19 November 2020

Dr Gillian Miles
Chief Executive Officer
National Transport Commission
Level 3, 600 Bourke Street
MELBOURNE VIC 3000

Email: hvnlreview@ntc.gov.au

Dear Dr Miles,

HEAVY VEHICLE NATIONAL LAW REVIEW – CONSULTATION REGULATION IMPACT STATEMENT

Please see attached GrainCorp's submission to the NTC's request for comment on the Consultation Regulation Impact Statement (RIS) for the Heavy Vehicle National Law Act 2012 (HVNL) Review.

GrainCorp welcomes the opportunity to provide this submission.

Your Sincerely,

Luke Thrum
Senior Manager – Corporate Affairs & Investor Relations

GrainCorp Operations Limited
Level 28, 175 Liverpool Street
Sydney NSW 2000 Australia
T +61 2 9325 9100
F +61 2 9325 9180
graincorp.com.au

52 003 875 401

1. Summary: unintended consequences of HVNL axle group mass limit enforcement on the Australian grain industry

The loading, discharge and transport of bulk grain by road in Australia poses unique challenges due to the multiplicity and variability of loading and discharge sites; the multiplicity of truck combinations and permits, and 'fluid dynamics' of the loads themselves. While recognising the principle of 'shared responsibility' applying under the Heavy Vehicle National Law (HVNL), the current strict application of the law relating to axle groups with regards to storage and handling operations of the Australian grain industry operates unfairly.

GrainCorp makes this submission to the National Transport Commission requesting a change to the HVNL's axle group weight regulations with respect to the transport of grain by road.

GrainCorp has the largest grain logistics task on the east coast of Australia with operations in Queensland, NSW, Victoria, and South Australia. GrainCorp operates seven bulk ports and approximately 145 country sites. Outside of harvest, between 120,000 and 310,000 trucks load or unload at these sites each year. In a large year, GrainCorp can unload over 400,000 trucks during harvest, most of which occurs between October and December. Estimated Australian harvest truck movements exceeds 1.3 million.

GrainCorp is currently in dispute with the Queensland Department of Transport & Main Roads (TMR) over alleged breaches of axle group mass limits on trucks loading at GrainCorp's Fisherman Island facility located in the Port of Brisbane. TMR has issued an Internal Review Decision of an initial Improvement Notice under which GrainCorp will be required to underload trucks to minimise (though not eliminate) the risk of trucks exceeding axle group mass limits.

A decision on the enforceability of the Improvement Notice will be made by the Queensland Civil & Administrative Tribunal (QCAT) in 2021, which may be followed by further appeals

GrainCorp has more than 300 weighbridges, each of which measures truck gross combination masses with system validations to minimise the risks of trucks exceeding the gross combination mass limit. None of these weighbridges are designed to measure axle groups with accuracy.

Across the Australian grain industry, old weighbridge infrastructure is built to comply with legacy regulations that did not include axle group measurements, and axle group measuring technology is extremely rare.

Using TMR's axle group measurements, it has been determined that an underloading amount of 10% minimises, although not eliminates, the risk of trucks exceeding the gross combination mass limit.

If GrainCorp was to implement an underloading truck compliance measure at one site, it would need to implement the measure at all sites to ensure consistency in legal and operational risk management. Given that the HVNL applies to the whole supply chain, competitive implications of underloading trucks means that all grain companies that are unable to accurately measure axle group mass limits would need to take the same underloading measure.

Assuming the 10% underloading is applied across the Australian grains industry, and conducting a retrospective cost analysis from 2011 to 2020, it is evident this would have a significant adverse impact on the industry, including:

a) An additional $4.63/tonne in freight costs, borne by the grain grower ($800 million over 10 years or $80 million p.a.). This would materially reduce the competitiveness of Australian grain in domestic and international markets.

b) The requirement for an additional 770,000 truck movements (77,000 p.a.) to transport the same volume of grain, along with the associated safety risks, road wear, congestion etc.

c) An additional 65 million tonnes of carbon emissions (6.5m tonnes p.a.) due to the increase in truck movements.

d) Extra road wear and road safety risks.

