31 May 2019

National Transport Commission

A risk-based approach to regulating heavy vehicles

INTRODUCTION

1. EROAD is a technology company specialising in regulatory vehicle telematics, providing services in New Zealand, Australia and the United States.

2. We appreciate the opportunity to provide this submission. Representatives of EROAD are available to speak on the submission at your convenience.

ABOUT EROAD

3. EROAD believes every community deserves safer roads that are sustainably funded. This is why EROAD develops technology solutions that enable the better management of vehicle fleets, support regulatory compliance, improve driver safety, and reduce the costs associated with driving.

4. EROAD also provides valuable data analytics to universities, government agencies and others who research, trial and evaluate future transport networks. This data enables those who use the roads to influence the design, management and funding of future transport networks.

5. In 2018 EROAD received the Brake Fleet Safety Award acknowledging EROAD's positive impact in creating safer drivers, vehicles and roads. EROAD products and services have received multiple awards and the company appears in the Deloitte Fast 50 Master of Growth, Asia Pacific. EROAD was also a finalist in the 2019 Hi-Tech Company of the Year award.

6. EROAD (ERD) is listed on the NZX, and employs almost 300 staff located across Australia, North America and New Zealand.

7. If you would like to know more about EROAD, you can visit https://www.eroad.com.au/

RESPONSES TO THE SPECIFIC QUESTIONS ASKED

Question 1: Have we covered the issues with the current HVNL accurately and comprehensively? If not, what do we need to know?

Regulatory toolkit

8. The discussion of the challenges of regulatory design (page 16) favours simplicity over establishing a proper framework for addressing these challenges. An unintended consequence may be that the redesign of the HVNL does not address critical pieces of the regulatory regime.

9. For example, the paper states

> "Regulation is one of three types of tools available to governments, the others being persuasion and finance. While acknowledging the importance of all government tools, the Heavy Vehicle National Law (HVNL) review focuses on regulation."

10. While the law is a tool of government it does not speak only to government, and so the characterisation quoted above neglects two important considerations:

    a. Of note, page 22 of the paper references Braithwaite's enforcement pyramid, which is explicit about the necessity of effective persuasion at the foundational end of the spectrum of interventions. Consistent with this, the HVNL is itself a document for persuasion. Yet, it suffers from being hard to navigate. It could benefit from using explanatory notes that condense and simplify the core intent, a device used in other Australian legislation.

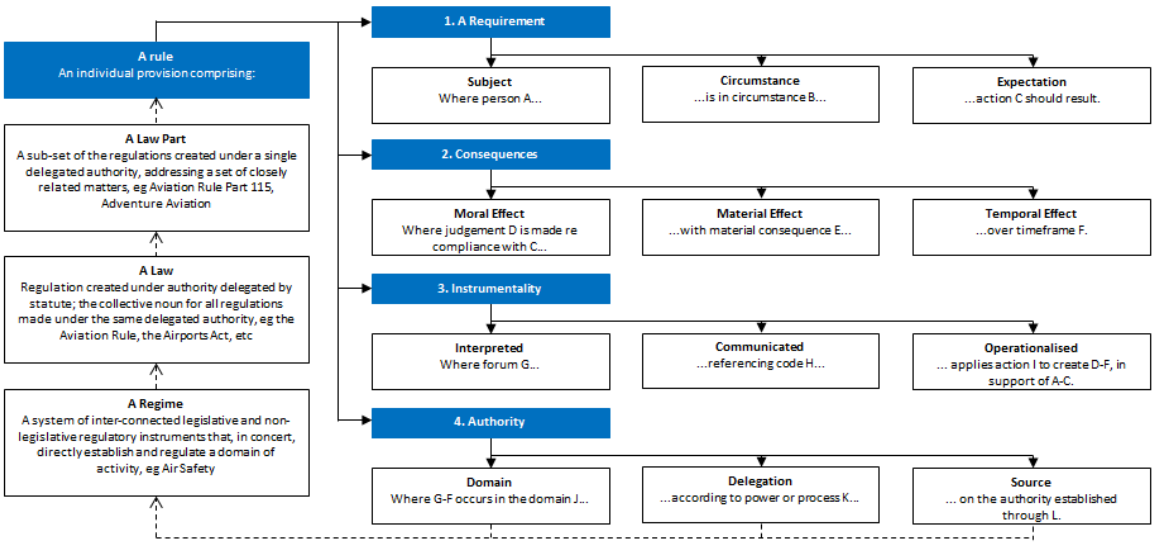
    b. The HVNL also contains provisions that relate to matters of finance and financial incentive – over-mass and over-dimension access rights in particular. Given that improved productivity is an object of the current law (ss3c-d) and, based on the problem definition, likely to remain an object of a new law, the way the law shapes the economic penalties and incentives must be a critical consideration.

