has undertaken in reforming the standards since 2019.

In preparing this response, HVIA consulted with a broad cross-section of its members throughout December 2025. **The overall position of HVIA and its members on all proposed approaches is of support, pending further assurances that the stability control technology fitted is operational in all circumstances, and fit for purpose for the combination.**

Summary of major points

HVIA's members welcomed the idea of embracing technology under the PBS Standards but considered that safety must remain a critical priority for all vehicles entering the scheme.

Lowering the Static Rollover Threshold (SRT) performance requirements would likely lead to a relaxation in some of the load plans/limits for existing combinations, which may be perceived by some as potentially negatively impacting safety. This is a crucial point for HVIA's members. It was suggested that to balance any increased risk, overall load height limitations may be required for some vehicles, and the requirement for brake system status indicators (as per R 1.4.4 d of the proposed Directional Stability Under Braking (DSUB) standard) be introduced.

Members also voiced general concerns about the overall use, fitness-for-purpose, and in-service functionality of stability control systems. Where operation at the reduced SRT is granted, it may be prudent to request proof of both initial, and in-service operation, to ensure that the technology is applied correctly, and remains operational throughout the service life of the vehicle.

A generic simulation model for the stability control systems is preferred by members, to ensure assessment consistency. The model should be empirically validated for a range of combination types with multiple stability control system makes/models. HVIA calls for the addition of other models such as truck and dog combinations, to feature alongside the proposed A-double work.

HVIA's members voiced concerns regarding the current SRT measurement methods and called for further clarification in the standard regarding test conditions and whether ride height control is allowed. The tilt test standards require disconnection of ride height control systems, whereas there

are no such requirements referenced for the SRT circuit test. Disconnection in the circuit test is considered prudent as the ride height mechanism would be unable to adequately react in a rollover.

There were additional concerns raised about how reference vehicles would be developed for Rearward Amplification (RA) and High-Speed Transient Offtracking (HSTO) and whether the benchmarks set by those vehicles would be practicably achievable.

Some consideration was given to the practical impacts of permitting a speed reduction during HSTO tests, to allow for stability control system interventions. Members considered that doing so would constitute a ‘different test’ as the vehicle dynamics of a combination without stability control would no longer be measured unless the testing is completed with both system in on and off states.

Considerations around costs, processing time and applying the standards to existing applications were raised in the context of implementation. A backlog in submissions and delays in processing times must be avoided. Members already report some delays to be excessive, particularly for Design Approvals.

Members considered it useful that the NHVR’s implementation communications notify operators that they cannot automatically access the new, lower SRT levels under their existing approvals and that additional work and assessment time will be required to update them.

The subject of a prescriptive Load Transfer Ratio (LTR) was raised as a potential specific inclusion for all test standards for PBS rather than just a few specific tests. It was thought that > 0.9 could be applied explicitly in the standards across the board as a simplification measure. It was also thought that current practice is the automatic inference of that limit, and a test deemed unsuccessful where wheels are not on the ground due to the unpredictability of vehicle dynamic performance in that circumstance.

Specific feedback and questions

Further information on each of the above summarised major points is provided in the following table, alongside questions posed by members in relation to the specific NHVR review areas.

HVIA understands that some individual members may have provided this feedback separately to the NHVR.

SRT Proposed Approach Part I – Introduction of a revised performance level if vehicle is fitted with rollover control technology	
Item	Feedback/question
1	Could a ‘generalised’ approach be utilised to simplify how the regulation is worded. For example, a ‘blanket’ SRT reduction of 0.03 g (from the current requirements) where stability control system requirements are met?
2	Is data on heavy vehicle crash rate vs SRT for various combinations available? This data is necessary to assess the safety impact of the SRT reduction. HVIA understands that the most-recent published work was a 1999 University of Michigan Transport Research Institute (UMTRI) report, available here .
3	It is considered unlikely that the SRT reductions will trigger new, unique trailer designs. Instead, the reduction will change loading plans and/or reduce limits or requirements on operators on payload heights and tanker fill levels, etc.