As an alternative to underloading trucks, the grain industry has the option to upgrade all weighbridges, computer systems, loading infrastructure and trucks, which would involve another significant cost burden, that increases further when accounting for the increased time it would take to load trucks, and the potential fatigue safety implications of longer truck loading times.

International grain markets are highly competitive and Australia's supply chain costs are amongst the highest in the world. Adding additional compliance costs as a time when regional Australia is recovering from drought and COVID-19 would have a significant detrimental impact on the Australian grain industry.

Through the HVNL Review, GrainCorp requests that axle group measurement requirements do not apply to loaders and unloaders of grain trucks for the following reasons;

- **Strict adherence to gross combination mass limits on arrival/exit from storage sites ensures substantial compliance;**
- **The costs and time required to ensure full and accurate compliance (if even possible) are disproportionate; and**
- **Truck drivers and operators themselves are best placed to ensure compliance with axle weights.**

Contents

2. Background

2.1 Grain industry gross combination mass limit management

Australia's grain industry is generally effective at ensuring gross combination mass limits are identified, measured, and not exceeded.

For example, GrainCorp uses a Truck Chart and Truck Book as the primary training system for weighbridge operators where each combination is assigned a truck code and drivers provide details about applicable permit schemes to load to masses heavier than the General Mass Limit.

GrainCorp's systems include corresponding mass limits with validation that prevents transactions completing until the gross weight is less than or equal to the total combination mass limit.

GrainCorp's Truck Chart and Truck Book have been developed by the Grain Transport Safety Network and they are commonly used to identify truck mass limits in the grain industry. System controls preventing trucks heavier than the mass limit leaving site are common.

2.2 Axle group mass limit technology for grain handlers

Distribution of loads within grain truck trailers and the impact on the corresponding axle group mass limits is more complex because loader and unloader technology to measure axle group mass limits is extremely uncommon in the grain industry.

This can be contrasted to other sectors such as retail and manufacturing where standardised truck combinations (6 axle semi-trailer and 9 axle B double combinations) are used. Warehouse management systems that build load distribution plans within trailers to comply with both axle group and total combination mass limits are commonplace. Axle group measurement is easier due to the standardised truck design.

During the grain truck loading process, truck drivers direct grain loaders on where to distribute their load within trailers and they use their trailer weighing equipment to ensure the load is correctly distributed. Adjustments are made by the truck driver when required between the load point and the weighbridge.

Due to the seasonal nature of grain transportation requirements, grain trailers have a 'single compartment' design so they can be used for a range of bulk commodities. With grain, the cubic weights vary and truck driver input on where to heap the grain within trailers is an important part of the loading process. Once grain trucks leave site, load fluid dynamics can result in load shift as trucks break, accelerate and travel up and down inclines. When this occurs, truck drivers must re-check their axle group weighing equipment and adjust their load if required.

2.3 TMR improvement notices relating to axle group masses

TMR alleges that GrainCorp:

a) Overloaded two truck and dog combinations that mis-declared they had PBS permits when loading

b) Overloaded a 9 axle B double above the General Mass Limit by loading it to the Concessional Mass Limit when it had a recently expired NHVAS Mass Accreditation Sticker

c) Overloaded three trucks on an axle group when the gross combination mass was less than the total combination mass limit

Based on these allegations, on 17 February 2020 TMR issued an improvement notice that can be broadly summarised as requiring GrainCorp to;

- improve staff training on the identification of truck mass limits,
- develop load plans for all grain trucks loading at the site, and
- use the existing gross combination weighbridge to measure axle group masses.

On 16 April 2020, TMR published an Internal Review Decision withdrawing the three requirements and issued a new requirement to achieve axle weight compliance by loading trucks below the maximum permitted gross combination mass. Following the receipt of this decision, GrainCorp commenced proceedings in QCAT challenging the Internal Review Decision.

GrainCorp has chosen to challenge the TMR Internal Review decision on the basis that the compliance cost burden TMR are attempting to impose on GrainCorp is both unnecessary, and grossly disproportionate to the magnitude of the risk of overloaded axles, and that the notice focuses on a single GrainCorp site only when that site represents common industry practice.