11. Similarly, there is a risk to the comprehensiveness of the Review's considerations if the simplification of Freiberg's definition of regulation (on page 16) is applied too literally. Thus:

    a. Regulation does not just compel – it can also empower (e.g. drivers are given some means to resist unlawful instructions from further up the chain of responsibility), and it can assign responsibilities to ensure parties recognise and manage the costs of what might otherwise be treated as externalities (e.g. a driver's need for rest).

    b. Care needs to be taken to ensure the right components are present, noting that effective regulation is built up from 'rules', while effective rules comprise clearly stated requirements, consequences, instrumentality, and authority (figure 1 refers).

Figure 1. Components of law



Integrating the different regulatory styles

12. The paper, as it presents the idea, implies the regulatory design question is about choosing which regulatory approach to take, further noting that "[each] regulatory style lends itself to different instruments in the legislative hierarchy".

13. The paper implicitly recognises that the regulatory regime is a system that depends on all the various parts doing the right part of the job properly. However, in only implicitly recognising this, there is a risk that the Review will lose sight of some important considerations, i.e.:

    a. That the HVNL should not attempt to predetermine which risks should be looked at and which not. It should seek to ensure that all risks are recognised and managed to a proportionate degree by the party best placed to see, assess and manage it, consistent, for example, with the tenor of the related requirements under Australian health and safety laws.

    b. That the HVNL should not be forced to adhere to only one style of regulation, with only one range of tools available at the level matching that style. It should provide a comprehensive toolkit matched to an appropriate and coherent mix of principle-based, performance-based and prescriptive requirements.

    c. That the HVNL should speak to all parties that influence the objectives and outcomes of the heavy vehicle sector. The influence exerted by these parties is situational and dynamic in nature, so the imposition of rights, powers and duties needs to consider their presence in the system, not merely their current weight in the system.

14. An excellent single-source reference for a comprehensive real-world example of a systems analysis of a regulatory safety regime is the Swedavia-McGregor report into the New Zealand civil aviation sector, which can be found here: https://www.caa.govt.nz/assets/legacy/pubdocs/Swedavia-McGregor_Report.pdf.

Question 2: What does the current HVNL do well? What should we keep from the current law? What do non-participating jurisdictions' regulations, or comparable regulations from other sectors, do better than the current HVNL that we might incorporate in the new law?

15. Perhaps the best thing the current HVNL does is bring almost everything together and simplify the process of viewing the regulatory regime as a whole.

16. The recent changes to the treatment of chain of responsibility are a significant forward step. In general, chain of responsibility is still, as in other national jurisdictions, treated as an add-on to the core regime, rather than an integral part of it.

17. Thought could be given to bringing the idea to the heart of any new HVNL, drawing on the health and safety concept of the Person Conducting the Business or Undertaking (PCBUs) rather than trying to predetermine who might have a meaningful degree of influence in any given chain of responsibility.

