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26 August 2021

s 9(2)(a)

REF: OIA-8558

Dear s 9(2)(a)

Request made under the Official Information Act 1982

Thank you for your email of 29 July 2021 requesting information regarding cab modifications under the Official Information Act 1982 (the Act).

I will respond to each of your questions in turn.

1. In July of this year, a panel of around 20 industry representatives were invited to discuss the issue of cab cut-outs (carried out virtually).

- How was this panel formed and upon what criteria?*

Waka Kotahi NZ Transport Agency set up a series of meetings with an industry group (the Group) to advise on the development of a code of practice for cab modifications. This code of practice is intended to form the basis of an alternative to the current requirements in this area, which Waka Kotahi acknowledges are problematic. The Group is primarily made up of Heavy Vehicle Specialist Certifiers (HVSCs) that are involved in the design and certification of cab modifications. An open invitation to interested HVSCs was made at the Heavy Vehicle Engineers (HVE) conference in April 2021. Key industry and user groups were also invited to participate.

- Did this panel fairly represent the industry as a whole?*

Yes.

- Were there any importers invited?*

No. However, several HVSCs who have been involved in the certification of imported cabs are involved.

- Please provide a list of the panel members.*

Please refer to Attachment 1.

- *Please provide documented Minutes from this consultation.*

Please refer to Attachment 2.

- *Why was a follow-up meeting of this industry panel canceled with no rescheduled date given?*

Shortly after the initial meeting of the Group on 2 June 2021, a recurring series of fortnightly meetings was setup. Two individual occurrences in this recurring series were cancelled due to annual leave and other diary conflicts for key Waka Kotahi participants. Subsequent meetings took place on 18 June 2021, 9 July 2021, and 6 August 2021.

- *Does NZTA believe sufficient consultation has now been carried out for any future amendments to Technical Bulletin 20 and cab cut-out assessment?*

The cab modifications code of practice group is advising Waka Kotahi on the content and direction of the code of practice. However, before any changes are implemented, they will go out for wider consultation.

- 2. *If Occupancy Protection is deemed a risk directly created by a cab cut-out, will imported vehicles be assessed in the same way as locally manufactured?*

To date, no decision has been made on this.

I understand at the above meeting, two representatives from Wade (an NZ coach builder) were present. I'm told they have not sought LT400s for their cab cut-out vehicles. Following this meeting, I am told that a horse truck manufactured by the Wade Group which had had its COF revoked based on the cab cut-out, was subsequently directed by Wade to go back to the same testing station, upon which it was given a COF despite no LT400 or assessment by a certified engineer. A letter written by Wade was presented by the vehicle owner, stating the vehicle was manufactured within safe tolerance.

- *Was Wade given permission by NZTA to do this?*

The decision as to whether a vehicle has been modified in a way that requires certification is made by the Vehicle Inspector (VI) during the Certificate of Fitness check. The Vehicle Inspection Requirements Manual (VIRM) gives guidance to VIs on how to ensure vehicles are compliant with the various rule requirements. The VIRM states what level of modification to a cab is needed to trigger the requirement for HVSC certification. However, it can be difficult for a VI to know what the structure of the cab looked like before the modification.

Wade Group sought guidance from Waka Kotahi on whether they could provide a written statement confirming the extent of the modifications to a VI, to assist that VI in determining whether or not a certification is required. Waka Kotahi advised Wade Group that such a letter may help the VI come to an informed decision.

- *And if so, will other truck builders be able to provide a similar letter and have the same response?*

There is nothing preventing other manufacturers from stating the extent of the modifications they have carried out. It will then be up to the VI to determine whether, in that particular case, certification is required based on the requirements of the VIRM and the underlying rules.

3. A report written by TranzEC in direct response to Technical Bulletin 20 has been widely distributed, including to the Minister of Transport.

- Please can we have a copy of the discussions which took place and was the basis upon which the Minister responded to this report, and how he came to his conclusions that technical bulletin 20 is "non-mandatory guidance"?*

Please refer to Attachment 3.

The opening sentence of technical bulletin 20 states "This technical bulletin provides guidance to heavy vehicle specialist certifiers regarding modifications to trucks' cabs to ensure compliance with land transport legislation".

Please note, certain information has been withheld from the documents provided under section 9(2)(a) of the Act. This section allows for the withholding of information to protect the privacy of natural persons, including that of deceased natural persons.

With respect to the information that has been withheld, I do not consider there are any other factors which would render it desirable, in the public interest, to make the information available.