2.4 Inconsistent HVNL enforcement between states

Enforcement approaches to axle group mass limits differs in each state and this creates complexity for truck companies and grain handling companies that have multi-state operations, such as GrainCorp.

In NSW, Transport for NSW operates nine Heavy Vehicle Safety Stations (HVSS), each with a Weigh in Motion (WIM) system that measures axle group and total combination masses relative to the corresponding mass limit while trucks are moving. Trucks are directed to a stationary weighbridge if a potential overload risk is identified. Truck operators that exceed the mass limit are frequently fined.

In Queensland, a weigh in motion system was installed to measure trucks entering and exiting the Port of Brisbane. Data from the system is available in 2016 indicating very strong industry compliance with axle group and total combination mass limits with less than 3% overloads for all trucks leaving the port of Brisbane from all participants and commodities. Data after 2016 is unavailable, with indications the system is under repair despite signs indicating the system is operational, giving truck operators and their drivers a false sense of security when they pass through these systems.

Additionally, GrainCorp understands that none of the truck operators referred to in the Improvement Notice have been fined for exceeding axle group or total combination mass limits after being intercepted by TMR.

Trucks departing the Port of Brisbane after loading at GrainCorp Fisherman Island can use the TMR axle group weighbridge to accurately calibrate their trailer scales. Data on how frequently this occurs is not available to GrainCorp, although this is unlikely due to the above-mentioned WIM system, which appears not to be operational, combined with the low risk of overloading fines to truck operators when they exceed axle group mass limits.

2.5 Grain truck axle group mass limit complexity

Unlike other industries, the seasonal nature of the grain industry results in an extremely large number of different trucks spread across many different truck combinations with different axle spacings.

GrainCorp is representative of the broader grain industry where it interacts with an extremely large number of different trucks and truck combinations:

- For ex farm deliveries, GrainCorp has dealt with 330,000 different truck registrations and/or truck combinations between 2010 and 2020 during harvest
- Between 2017 and 2020, GrainCorp has dealt with 28,000 different truck combinations and/or truck combinations

To manage the large number of gross combination mass limits, GrainCorp has made significant system and staff training investments. Examples of this include GrainCorp's systems displaying an image of every truck, the validating the corresponding mass limit relative to the gross weight, participating in the development of and implementation across all of the business of a Truck Chart and Truck Book.

Complexity is demonstrated with the truck book, which requires 150 pages to explain the different grain permits and truck combinations staff commonly deal with. The complexity is further demonstrated in the system mass limits, where there are 2,000 different mass limits for the trucks in the book. New truck combinations and permit types such as Performance Based Standards (PBS) trucks require the book and the mass limits to be continually reviewed and updated.

2.6 The role of the grain truck operator and their drivers to manage axle group compliance

To manage axle group compliance, most professional grain truck operators install axle group mass weighing systems.

Different examples include:

- No weighing equipment
- Chains and the distance to a fixed point on the trailer
- Electronic scales that integrate with higher productivity vehicle systems (i.e. PBS and HML trucks)
- Electronic gauges
- Pneumatic gauges that display air pressure and trucks load axle groups to a specific air pressure, usually marked with a line on a gauge

These systems are not standardised and vary considerably between grain trucks making it difficult to train grain loaders on how to interpret them.

Differing engineering standards and trailer designs (tub, axle spacing etc) adds further complexity about where to put the grain to load equally to allow for movement within the trailer.

As a result of the above points, based on the current grain truck technology, the obligation to manage axle group masses is best managed by truck operators and their drivers.

3. Financial modelling on the implications of underloading trucks

3.1 Determining the 10% underloading amount

GrainCorp's 300 weighbridges are not configured to measure axle groups.

Through TMR's proceedings with GrainCorp, 61 axle group measurements were provided by TMR from the initial six trucks in the Improvement Notice. Data in relation to an additional eight trucks has been disclosed during the QCAT proceedings. Given GrainCorp is unable to accurately measure axle groups, the TMR axle group measurements are a helpful point of reference.

TMR does not specify the underloading amount in the Internal Review Decision and leaves it to GrainCorp to determine, though TMR has questioned whether the 10% underloading proposed by GrainCorp is necessary.

