



To:
Energy Markets Group
Ministry of Business, Innovation and Employment
PO Box 1473
Wellington 6140

FEEDBACK ON DISCUSSION PAPER: REVIEW OF NEW ZEALAND'S OIL SECURITY

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Introduction

- 1 This feedback document, in respect of the MBIE discussion paper, entitled "Review of New Zealand's oil security"¹ (*discussion paper*), is made on behalf of Refining NZ.
- 2 Refining NZ believes that discussion around the security of New Zealand's oil supply is timely given the damage to oil supply infrastructure from the earthquake events in Christchurch.
- 3 We very much welcome the opportunity to submit our comments on the discussion points raised in this paper. These comments are driven by the specific role Refining NZ plays in fuelling Auckland and the rest of New Zealand.

Significance of Refining NZ Infrastructure

- 4 Refining NZ owns and operates New Zealand's only oil refinery located at Marsden Point near Whangarei. Refining NZ also owns and operates the 170 km-long Refinery Auckland Pipeline (RAP), the principal means of transport of bulk fuel from Marsden Point to Wiri in South Auckland.
- 5 The Refinery produces petrol, diesel, jet fuel, Fuel Oil and Bitumen for consumption/use throughout the country. Refining NZ produces 100% of Northland's road transport and the countries aviation fuel requirements, approximately 92% of the Auckland region's needs, and approximately 70% of the country's total fuel requirements. The national economy and the Auckland/Northland/Waikato regions are all heavily dependent on the continuous operation of the refinery and the RAP.
- 6 Ongoing investment by Refining NZ in the safe and reliable running of the refinery and the RAP supports key government objectives to:
 - 6.1 build a more competitive and productive economy (principal economic objective);
 - 6.2 ensure secure and affordable energy (Energy Strategy 2011-2012);
 - 6.3 ensure resilient infrastructure (National Infrastructure Plan).
- 7 The refinery and the RAP are critical infrastructure with a combined replacement value estimated at NZ\$3.2 billion. Consequently, Refining NZ is deemed a 'lifeline utility' pursuant to the Civil Defence Emergency Management Act 2002.
- 8 The resilience of New Zealand Fuel's supply chain is based on the strength of its component parts, whether refining or distribution, and a high level of integration across the chain. The receiving terminal run by Wiri Oil Services Limited (WOSL) is key to product distribution into Auckland, to Auckland International Airport (via the WAP Jet fuel pipeline) –and to the wider Waikato region.

Safety and reliability

- 9 Refining NZ is committed to the safe and reliable running of our refinery and the aim set out in our safety action plan is to achieve an impeccable safety performance. Earlier this year we achieved two million hours without a Lost Time Incident.
- 10 Plant reliability is also critical for our customers and for the smooth running of the transport fuels supply chain into Auckland and across the country. An indicator of plant reliability is the annual rate of unplanned downtime on our key processing units. In the
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12 months to February 2012, the level of unplanned downtime for the refinery was 1.3% - which represents a world-class performance in the refining sector.

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Executive Summary

- 11 Refining NZ supports New Zealand maintaining its membership of the IEA and continuing to meet its IEA options.
- 12 Refining NZ concurs with the studies cited in the discussion paper that the New Zealand fuels supply chain is relatively robust and that in the event of a disruption, the oil industry has the capability to return to full supply as quickly as possible.
- 13 Refining NZ contributes to the robust state of the fuels supply chain through the ongoing refinery reliability, which is cited by studies in this discussion paper as first quartile and by the RAP, which has the lowest risk profile of any supply chain into Auckland.
- 14 Along with other industry participants we recognise that there is a need for greater resilience in the fuels supply chain. Plans for disruption events show that the oil industry is adept at planning for and responding to most supply disruptions (while acknowledging that a low-probability significant disruption event would cause difficulties for many²).
- 15 Increasing the resilience of New Zealand's domestic oil security will come from further development of critical fuel supply chain infrastructure: The Refinery Auckland Pipeline (RAP), Wiri Terminal; Wiri Airport Pipeline (WAP). These assets are critical for the supply of fuel to Auckland and across New Zealand, they support productivity, economic growth, and provide secure and affordable energy for New Zealand – (key government strategies) and need to grow if New Zealand is to continue to meet its growing energy demands.
- 16 Industry needs government support to increase resilience of these critical assets. This requires the removal of any regulatory barriers to the operation and development of the Wiri assets in the form of RMA and other consent/approval processes.
- 17 Refining NZ believes there is significant risk to the resilience of these critical infrastructure assets from reverse sensitivity brought about by further development around the Wiri Terminal. While progress has been made via the designation of the RAP in Auckland Council's Spatial, Long Term and Unitary plans we believe that further measures are needed to control land use. We support WOSL's submission that government plans and strategies (i.e. national and Auckland region) need revision to give similar high level recognition to WOSL assets.
- 18 Refining NZ believes the option of a RAP/WAP bypass proposed by this discussion paper merits further analysis - to understand the need, cost/benefit, and funding issues for this significant capital expenditure. Further discussion amongst industry participants and affected parties will also be needed.