Under section 28 of the Act, you have the right to ask the Ombudsman to review my decision to withhold this information. The contact details for the Ombudsman can be located at www.ombudsman.parliament.nz.

If you would like to discuss this reply with Waka Kotahi, please contact Robbie Stephen, Senior Engineer Vehicle Standards, by email to robbie.stephen@nzta.govt.nz.

Yours sincerely



Hayley Evans
Senior Manager Systems Integrity

	Name	Organization
1	Robbie Stephen	Waka Kotahi
2	Don Hutchinson	Waka Kotahi
3	Andrew Thompson	Waka Kotahi
4	Ivan Torstonson	Waka Kotahi
5	Davey Uprichard	Waka Kotahi
6	Bruce Currie	Waka Kotahi
7	s 9(2)(a)	Individual HVSC not directly representing HVE
8	s 9(2)(a)	Individual HVSC not directly representing HVE
9	s 9(2)(a)	Individual HVSC not directly representing HVE
10	s 9(2)(a)	New Zealand Motor Caravan Association
11	s 9(2)(a)	Bus and Coach Association
12	s 9(2)(a)	Individual HVSC not directly representing HVE
13	s 9(2)(a)	Truck Trailer Manufacturers Federation (TTMF)
14	s 9(2)(a)	Truck Trailer Manufacturers Federation (TTMF)
15	s 9(2)(a)	Heavy Vehicle Engineers - Engineering NZ
16	s 9(2)(a)	Individual HVSC not directly representing HVE
17	s 9(2)(a)	Low Volume Vehicle Technical Association
18	s 9(2)(a)	Low Volume Vehicle Technical Association
19	s 9(2)(a)	Individual HVSC not directly representing HVE
20	s 9(2)(a)	Wade Group
21	s 9(2)(a)	Individual HVSC not directly representing HVE
22	Adleen Shandil	Waka Kotahi (taking minutes)
23	s 9(2)(a)	Heavy Vehicle Engineers - Engineering NZ
24	s 9(2)(a)	Heavy Vehicle Engineers - Engineering NZ
25	s 9(2)(a)	Truck Trailer Manufacturers Federation (TTMF)

*HVSC: Heavy Vehicle Specialist Certifiers

*HVE: Heavy Vehicle Engineers

MINUTES OF MEETING – CAB MODIFICATIONS CODE OF PRACTICE - 2ND JUNE 2021

Attendees: Robbie Stephen, Don Hutchinson, Andrew Thompson, Ivan Torstonson, Davey Uprichard, Bruce Currie, s 9(2)(a)

Apologies: s 9(2)(a)

Actions

	Action	Owner	Due date
1	Speak with s 9(2)(a) & s 9(2)(a) re attendance of this group	Robbie Stephen	Next meeting
2	Research how overseas type approval regimes apply to cab modifications	Robbie Stephen	Next meeting
3	Respond to these minutes with thoughts on how to move forward, particularly across the following three categories: <ul style="list-style-type: none">• New imported overseas modified cabs• New NZ built modified cabs• Existing vehicles with modified cabs that were not certified when modified Please provide comments to Robbie.stephen@nzta.govt.nz	All	Next meeting

Key Points of Discussion

- Key problems: retrospective certifications, new NZ built, and new imported
- Objective: develop a code of practice containing performance requirements for cab mods, which could then be used as an alternative to existing requirement of remaining within safe tolerance of state of manufacture. (Note a rule change will be required to empower this code of practice)
- History of cab modification certification requirements. See attached slide.
- Identified the main categories for the code to address as imported vehicles, NZ built & existing vehicles with uncertified modified cabs.
- It was agreed there is a desire to align requirements for light and heavy modified vehicles, particularly for those vehicles where light and heavy variants exist.
- Urged to provide temporary relief for existing cab cuts that don't have evidence of certification.
- Reports that few retrospective certifications are currently going ahead, with significant number of vehicle owners seeking help.
- For retrospective certification, options could be to reinstate the cab or spend a significant sum to analyse and design reinforcement.
- Reports of problems caused by some LT400s not having been entered into Landata.
- It was suggested safe tolerance criteria could be met by complying to a standard eg UNECE R29.
- A library of standard approved designs could be created.
- Some body builders guides provide good info but not all.
- It is hard to get approval from manufacturers that modifications will restore to within safe tolerance, European 2nd stage manufacturers can do physical testing