18. Notably, the current HVNL does not fully recognise or consistently obligate and work through the transport operator, an omission that is symptomatic of the add-on nature of the approach to chains of responsibility. Consequently, while we note the positive intention later in the review to consider operator accreditation, this proposal arrives out of the blue. Ideally, the application and explanation of the risk-based approach would provide a clear place for the operator in the centre of the regulatory model.

Question 3: Do you support using the proposed risk management approach to test current policy and to develop and test policy options? How can the proposed approach be improved?

19. We support using the proposed risk management approach to test current policy and to develop and test policy options.

20. We consider that social sector risk paradigms offer a different degree of insight to that offered by the project and engineering frameworks that tend to dominate thinking in the transport sector. While not necessarily directly transferable, these insights may, nonetheless, be instructive.

Taking the nature of risk into account

21. In social science in general, and criminology in particular, the language of risk factors distinguishes between static, dynamic and situational risk (and protective) factors:

    a. Static factors do not change 'in the moment', e.g. the strategic purpose behind a specific trip, or the make and model of the vehicle, or the configuration of onboard equipment.

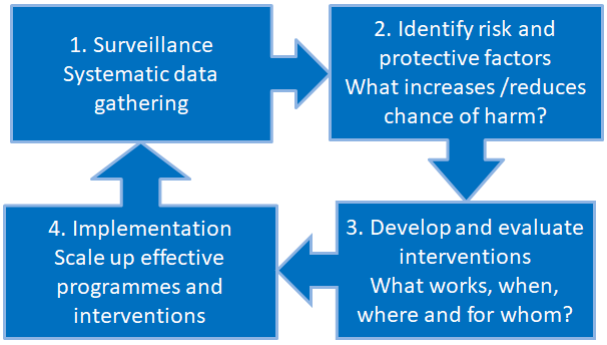
    b. Dynamic factors evolve over time, e.g. driver experience, attitudes to phone use, a preference for having a coffee while driving, and vehicle condition.

    c. Situational factors are things present in the moment, e.g. a phone ringing, a sudden downpour, or the actions of another road user.

22. This sort of framework can help properly differentiate risk factors and cumulative system risk based on to what extent they may be amenable to change, what the ideal intervention threshold is, and what mitigations might be needed if that intervention threshold has been passed (in any given circumstance).

23. The purpose of regulation, then, is to establish requirements that encourage practices that reduce the presence and severity of risk factors and/or increase the presence and strength of protective factors throughout the system. Broadly speaking, this approach to risk is akin to a 'public health model', which emphasises targeted monitoring within a learning-based framework (figure 2 refers).

Figure 2. Public health model http://www.who.int/violenceprevention/approach/public_health/en/

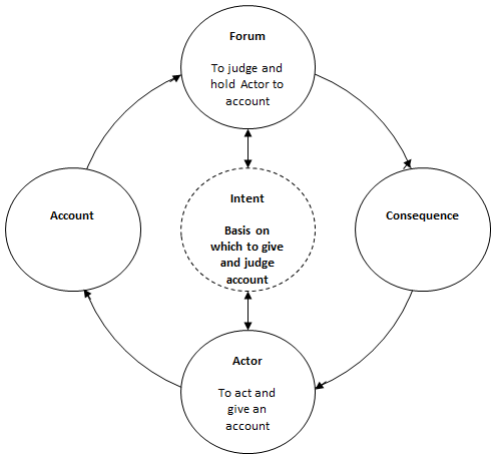


24. A risk-based approach would seek to establish these learning loops within the road safety system. Learning loops would need to be at a level in the system that corresponded with the meaningful ability to observe and influence the risk and protective factors in question. It

follows that each level would need to be suitably empowered to observe, reflect and act accordingly.

25. Logically, a risk-based approach cannot define all the risks at the outset and move on from there; it needs to recognise that risks evolve and provide for the ongoing identification, review and rating of risks. Some risks may be more enduring than others and, therefore, able to be codified in law. However, this list cannot ever be definitive. The creation of some capacity for learning within the system is necessary to ensure the effective application of a risk-based approach. This further suggests that the means to ensure this learning is undertaken faithfully are also required. A risk-based approach requires an effective governance framework, at each level and over-arching the whole system. A revised HVNL should consider, therefore, whether governance is being provided at the required points, and whether that governance has been established to be effective, i.e. exhibiting the right components in law (figure 3 refers).