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- 19 Our feedback on the discussion paper is set out under eight headings:
- 1.1 International Oil Security
 - 1.2 Domestic Oil Security – the need for greater resilience
 - 1.3 Wiri Terminal – critical to increasing resilience
 - 1.4 The existing supply network - relatively robust
 - 1.5 Disruption scenario analysis
 - 1.6 RAP/WAP proposal
 - 1.7 Possible government investment
 - 1.8 Other options for improving resilience
- 20 Our responses to specific questions in the discussion paper are attached as Appendix One.
- 1.1 International Oil Security**
 - 1.1.1 With regards International Oil Security Refining NZ supports New Zealand maintaining its membership of the IEA and continuing to meet its IEA options. It should be noted that Refining NZ has no plans for shutdowns or any other works that would materially affect New Zealand's IEA obligations.
 - 1.1.2 We agree with the NZIER analysis cited in the paper, that there are no net benefits for New Zealand's domestic oil security from building new stockholding within New Zealand – the costs of which are associated with new capital expenditure and would be significant.
 - 1.2 Domestic Oil Security – the need for increasing resilience**
 - 1.2.1 The studies cited in the discussion paper show that resilience of supply chain is critical.
 - 1.2.2 The RAP has the lowest risk profile for the supply chain into Auckland and delivers the lowest cost and environmental footprint. In addition, we believe that increasing the resilience of those other operations (Wiri Terminal and WAP) is vital but that the duplication of WOSL's operations is not justified.
 - 1.2.3 Increasing resilience requires protection against any further encroachment of sensitive land uses, inadvertently created by new developments.**
 - 1.2.4 We consider this a significant risk based on recent encroaching developments. As such, Refining NZ believes it is essential that key stakeholders are engaged and working together to ensure the protection of the RAP, Wiri Terminal and WAP against reverse sensitivity issues. This would include designation of the Wiri Terminal.

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- 1.2.5** Refining NZ does have the benefit of an easement in respect of the RAP. In order to increase safety and security, and to protect the pipeline from incompatible land uses Refining NZ (Gazetted as a Requiring Authority in 2004) obtained designations for the entire length of its RAP, a process that involved dealing with six territorial authorities over four years. In the last 12 months Refining NZ has also taken part in consultation to ensure this RAP designation is incorporated into the Auckland Council Spatial, Long Term and Unitary Plans.
- 1.2.6 As part of the longer term strategic plan to deliver greater resilience we also believe that every effort should be made to identify where these strategic assets can be developed, capacity and new solutions that meet New Zealand's growing energy demand with a broader range of alternative fuels.
- 1.2.7 Increasing resilience needs more straightforward regulatory processes for RMA and other consents/approvals.**
- 1.2.8 Building additional tankage at the Wiri, but separate from existing Terminal facilities creates redundancy and allows the RAP to be partially utilised in any terminal incident.
- 1.2.9 In addition, projected fuel demand warrants investment to increase storage and handling capacity at Wiri.
- 1.2.10 A resilient fuel supply chain requires WOSL to be able to store adequate product inventories so that users have appropriate security to manage occasional disruptions, without affecting supply to their customers. It should be recognised that any change to fuel supply, including biofuels (particularly as Auckland moves to a low carbon future), would necessitate additional development.
- 1.2.11 Government strategies and plans need revision to support the greater resilience of WOSL operations:**
- 1.2.12 Better recognise the fundamental importance of WOSL's operations to the Auckland wellbeing (economic and social) in high level strategies and plans; and
- 1.2.13 Prioritise an appropriate planning/risk overlay (RMA and other) for the Wiri area to ensure the safe and efficient operation, maintenance and future expansion of Wiri Terminal;
- 1.2.14 Central government directive to Auckland Council to prioritise Wiri Terminal's existing and reasonable future growth requirements, particularly RMA, Health and Safety.
- 1.2.15 Energy resilience is supported in statutory planning documents such as the Auckland Council's Regional Policy Statement (RPS). E.g. RPS Strategic Policy 2.6.14 provides as follows:
- 1.2.15.1 *Provision is to be made to enable the safe and efficient operation, maintenance and*

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development of regionally significant infrastructure which is necessary for the social and economic wellbeing of the region's people.