- Desire for guidance on thresholds for when other systems (e.g. seatbelts, frontal impact) could be said to be un-affected by a cab mod.
- Request for provision of simpler methods to justify certifications or cab mods will only be able to be carried out by specialists.
- Could the PSV rule be used as an alternative standard? Some concern that this would not properly account for energy absorption of a rollover and does not address body attachment, conversely some concern that this could lead to an overly conservative result (as seen in recent ambulance conversions).
- Need to consider how to cater for new cab chassis without back wall and roof, i.e. partially completed vehicles supplied for 2nd stage manufacture into motorhomes etc.
- Several HVSCs and Waka Kotahi all aware of examples of apparently poor quality modifications that have received EU and ADR type approval. Particular concern that the ADR type approval system may not have rigorous auditing.
- Request for greater consideration to be given to the manufacturers guidance to avoid over-engineering
- Code of practice should not preclude local manufacture of motorhomes.
- Should this code of practice apply to seating positions not in the cab (e.g. in rear of motorhome)?
- Questions around how safe tolerance should be determined.

MINUTES OF MEETING – CAB MODIFICATIONS CODE OF PRACTICE – 18TH JUNE 2021

Attendees: Robbie Stephen, Andrew Thompson, Ivan Torstenson, Bruce Currie, s 9(2)(a)

Apologies: Don Hutchinson, Davey Uprichard, s 9(2)(a)

Actions

Action	Owner	Due date
1 Consider what form pre-approved solutions or design guide could take, and email any thoughts on this to Robbie & Ivan before the next meeting.	All	9 th July 2021

Key Points of Discussion

- Query whether the Director can use exemption or class exemption powers to address historic un-certified cab mods. Waka Kotahi is exploring this possibility.
- Suggestion to treat motorhomes separately from heavier vehicles, e.g. with a 7000kg threshold.
- Concern that imported motorhomes modified overseas don't receive same level of scrutiny, over regulation of local modifications will affect NZ industry.
- Suggestion for graduated requirements, no disagreement.
- Body builders' manuals often give detailed information about how to convert to a motorhome, which may give a fit for purpose outcome. Some concern that the BB guides don't necessarily address rollover protection.
- Energy absorption analysis considered too expensive to apply individually in every case. Could this be carried out upfront for a pre-approved designs(s)? Broad agreement that this could be possible, although some concerns that due to the complexity of this it may be difficult to achieve.
- Reinforcements integrated into cab need to be treated differently to independent protective structures.
- Excessive stiffness if reinforcement built into body could be an issue if body attachment strength not compatible. Reinforcement integrated into cab may reduce this risk.
- Concern raised that we may be over regulating, what stats are there for deaths/injuries? Recommendation to develop a risk model to justify certification costs.
- Cab mods solutions will need to be aligned with road to zero. No death or serious injury is acceptable.
- US dept. of transport report cited that examines rollover crash data of heavy vehicles in the US, could inform risk model. Report shows protection of cab offered by body.
- Experience of two recent rollovers of horse trucks where they rolled onto side with body protecting cab.
- Question whether CoP aim is to reinstate safety or to provide protection for all occupants. CoP needs to give an appropriate level of safety for occupants of the cab. Safety of occupants elsewhere in the body may or may not be in scope.

- PSVs have requirement for rollover protection in law. For motorhomes current requirements are to stay within safe tolerance of state of manufacture. Factors such as number of occupants affect risk level.
- ECE R29 is intended for cabs, body structure not normally taken into account.
- Some BB guides give instructions on which parts of cab not to cut e.g. structural members and instructions on which parts can be cut e.g. some flat panels.
- Examples of motorhome rollovers given, typically involving them rolling onto their side.
- In a rollover the energy of the body doesn't necessarily need to be absorbed by the cab structure, so the reinforcements necessary may be smaller than we imagine.
- Action for all to consider what form a pre-approved solution or design guide could take, and email any thoughts on this to Robbie & Ivan before the next meeting.
- Some manufacturers specify the design of cab to body attachments, CoP should avoid conflict with manufacturer's guidelines.

PROACTIVELY RELEASED BY WAKA KOTAHI NZ TRANSPORT AGENCY

MINUTES OF MEETING – CAB MODIFICATIONS CODE OF PRACTICE – 9TH JULY 2021

Attendees: Robbie Stephen, Andrew Thompson, Ivan Torstonson, s 9(2)(a)

[REDACTED]

[REDACTED]

Apologies: s 9(2)(a)

Key Points of Discussion

Meeting to focus on how/when linear or other simplified calculation methods could be used. What type of vehicles or conditions could this be appropriate for?

Method would need two parts: determining the loadcases and then determine calculations to demonstrate loadcases are met. Most buses use standard off the shelf sections whereas typical truck cabs are manufactured from thin sheet steel typically designed using FEA, so simplified hand calculations per the PSV rule may not be appropriate due to the complicated geometry.