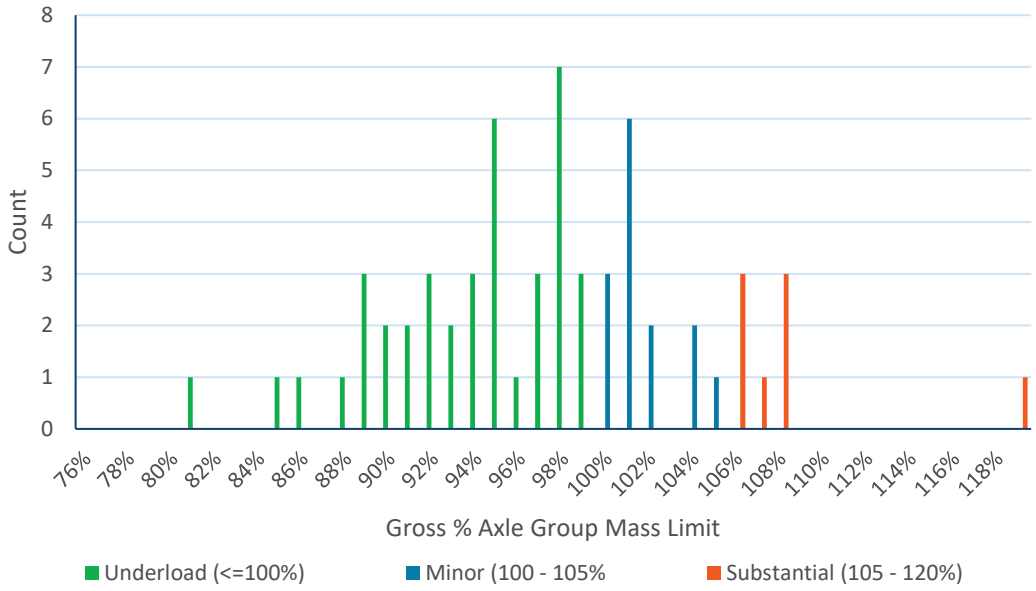
Excluding the impacts of the mis-declared permits, all trucks left GrainCorp Fisherman Island with a gross weight less than or equal to the identified gross combination mass limit. On average, the gross weight as a percentage of the declared mass limit was 98.4%.

Working with the declared mass limits, analysis of the TMR axle group data shows a distribution with axle group underloading and overloading occurring:

- 7 trucks underload the axle group by more than 10%
- 14 trucks exceed the mass limit by between 100% and 105%
- 7 trucks exceed the mass limit by between 105% and 108%
- 1 truck exceeds the mass limit by 119%, which is an extreme outlier

A bell curve distribution summarises the TMR axle group measurements.

Figure 1: Count of TMR Axle Group Measurements % Mass Limit (Excluding Measurement Adjustment)



Excluding the 119% outlier and modelling the shape of the bell curve, underloading trucks by 10% would minimise, although not eliminate, the risk of exceeding the axle group mass limit.

3.2 Estimating the cost of underloading to the grain industry

GrainCorp pays for freight for about 20% of the trucks that move grain in and out of the port and country network outside of harvest.

Due to the size of this freight spend, GrainCorp is well positioned to estimate the average cost of transporting grain in trucks around Australia, and the corresponding implications of underloading these trucks.

Based on GrainCorp's data, the following key assumptions can be used:

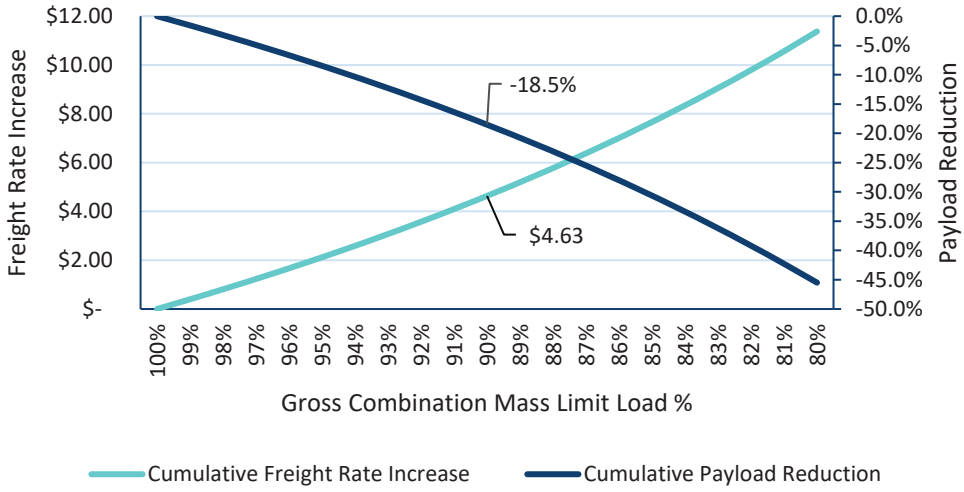
- Average truck gross weight for all GrainCorp sites = 65.69t
- Average truck tare weight for all GrainCorp sites = 23.67t
- Average truck payload for all GrainCorp sites = 42.02t
- Average freight rate per tonne paid by GrainCorp = $25.00
- Average distance per grain truck movement moved by GrainCorp = 187kms x 2 = 373kms
- Carbon per truck movement = 2.00 tonnes of carbon per tonne of grain

The table below illustrates the relationship between underloading (horizontal axis), increased freight rates (primary axis) and payload reduction (secondary axis).

Due to the fixed tare weight, underloading trucks results in an increasing payload reduction as the underloading amount increases.

Using the TMR axle group data to give a 10% underloading amount results in an 18.5% payload reduction and a $4.63 increase in freight rates per tonne of grain moved.

Figure 2: Relationship between freight rates and truck payload when underloading



3.3 Extrapolating GrainCorp's increased costs of underloading trucks by 10% to the Australian grain industry

The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) publish historical data on the Australian crop.

Rail transport in grain is predominately used to move grain to export terminals during above average years when there is a surplus of grain. Based on historical data, approximately 60% of grain tonnes are transported by rail, with the remaining grain transported on road with trucks.

ABARES data indicates that if trucks were underloaded by 10% to minimise the risk of exceeding an axle group mass limit, between 2011 and 2020 Australian grain transport costs would have increased by over $800 million.

Figure 3: Estimated retrospective cost of underloading grain trucks in Qld, NSW, and Vic by 10% in 2020 value

Year	New South Wales	Victoria	Queensland	South Australia	Western Australia	Australia	40% Road Movements	Road Movements x extra underloading $4.63	Increased Carbon Emissions with 10% underloading	Increased Truck Movements with 10% Underloading
10/11	17,298	7,625	3,721	9,316	8,044	46,118	18,447	$85,410,500	6,837,015	81,360
11/12	15,017	7,352	4,707	7,371	16,600	51,161	20,465	$94,750,700	7,584,687	90,258
12/13	14,328	6,886	4,406	6,470	11,244	43,442	17,377	$80,453,900	6,440,243	76,639
13/14	12,090	6,774	2,985	7,221	16,511	45,728	18,291	$84,687,400	6,779,128	80,672
14/15	12,489	5,117	3,598	7,439	14,662	43,461	17,384	$80,489,000	6,443,052	76,672
15/16	13,270	3,568	3,918	6,104	14,206	41,238	16,495	$76,373,600	6,113,620	72,752
16/17	17,799	9,511	4,437	10,656	17,737	60,341	24,137	$111,752,200	8,945,637	106,453
17/18	9,948	7,612	3,085	7,022	14,510	42,347	16,939	$78,427,100	6,277,998	74,708
18/19	3,900	3,733	2,207	5,286	17,729	33,026	13,210	$61,163,600	4,896,076	58,263
19/20	3,683	7,424	1,136	5,923	11,517	29,868	11,947	$55,316,100	4,427,988	52,693
								$808,824,100	**64,745,444**	**770,470**

'000 tonnes of grain include Winter (wheat, barley, canola etc) and Summer (sorghum, maize, rice etc).

Extra road cost is calculated using 2020 freight rates and retrospectively applied.