1.2.15.2 *Land use change should avoid significant reverse sensitivity effects on regionally significant infrastructure.*

1.2.16 The Auckland Plan³ also recognises as resilience issues:

Auckland's liquid fuel supply, including all jet fuel for Auckland International Airport, is reliant on a single pipeline from the Marsden Point Refinery to the Wiri Oil Terminal, and a further pipeline from the Terminal to the Airport. These assets are affected by incompatible land uses, given their hazardous nature and the risks associated with their operation increasing dependence on the Northland and Waikato Regions for secure and reliable fuel delivery with the future loss of Wynyard Point.

1.3 Wiri Terminal - critical to increasing resilience

1.3.1 The Terminal plays a critical role in the fuel supply chain, and WOSL has been proactive in evaluating supply risks and options for increased supply security.

1.3.2 Operations at the Wiri Terminal will need to expand to support plans for improving Auckland's energy efficiency and supply security. Adequate handling and storage capacity is needed to manage throughput and hold sufficient stock levels to ensure resilience in the supply chain for Auckland.

1.4 The existing supply network: - relatively robust. Distribution terminals are reliable facilities and pipeline supply is a very reliable form of transport.

1.4.1 The RAP is a highly reliable infrastructure asset: unplanned downtime on the RAP, a good indicator of asset reliability, currently stands at 1.4% (year to date, 2012). As a recognised LifeLine Utility and Requiring Authority pursuant of the CDEM Act 2002, Refining NZ has pre-emergency plans to ensure minimal disruption to New Zealand's fuel supplies. In the event of a significant outage on the RAP (e.g. from volcanic eruption, earthquake or landslide) Refining NZ estimates that the RAP would be operational within three days of such an event.

1.4.2 WOSL is planning future investment in the terminal site in the way of additional storage tanks. Continued growth in diesel demand is forecast, as is biofuel development and increased usage. This will not have any material impact on the level of commercial inventories held in New Zealand but is vital in the domestic security context.

1.4.3 We concur with WOSL's assessment that additional tanks would be situated on the site but at a sufficient distance from the existing

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tanks to ensure some continued operation in the event of a disruption event at Wiri Terminal. Furthermore, it would be far less likely that a single incident could put the whole facility out of action for an extended period (as is the assumption of many of the contingency studies on the disruption to the RAP supply route into Auckland).

1.5 Disruption scenario analysis

- 1.5.1 Refining NZ is generally supportive of most of the options to address constraints to the re-establishment of supply following a disruption, including increased trucking and driver capacity and increased coastal shipping. At the same time it must be recognised that these contingencies will take time to implement.
- 1.5.2 The RAP provides the lowest cost, most environmentally sound and reliable route for product supply into Auckland and is capable of handling increased throughput.
- 1.5.3 As a consequence, the Wiri Terminal must be capable of handling any increased throughput and of managing any changes in fuel requirements such as different product grades and/or biofuels. The storage capability needs to be sufficient such that WOSL can store adequate product inventories to ensure the users have appropriate security to manage disruptions that may occur from time to time without affecting supply to their customers.
- 1.5.4 Additional storage in a separate location at the Wiri Terminal would ensure greater resilience in terms of jet fuel supply in the event of a disruption. A relatively quick resupply (within weeks rather than months) would be likely if these tanks were available (in the event the others were damaged) and could be operated on jet.

1.6 RAP/WAP Bypass proposal

- 1.6.1 Refining NZ believes that the option outlined in the paper of a RAP bypass around the Wiri Terminal needs further analysis. This would be a significant - and at present, unplanned capital expenditure project. Under this recommendation the need, cost/benefit, and funding issues would need significant consideration and buy-in by all affected industry parties (e.g. Auckland Airport which is increasing the capacity of its jet fuel storage facility).
- 1.6.2 At present, the cost of regulatory authorisation for and the construction of such a bypass on a pre-emptive basis, does not appear to be justified. Despite this, Refining NZ supports the investigation of preparatory work to expedite the building of a bypass in an emergency. Other options include pre-emptive government planning fast-tracking of such a project, e.g. by identifying/designating preferred route for emergency purposes only.