Figure 3. Bovens M (2006) 'Analysing and Assessing Public accountability: A Conceptual Model', *European Governance Papers* (EUROGOV), C-06-01 (16 January 2006)



26. Overall, a risk-based approach optimised to address risk in the context of uncertainty implies the need for a layered, multi-party structure. The role of *the* regulator is, in this context, less one of actively managing a discrete number of risks, and more about stewarding a system of empowered actors/subordinate (self-)regulators. The AGIL paradigm is a sociological scheme created by American sociologist Talcott Parsons. It depicts certain functions that every society must meet to be able to maintain stable social life, i.e. that a future HVNL should ensure the sector steward is equipped with in order to properly oversee its domain:

    a. **Adaptation**, or the capacity of the regulator to interact with the sector, e.g. gather resources, produce commodities, and distribute them

    b. **Goal Attainment**, or the capability to set goals for the future and make decisions accordingly

    c. **Integration**, or the harmonization of the entire sector to ensure the norms are solid and sufficiently convergent

    d. **Latency**, or latent pattern maintenance, to maintain the elements required to achieve integration.

Clarity around the regulator's focus within a risk-based approach

27. We note that, in the discussion of the principles, you state:

> "Well-targeted risk-based regulation makes best use of limited public resources and focuses regulators' efforts on harm minimisation."

28. Is this the right emphasis for the regulator? Arguably, the regulator would have:

    a. benefit maximisation as its goal (referred to earlier as "maximising the public good"); and

    b. assuring faithful implementation of good practices in meeting the primary duty and the objects of the HVNL, by sector participants, as its methodology.

29. Harm minimisation would be the focus of the wider sector participants. The regulator could instead be expected to be looking for:

    a. Incidences of harm

    b. Incidences of precursors of harm, encompassing both inadequately treated risk factors and near misses

    c. Evidence of ineffective management of the precursors of harm

    d. Evidence of behaviours (acts of both commission and omission) that indicate a greater probability of ineffective management.

30. Consideration should also be given to ensuring that the regulator – and any other government or quasi-government entity with a role in the sector – does not have, or is not exposed to being perceived as having, conflicted interests, i.e. where it offers services of a commerecialisable nature (e.g. independent equipment certification), or on an actually commercially contestable basis (e.g. business practices accreditation). The more the regulator is required to act as the steward of the 'lived system', the more important it is that:

    a. there be a clear separation of commercial functions from sector governance functions

    b. commercial functions be fully exposed to competition and market and disciplines.

Determining the materiality of a risk

31. As currently worded, the approach in Draft Regulatory Principle 1 requires that the law anticipate with certainty what constitutes a material risk. This wording is intuitively contrary to an approach that:

    a. Seeks to position responsibility further down the hierarchy and closer to the point where risk materialises and is best managed

    b. provides for adaptability and responsiveness by allowing the appropriate details to be controlled below the levels of primary and even secondary legislation.

32. An alternative framing of the principle could be:

> The future HVNL should be risk-based. The law should be developed by identifying, obligating and empowering the appropriate parties to work towards the outcomes of the HVNL, and establishing appropriate processes, to ensure

material risks are reviewed, reassessed, and effectively managed at the level appropriate to the natures of those risks.

33. Every risk should have at least one owner. Every risk owner should make a decision about the materiality of a risk and, for material risks, a decision about the appropriate treatment. The measure of the correctness of a decision is not whether it proves to be right, but whether it was reasonable decision arrived at through a reasonable process under the standards and circumstances that prevailed at the time – i.e. was it a good decision based on the information available, and was the information gathering that had been done sufficient under the circumstances?