If requirement is for safe tolerance then linear calcs aren't sufficient. WK clarified that the safe tolerance requirement is based on the current rule requirements, which could be changed depending on the CoP.

Query whether vehicles coming into the country fully built up could be covered by the CoP. The entry VIRM currently accepts European type approved vehicles without further certification by an HVSC and we are bound by Geneva agreements to accept certain overseas type approved vehicles. Could be graduated requirements for different types of vehicle.

If whole vehicle were built to the PSV rule then this could give an appropriate outcome, but could be difficult to apply to modifications.

Standard designs could be more appropriate than simplified calculations, particularly for modifications towards the simpler end of the spectrum, such as window enlargements. Pre-approved designs could be determined using non linear FEA and/or physical testing.

All rollover protection standards except PSV rule are based on energy and survival space. ROPS standards linearise dynamic load cases to give quasi-static loads.

Australian requirement is that if an R29 cab is modified it must remain compliant with R29.

Brief summary of method emailed to group by s 9(2)(a). Uses loads from PSV rule and/or R29 and applies them to A, B & body pillars. Energy analysis could be carried out, but not believed to be necessary. Non-linearities could be accounted for by additional safety factors.

Query over legality of safe tolerance. Interrupted by WK as this isn't relevant to the way forward.

Comment that the rear wall of a goods vehicle is designed in part for protection of occupants from the load shifting, a PSV or motorhome is likely to have a lower payload so this may justify a lower level of protection. Counter examples given where horse floats loaded GVM.

Confirmation that TB20 does not require compliance with R29, this is used as a benchmark to allow comparisons to be made. R29 is based on residual space for occupant.

Comment that the structures involved are complex so hand calcs may not be viable. At the simpler end of the spectrum (green per TB20 e.g. rear window enlargement) pre-approved design(s) could be better option.

Comment that physical testing and/or non linear FEA could be used to justify the use of linear calculations e.g. over a particular defined range of modifications. Testing could be used for both standard designs & to correlate with simplified calcs.

Could PSV rule be used e.g. for ex PSV or vehicle with PSV type structure? Concern from some members that the PSV rule may not be well suited for use with the types of vehicles that are typically modified. Would be suitable for use on modifications to ex PSVs that are subsequently modified, but this isn't a common scenario.

Comment that pillars in a bus are typically regularly spaced and inline, so share load evenly – whereas a truck bus, motorhome etc has a wider body that may take impact with ground before cab.

Some manufacturers prohibit connection between cab & body.

Potential advantage of a PSV rule solution is that it could give protection to occupants in the body of a motorhome not just those in the cab.

Question to WK: How many vehicles require retrospective solution. Unknown. One member has approx 50 vehicles that will be affected, of which approx. 10 have failed at CoF so far. WK confirmed that we're aware of the need to find a solution for this as soon as we can.

Question to WK: Is there any short term relief planned for affected vehicles? WK confirmed that other work is going on in the background but no decisions have been made yet.

Comment that VIs can give 28 day permits through VSC rule but fee required and is at discretion of VI around safety.

NZMCA getting lots of contact from their members, creating register of those affected.

MINUTES OF MEETING – CAB MODIFICATIONS CODE OF PRACTICE – 6TH AUGUST 2021

Attendees: Robbie Stephen, Don Hutchinson, Andrew Thompson, Ivan Torstonson, Davey Uprichard, s 9(2)(a)

Apologies: s 9(2)(a)

Actions

Action	Owner	Due date
1 s 9(2)(a) to investigate whether he has access to rolled motorhomes.	s 9(2)(a)	Next meeting
2 s 9(2)(a) to share LVV training material	s 9(2)(a)	Next meeting

Key Points of Discussion

Intro from WK, aim of meeting to discuss how CoP should treat motorhomes.

What if any cab strength requirements are appropriate given overseas requirements e.g. Europe where cab strength not required for motorhomes?

s 9(2)(a) advised that they may have a store of damaged motorhomes, and will investigate whether any useful evidence of rollover performance.

LVVTA have standard and training material for their certifiers certifying modified light vehicles. s 9(2)(a) to share this. LVV certifiers don't specifically look at rollover strength, focussing on seatbelt anchorage strength. LVV see small number of older truck based motorhomes with newer stuff mostly van based.

Question on what are European requirements for seatbelts? EU requires seatbelts in motorhomes to meet the relevant UNECE standard but does not require R29 compliance.