1.7 Possible government investment

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- 1.7.1 We concur with the NZIER finding referred to in the discussion paper that building new stockholding in New Zealand is not economic and as outlined earlier in this submission, the preferred approach is to promote the building of resilience in the existing fuels supply chain.

1.8 Other options for improving resilience

- 1.8.1 As outlined earlier in this submission, Refining NZ has also built resilience into the RAP through designation on Auckland Council's Spatial, Long Term and Unitary Plans.
- 1.8.2 Further supply side resilience is being built through Refining NZ's major expansion project (Te Mahi Hou) during which we will construct a \$365M continuous catalyst regeneration (CCR) platformer plant. Our refinery currently meets around 50% of New Zealand's demand for gasoline. The new plant will increase our available contribution to the NZ gasoline market by around 15%. It will deliver significant improvements in energy efficiency, as well as significantly reduce our carbon emissions by around 120,000 tonnes per annum.
- 1.8.3 Refining NZ has a clear vision to Fuel New Zealand's Future and Te Mahi Hou fits with our strategy to be New Zealand's (and our customers') supplier of choice for oil products. Te Mahi Hou is yet another step in building the increased resilience in the regions and the country's supply chain while delivering the lowest possible carbon footprint for New Zealand's hydrocarbon supply chain.

THE NEW ZEALAND REFINING COMPANY LIMITED

Jim Collings

27 November 2012

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APPENDIX ONE

MBIE - Review of New Zealand's Oil Security – Questions

International Oil Security

Q1. Are you aware of any future investments or shutdowns, or any other factors that are likely to significantly alter the level of commercial inventories held in New Zealand?

A1. Refining NZ has no plans for shutdowns or any other works that would materially affect New Zealand's IEA obligations.

Q2. Do you agree that the international oil security problem definition is appropriate?

A2. Refining NZ is not suitably qualified to comment with surety on problems of international oil security.

Q3. Do you agree with the selection criteria used for the international oil security analysis?

A3. Refining NZ is not suitably qualified to comment on selection criteria.

Q4. Do you agree that New Zealand should maintain its membership of the IEA and continue to meet its IEA obligations?

A4. Refining NZ supports New Zealand maintaining its membership of the IEA and continuing to meet its IEA options.

Q5. Do you agree that New Zealand should continue to meet its IEA stockholding obligations through ticket contracts rather than purchasing domestic stockholding?

A5. Refining NZ is not suitably qualified to comment with surety on the merits of ticket contracts versus purchasing domestic stockholding.

Q6. Do you agree that the government should continue to procure ticket contracts rather than placing a mandate on industry?

A6. Refining NZ is not suitably qualified to comment.

Q7. Do you agree that it is more equitable to recover ticket contract costs via a levy on fuel than from general taxation? Are there any other matters that the government should consider?

A7. We agree that the option of a levy is more equitable.

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Q8. Do you agree that the PEFML is the most appropriate levy by which to recover ticket contract costs and that it should only cover petrol, diesel, ethanol, and biodiesel?

A8. We agree that the PEFML is the most appropriate levy.

Q9. Do you agree that it is best to smooth the levy rate over three years? How much lead time is required for companies to prepare for a change in the rate?

A9. Refining NZ is not suitably qualified to comment with surety on proposed levy processes.

Domestic Oil Security

Q10. Do you agree that the rationale for government investigation into domestic oil supply security is to ensure that domestic oil infrastructure resilience is socially optimal, and to ensure that industry can re-establish supply as quickly as possible following a disruption?

A10. We believe that resilience is best built by government ensuring there are no barriers to restrict free market development in the most economic manner.

Q11. Are there any other measures available to industry or government to increase supply following an emergency disruption?

A11. Answer as above.

Q12. Is the description of the major refinery outage accurate? If not, what should be expected??

A12. Typically only part of the refinery may be subject to a major outage.

Q13. Is 0.20-0.25 percent per year a reasonable probability range for a major outage at the refinery?

A13. We believe that the probability range assumed is not unreasonable.

Q14. Are there other factors that can be addressed to enable industry to better respond to a major refinery outage?

A14. We believe there are no other significant factors for industry to address and that as stated above, further resilience is best built by government ensuring there are no barriers to restrict free market development in the most economic manner.

Q15. Is the description of the minor refinery outage accurate? If not, what should be expected?

A15. Typically it would require only part of the refinery to be shut down for this to constitute a minor outage.

Q16. Is 0.5-1.0 percent per year a reasonable probability range for a minor refinery outage?