Question 4: Does the object or scope of the HVNL need to change? If so, how?

34. The object of the HVNL as set out in s3 seems broadly right.

35. One question is whether referencing "innovative" in s3d provides the right emphasis when the desired object or outcome might better be framed as "continuous improvement". Innovation is sometimes an input to continuous improvement but can sometimes also be harmful or ineffective. We suggest that it should not really be positioned as a good in its own right through inclusion in the object of a future HVNL.

Question 5: Do you agree that national consistency is a goal that we should strive for, acknowledging it may mean compromise for participating and nonparticipating jurisdictions alike to be nationally agreeable?

36. National consistency is ideal, but not at the expense of a workable and effective law. *Enhanced* national consistency, across as many areas of the law as practicable, might be a more realistic working goal that recognises the need for nuance and compromise while still holding to the desire for consistency.

37. If substantive differences in *approach* persist across some jurisdictions, compliance with the meaningful *standards* under the HVNL should constitute prima facie compliance with the expectations in any non-participating or derogating jurisdiction.

38. It is inevitable that the HVNL will be scaffolded and given context by the surrounding legislation of each jurisdiction. Consequently, some degree of 'smoothing' in the form of derogations may be required. We note that the issues of reasonable force and double jeopardy arise as points of difference: these are not small issues, if genuinely different attitudes apply across the jurisdictions, so it may make sense to accept some variation in practice and not hold the whole revision of the HVNL hostage to any attempted resolution.

39. The analysis of the current derogations, provided in Appendix B, is a helpful summary. However, it is not entirely clear that the lens informing the 'severity assessment' leads to useful conclusions, as not all the derogations are objectively bad: their common factor is really only that they are different. Two contrasting examples of derogations rated as having a high severity illustrate the point:

    a. New South Wales: Addition of section 248B Certain personal activities may be counted as part of rest time. This derogation seems to work against the outcome sought through the HVNL by increasing the confusion around what is and is not work time.

b. South Australia, Alteration of section 517(1) (Direction to move heavy vehicle if causing harm etc). This derogation adds to the circumstances set out in the HVNL, recognising additional circumstances that are likely to occur and are as likely to create a risk of harm as the circumstances provided for in the HVNL. Therefore, the derogation seems to *improve* the pursuit of the purposes of the HVNL.

Question 6: Do you agree we should simplify the law by placing obligations as low in the legislative hierarchy as we can? How do we balance agility and flexibility in the law with suitable oversight when deciding where obligations should reside?

40. The various layers of the regulatory regime need to specify the appropriate obligations. For example:

    a. Primary legislation should define the objects of and parties to the sector, assign powers, duties, responsibilities and accountabilities, provide for administrative processes, and enable the subordinate determination of standards, rewards, penalties and review

    b. Secondary legislation should provide the detail of rewards and penalties

    c. Tertiary legislation, the delegated power of statutory agents etc should set minimum technical standards and/or approve compliance instruments and methodologies.

41. Care is needed to ensure that the motives for pushing any obligations down the legislative hierarchy are informed by and faithful to an evidenced and authoritative intervention logic. The main fallacies to avoid are that:

    a. It will somehow be cheaper to intervene at the lower (primary) level instead of at the higher (tertiary) level. It is well established that primary interventions need to be buttressed by credible tertiary (enforcement) capabilities, especially if the cost of primary level action is to be borne by the private *obligatees* in the sector instead of the public regulator.

    b. That primary level interventions are less demanding than tertiary level interventions because, as actions, they are individually less intensive.

        i. Primary services require judgement-based action, whereas the mistaken assumptions about the demand they impose usually result from confusing them with administrative or process-based action.

        ii. Judgement-based roles usually require tertiary study to at least Level 6 on the Australian Qualifications Framework (Advanced Diploma), with a practicum component and professional mentoring as a foundation for developing good judgement.