4	<p>There are general concerns about the overall use, fitness-for-purpose, and in-service functionality of stability control systems. Where operation at the reduced SRT is granted, it may be prudent to request proof of both initial, and in-service operation.</p> <p>A possible minimum requirement could be to match paragraph R1.4.4 d) of the Directional Stability Under Braking (DSUB) Standard that requires an indicator to demonstrate system operation. Other options include the use of Safety Management Systems and/or Maintenance Management, noting that they are lesser-order administrative type controls.</p>
5	<p>Anecdotal information suggests that in-service brake balance between units in a combination is a concern. Additional requirements for braking balance between units could be a solution. HVIA understands that in New Zealand, braking compatibility is tested with manual gauges. Reference vehicles could be tested and models applied by certifiers which then input the braking characteristics programmed into the trailer braking system and recorded on the mandatory Load Sense Function (LSF) plate.</p>
6	<p>It is understood that the NHVR will provide assessors with models for the stability functions. Can more information be provided on their development, and the steps taken to ensure representation of the two truck brands, and three brands currently in the market? In addition to the existing A-double work, could the same be provided for truck and dog combinations?</p>
7	<p>In the report provided by the NHVR for this review, 0.32 g and 0.35 g are compared in the simulations performed. The 0.32 g model provided is completed with stability control enabled. Can we the modelling results for the of 0.32 g model without stability control enabled be provided?</p>
8	<p>Concerns were raised regarding how SRT is currently measured and there is a call for further clarification in the standard around test conditions an whether ride height control is allowed during SRT.</p> <p>Tilt standards indicate to disconnect this, whereas there are no requirements referenced for the circuit test. It is felt that the circuit test should also have a condition of disconnecting the ride height control valve as realistically in a rollover situation the ride height mechanisms would not have time to adequately react.</p>
9	<p>The existing SRT value of 0.4 for DG tankers pre-dates the widespread use of stability control technology, which many trailer manufacturers have fitted as standard for several years. It would seem fair and logical that if a relaxation in SRT value for non-DG vehicles is being proposed, that a similar reduction be allowed for DG vehicles also.</p> <p>A related point is that the NHVR has changed the way that tankers are assessed, with a greater focus placed on fluid slosh. That change has resulted in an inability to add a new combination to an existing Vehicle Approval that was assessed under the 'pre-slosh' method. A relaxation of the SRT requirement for DG tankers may ameliorate those negative outcomes.</p>
<p>SRT Proposed Approach Part I – Introduction of a revised performance level if vehicle is fitted with rollover control technology</p>	

1	<p>A "road tank vehicle" is defined in AS2809 as "<i>a road vehicle of which a tank forms part or to which a tank is attached and where the tank is filled or discharged while on the vehicle</i>".</p> <ul style="list-style-type: none"> • This is deliberately worded to exclude vehicles carrying portable containers, which are not filled/discharged while on the vehicle. • Hence such vehicles are currently excluded from the 0.40 g SRT requirement for dangerous goods and can be assessed at 0.35 g. <p>The proposed increase of the 0.35 g SRT minimum for these vehicles to 0.37 g is welcome, as it will benefit safety. The same definition/wording as AS2809 for a "road tank vehicle" should be adopted; phrasing the same thing in a different way can create additional confusion.</p>
2	<p>AS2809.1 Clause 2.1.2 was written to ensure that if ISO tanks and portable tanks are intended to be used in a manner similar to DG tankers then they must comply with the same requirements as a DG tanker:</p> <p><i>The ADG Code permits a stability angle of 64° for tank containers, which are outside of the scope of this document. If a portable tank is used as a road tank vehicle, the stability angle shall conform with the requirements of this clause.</i></p> <p>Care should be taken to ensure that the revised wording does not allow this to occur.</p>
3	<p>It is understood that bulk tankers will still need to meet an SRT of 0.4 g, but a new performance level of 0.37 g will be introduced for vehicles carrying portable tanks. Nonetheless, given the similarities between the two, it may be problematic in practice.</p>
4	<p>A 'blanket' reduction of 0.03 g on all vehicles carrying Dangerous Goods (DGs), whether they be bulk tankers or portable tanks, may be a fairer solution.</p>
5	<p>The proposed increase in SRT minimum for portable tankers will affect existing approvals, some of which were designed to only meet 0.35 g. This will lead to legacy approvals and may require grandfathering of existing approvals that are modified in some way. The implementation of the new minimum of 0.37 g minimum appears to be justified by the statement: "<i>Even carefully designed ISO tank transport trailers with a deck height of 1.0m only meet an SRT of 0.37 rather than the 0.4g.</i>"</p> <p>If this is the only justification, can more the details of the modelling be provided? Figure 32 does not provide enough information. An increase to the threshold should be informed by fleet data and justified or supported by rollover data statistics.</p> <p>Additionally, more details are sought on how the grandfathering provisions for legacy vehicles will be administered.</p>
6	<p>Have roll stability system manufacturers for truck and trailers confirmed that homologation or Society of Automotive Engineers (SAE) based testing has been performed with vehicles representative of 0.32 g and 0.37 g?</p>
<p>RA/HSTO proposed approach Part I – Update the standards to accommodate stability control technology</p>	