Report from one member that their experience of the ADR approval process didn't involve consideration of cab strength. Workmanship of modification inspected, but structural effect not considered.

Comment that we should ensure requirements for local manufacture aren't dramatically out of step with those for imported vehicles.

Suggestion that combination of R29 back wall loads with ADR5 seatbelt loads could be used.

General consensus that we should not develop NZ specific rollover strength requirements.

How should cabs that are imported partially complete (e.g. missing rear wall and roof) be treated? Current requirements give inconsistent results due to confusion over what state the vehicle needs to be compared to.

Comment that requirements should be consistent regardless of who carries out a cutout.

Agreement from WK that there is theoretically nothing preventing such a partially complete vehicle being registered and used.

Comment that R29 doesn't require vehicles over 7.5t to comply. Suggestion that this could be a threshold in the CoP.

Some concern that if requirements for partially complete vehicles have equivalent requirements to those supplied with complete cabs that NZ manufacturers could be put at a competitive disadvantage but otherwise no disagreement that requirements should be consistent.

Quick look on trademe suggests that more recent conversions tend to be van based built by body builder, with some older truck based individual conversions.

Comment that manufacturers guidelines should be considered.

What general requirements should CoP give (e.g. workmanship etc)?

No disagreement that occupants should be protected from sharp edges.

Comment in email from absent member that it may be wise to e.g. weld cold rolled section to cut edges as in a crash upholstery etc could come loose and present a risk. LVV code doesn't require this.

What are LVV requirements for welding qualifications etc? LVV code requires "tradesman like" standard of work, with interior impact standard giving requirements for protection from sharp edges, cab cut would need a cover but could be by trim. Cut in box section would need to be covered. There is some relaxation of requirements around this for older modifications to e.g. Ford Traders where jagged edges of the cut covered by wood would have been allowed. LVVTA to share training material on the topic. LVV code covers workmanship, interior impact, frontal impact & seatbelts.

Welding requirement visual inspection only for LVV. ICAR accreditation used by some HVSCs for cab welding where steel is thin.

Comment that alternatives to welded frame could be acceptable too, e.g. riveted which could avoid issues associated with welding.

AOB

Query re imported motorhome and how to prove when it was modified? Give WK specifics of this case offline for assistance.

MINO-171 Technical Bulletin 20

19 February 2021

Update on Technical Bulletin 20 – Modifications to truck cabs, and a proposed response regarding the interpretation of bulletin.

Background of technical bulletin

Technical Bulletin 20 provides guidance to heavy vehicle specialist certifiers regarding modifications to truck cabs to ensure compliance with land transport legislation. It's also expected to serve as a reference for modifiers and importers of modified trucks. The bulletin can be found [here](#).

Technical bulletins are issued regularly by Waka Kotahi NZ Transport Agency on a number of different matters, providing guidance rather than legally enforceable directives. A Heavy Vehicle Specialist Certifier may use alternative methods to those outlined in the guidance, provided the requirements of the Land Transport Rule: Vehicle Standards Compliance 2002 are still being met. It is possible the intent and standing of these bulletins has been misinterpreted by s 9(2)(a).

s 9(2)(a) has had relatively frequent contact with members of our Regulatory Services group about certification of specific vehicles, and more generally around work to recertify vehicles following the revocation of s 9(2)(a) certifications. Feedback is always welcome, and s 9(2)(a)'s report has been reviewed and noted by subject matter experts when raised with Waka Kotahi in the past.

Suggested response for Minister

s 9(2)(a)

TranzEC Limited

s 9(2)(a)

Dear s 9(2)(a)

Thank you for your correspondence of 8 February 2021 regarding Technical Bulletin 20 released by Waka Kotahi NZ Transport Agency.

I am advised that Technical Bulletin 20 provides non-mandatory guidance as to how Waka Kotahi believe the heavy vehicle rule and vehicle standards compliance rule should be applied by a Heavy Vehicle Specialist Certifier (HVSC) when certifying truck cab modifications.

There is nothing preventing a HVSC from using alternative methods to those recommended in the technical bulletin, provided they can demonstrate that the requirements of the Land Transport Rule: Vehicle Standards Compliance 2002 are met.

As such, it would not be appropriate for me as Minister of Transport to meet with you to discuss the specifics of your report at this time. However, I have passed your correspondence to Waka Kotahi who have taken note of your comments.

If you would like to discuss this matter with Waka Kotahi directly, please feel free to contact Robbie Stephen, Senior Engineer Vehicle Standards, at Robbie.Stephen@nzta.govt.nz.

Yours sincerely

Hon Michael Wood
Minister of Transport

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