42. An important question to ask, therefore, is the degree to which people with the appropriate degree of preparation are present in the different parts of the regulated system and able to bring the necessary level of judgement to bear? A revised HVNL will need to consider the workforce it will have available to rely on.

43. To be clear, driver training is not the same as cultivating good judgement: it is about passing on skills and developing technical ability. Good judgement comes from experience *and* having

theoretical models that enable a person to interrogate their experience and draw proper conclusions from it. However, a further question to consider is whether new technologies allow tasks that were previously a matter of skilled judgement to be translated into techniques or standard operating procedures.

Question 7: How do we encourage the use of technology and data for regulatory purposes? What do operators, regulators and road managers need or want?

The role of technology

44. Technology is not a cure all; the uptake of technology is not an end in itself.

45. However, various technologies have the ability to be force-multipliers, increasing the relevance, quality and timeliness of the information and insight available to parties at every level of the system.

46. Telematics technologies gather and integrate data to supply real-time and reflective information to support better vehicle use and decision-making and simplify the documentation and reporting of compliance activities. Good accountability systems leverage measures that are meaningful to the actual business at hand so that, in a well-designed system, the data needed to create relevant business management information is the same that is needed to create meaningful regulatory and accountability information.

47. Telematics technologies offer significant value to drivers and operators. Regulatory telematics requirements that recognise this can result in considerable value-add, either to regulators and road managers, by leveraging leveraging the capabilities the wider sector has already adopted, or to obligatees who, in meeting any requirement to adopt telematics, can then access the wider services and benefits supported by those systems.

Encouraging the uptake of technology

48. The HVNL should, so far as practicable, be silent or neutral on the technology used to ensure an obligation is met.

49. The uptake of more efficient and effective methods could instead be encouraged by ensuring there is a clear expectation under the law of continuous improvement. Consideration could be given to ensuring the regulator has the ability to require an operator/carrier, deemed to be operating at a higher than normal level of risk, to adopt solutions that meet contemporary industry norms.

50. The appropriate regulator(s) should be clearly granted the power to set and amend standards, and/or approve technologies or alternative compliance methodologies. Any such approval process should operate under natural justice rules of transparency, fairness and reasonableness, balancing the push for continuous improvement with reasonable practicability (the avoidance of unreasonable regulatory burdens).

51. So far as possible, standards should be performance-based, not input-based, while technology approvals should leverage independent certification of the ability of a solution to meet the minimum or stated performance parameters.

Wants and needs

52. Wants and needs are almost certainly going to continue to evolve alongside changes in the available technological solutions. Flexibility would be best provided for by avoiding trying to anticipate specific technologies in the HVNL.

53. Instead, the focus should be on ensuring there are clear and consistent processes around the introduction, integration and management of technologies, as well as clear processes and controls around regulator and other government access to regulatory information created through regulatory telematics and other technologies.

54. The question of the appropriate framing of access to telematics data and regulatory information is a complex one. Rather than reiterate our thoughts on this matter in detail, we invite the Commission to consider also EROAD's submission to the Commission on *Regulating government access to C-ITS and automated data* (November 2018). However, the following summary paragraphs from this earlier submission are especially pertinent and worth repeating:

> We consider that C-ITS and AV [and telematics] data are examples of the proliferation of sensors and data gathering across society. The privacy and security consequences of this proliferation should be considered as a whole, not just sector-by-sector, or case-by-case:
>
> a. Many of the protections – and especially against improper use by enforcement entities – depend on an informed individual acting on their own behalf. The nature of the challenge posed by big data is the increased risk of public ignorance of whether, how and against whom to act if privacy is breached by a government entity.
>
> b. Given the growing sophistication with which personal information can be assembled from previously disconnected and innocuous information streams, **will public watch-dog institutions have sufficient power and resourcing to be active in monitoring for and responding to such breaches?**
>
> A major omission from the paper is consideration of the impact, on the role and interests of private sector information creators and collectors, of any controls on government access. We note that this is not excluded from the scope, yet is also not directly identified or discussed, nor addressed by the draft principles. This is particularly the case where, for example, a control might be framed to focus on specific technologies and the technical 'how' of gathering and sharing information, rather than the 'why' and the behavioural aspects of 'how'.
>
> a. We are concerned that the ongoing evolution of the future framework takes account of the dampening effect fear of government surveillance might have on the rate of uptake of [telematics] technologies; government access to information should be balanced against government interest in the public benefits of placing these new technologies into the hands of the public
>
> b. We are also concerned that the ongoing evolution of security and inter-operability requirements to buttress government access to information be, so far as possible, performance-based rather than prescriptive, in order to minimise barriers to market entry (especially for smaller companies), to