1	<p>The introduction of a Load Transfer Ratio (LTR) ≤ 0.9 is welcome, as where LTR exceeds 1.0, vehicles can exhibit worse RA results with lower payloads, which is incorrect. Such tests should not be considered acceptable if there is wheel lift. Would it be appropriate for that limit to be applied to all relevant tests, not just limits below 0.35 g?</p> <p>It is acknowledged that West Australian regulators adopted a more conservative LTR limit of ≤ 0.8. It is also acknowledged that roll coupling can rectify LTR issues and other dynamic stability concerns.</p>
2	<p>Through the proposed revisions, it appears as though vehicles which couldn't previously pass the single lane change manoeuvre may now pass if fitted with a roll stability system. Has that been tested? Can more data be provided?</p>
3	<p>The paper seems to draw heavily upon work done by the National Transport Research Organisation (NTRO, formerly ARRB). Some of their work is published online as part of the Heavy Vehicle Safety Initiative (HVSII) (link), but it also references an unpublished report that was used. From the discussion paper:</p> <p><i>"The NTRO was subsequently commissioned by the NHVR to develop the outcomes of this research for application to the PBS Scheme in an as-yet unpublished report (Germanchev, unpublished 2025)".</i></p> <p>Can the NHVR publish that report? It may provide insights on the effective benefits of electronic stability and roll stability and how those technologies can benefit PBS vehicles.</p>
4	<p>The proposed changes are supported on the basis that they also apply to DG vehicles.</p>
<p>RA/HSTO proposed approach Part II – Reduce vehicle test speed for vehicles unable to achieve 88 km/h</p>	
1	<p>West Australian regulators implemented a 'super-quad' (i.e. quad road trains over 53 metres in length) speed limit of 88 km/h, to allow other combinations to pass. It is understood that the limit was later removed after unintended negative road safety outcomes. An alternative measure of mandatory roll-coupling on all units in combinations of overall length greater than 60 metres was implemented. Have such measures been considered in this instance?</p>
2	<p>There are concerns that vehicles unable to achieve 88 km/h cannot meet the same test criteria, as a reference vehicle that can. How can it be ensured that the standards set by reference vehicles are not impossible to meet? Would a sliding scale be a simpler, more useable approach than a reference vehicle?</p> <p>For example, alternative performance requirements for 'set' maximum vehicle speeds (e.g. 60 km/h, 70 km/h and 80 km/h) for RA and HSTO. Such limits could be supported with the requirement for assessed speed limitation to be confirmed during certification.</p>
3	<p>Could the approach suggested here also be considered for Yaw Damping Co-efficient (YDC) and Tracking Ability on a Straight Path (TASP), as those manoeuvres are tested at 100 km/h and 90 km/h? It is observed that these standards are not included in any of the earlier phases of the PBS Standards review. Will there be a Phase 5 to capture them?</p>
4	<p>The proposed changes are supported on the basis that they also apply to DG vehicles.</p>