prevent the stifling of/incentives for innovation, and to ensure primary and secondary uses do not unnecessarily suppress private information markets

c. We consider greater emphasis could be given to the state's access being mediated through market mechanisms, rather than regulatory power, noting:

   i. This would be where access is for research and management purposes rather than for investigation and enforcement;

   ii. This would leverage the array of duties and protections that exist in the private sphere; and

   iii. This would ensure the interests of private information collectors/creators are given visibility and protection in the framework.

Question 8: What areas of the current law are particularly problematic because they are process or administration focused? Can you detail the impacts?

55. We note that the law retains a strong bias towards paper-based systems and the holding and supply of transport documents in human-readable format.

56. While it is almost certain that the demand for paper-based options will persist for some considerable time, the law should be careful to provide the option of electronic means of application, purchase, receipt and 'display' – whether visually or via some background data exchange.

57. Even where current processes work well, the reality is that electronic and automated options are able to strip out a significant amount of human error and rework. They open the door for deeper and more timely insight. Our experience providing regulatory telematics services has shown that some customer processes can benefit from one or two order of magnitude reductions in handling and processing time. This is not just a matter of improved efficiency: it can even be the difference between whether a task is undertaken at all or not.

Question 9: How could the law regulate heavy vehicles in a way that accommodates diversity, while retaining consistency and harmonisation across Australia?

58. See the responses to the earlier questions.

Question 10: In a broad sense, what tools do the regulator and enforcement agencies need to respond appropriately to compliance breaches? What recourse and protections do regulated parties require?

59. This question is presented in the context of draft regulatory principle 5, which talks in terms of sanctions and enforcement action being mediated by the severity of the risk. Yet the question speaks to the occurrence of breaches. These are two different ideas, and there is real difficulty created by referring to 'actual risks' bundled together with 'actual harms'. After all, all risks are actual risks – it is just that some are not very probable, and/or not very impactful, and therefore not especially significant.

60. A future HVNL will need to distinguish very carefully between action taken to encourage a party to lift their risk management practice to accepted industry norms, and action taken in

response to an actual harm occurring. Perhaps the second part of the principle could be reworded thus:

> The new law should support regulatory intervention to ensure effective management of significant risks, sanctions and enforcement tools that reflect the severity of breaches and harms, and processes that allow these decisions to be subject to reasonable challenge and scrutiny.

61. The current framing of draft regulatory principle 5 implies a rigidity that pushes against the flexibility and responsiveness called for in principles 3 and 4 especially. Perhaps the opening statement could be reworded thus:

> The future HVNL should *enable the targeting of* the most significant risks…

Question 11: How can the new HVNL help to improve safety, productivity and regulatory efficiency?

62. See the responses to the earlier questions.

Question 12: Do you agree with the six draft regulatory principles? If not, why? Are there other principles we should consider?

63. We agree in general with the six draft regulatory principles, noting our earlier specific comments on draft principles 1 and 5.

64. Further to our earlier comments, we suggest that consideration be given to two further principles:

    a. The future HVNL should establish the means, structures and practices for an intelligence-led, learning-based regulatory culture committed to continuous improvement

    b. The future HVNL should provide for collective good governance of the sector's pursuit of the objects of the Act.

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