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3. At chapter 12

A16. The probability range assumed is not unreasonable.

Q17. Are there other factors that can be addressed to enable industry to better respond to a minor refinery outage?

A17. As above. Further resilience is best built by government ensuring there are no barriers to restrict free market development in the most economic manner.

Q18. Is the description of the long-term disruption to RAP/Wiri accurate? If not, what should be expected?

A18. We believe that disruption to either asset should be considered separately. While there is interdependency the respective disruptions will have different outage timescales. By that we mean, the RAP can be brought back far sooner than a long term disruption to the Wiri Terminal.

Q19. Is 0.2-0.3 percent per year a reasonable probability range for a long-term RAP/Wiri disruption event?

A19. As above, the probability rates will be different for each asset. The percentage assumed may be more relevant to the Wiri Terminal.

Q20. Are there other factors that can be addressed to increase the speed with which industry can respond to a long-term disruption to RAP/Wiri?

A20. As above. We believe that disruption to either asset should be considered separately. While there is interdependency the respective disruptions will have different outage timescales. It should be noted that Industry currently has mitigation measures as per the requirements of CDEM Act 2002.

Q21. Is the description of the short-term disruption to RAP/Wiri accurate? If not, what should be expected?

A21. As above. We believe that disruption to either asset should be considered separately. While there is interdependency the respective disruptions will have different outage timescales. It should be noted that Industry currently has mitigation measures as per the requirements of CDEM Act 2002.

Q22. Is 0.5-1.0 percent per year a reasonable probability range for a short-term RAP/Wiri disruption event?

A22. We believe that the probability range assumed is not unreasonable. The percentage assumed may be more relevant for the RAP.

Q23. Are there other factors that can be addressed to enable industry to better respond to a short-term outage to RAP/Wiri?

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3. At chapter 12



A23. As above. We believe that disruption to either asset should be considered separately. While there is interdependency the respective disruptions will have different outage timescales. It should be noted that Industry currently has mitigation measures as per the requirements of CDEM Act 2002.

Q24. Is the description of the long-term disruption at Seaview accurate? If not, what should be expected?

A24. Refining NZ is not suitably qualified to comment on long-term disruption at Seaview.

Q25. Is 0.15-0.25 percent per year a reasonable probability range for a long-term Seaview disruption event?

A25. Refining NZ is not suitably qualified to comment on long-term disruption at Seaview.

Q26. Are there other factors that can be addressed to enable industry to better respond to a long-term disruption to Seaview?

A26. As above.

Q27. Is the description of the long-term disruption at Lyttelton accurate? If not, what should be expected?

A27. Refining NZ is not suitably qualified to comment on long-term disruption at Lyttelton.

Q28. Is 0.2-0.3 percent per year a reasonable probability range for a long-term Lyttelton disruption event?

A28. As above.

Q29. Are there other factors that can be addressed to enable industry to better respond to a long-term disruption to Lyttelton?

A29. As above.

Q30. Do you agree that the probability of a tsunami that results in disruptions that are more severe than those outlined above is extremely small?

A30. We agree.

Q31. How viable is it to use the abovementioned trucks, are there any other trucks in New Zealand that have not been considered above, and are there any regulatory barriers to unconventional trucks being utilised in an emergency?

A31. Refining NZ is not suitably qualified to comment.

Q32. Assuming the Commerce (Cartels and Other Matters) Amendment Bill is enacted, would oil companies be able to plan and coordinate fuel deliveries and trucking resources between themselves in an emergency?

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3. At chapter 12



Q32. Refining NZ is not suitably qualified to comment on the Commerce Amendment Bill.

Q34. Are the assumptions about the length of time to import trucks from Australia reasonable? How could the importation of offshore trucks be expedited in an emergency?

A34. Refining NZ is not suitably qualified to comment.

Q35. Are there any other sources of drivers that could drive fuel trucks in an emergency?

A35. Refining NZ is not suitably qualified to comment.

Q36. Are there any issues that would hinder Australian drivers and New Zealand milk truck drivers driving fuel trucks in an emergency? What measures could be taken to ensure that Australian drivers could obtain approved handler certification sooner? How long would it take to certify Australian drivers if such measures were taken?

A36. Refining NZ is not suitably qualified to comment.

Q37. Should drivers without approved handler certification still be utilised in an emergency if they are not required to physically load/unload fuel?

A37. Refining NZ is not suitably qualified to comment.

Q38. Should driver time restrictions be relaxed in an emergency?

A38. Refining NZ is not suitably qualified to comment.

Q39. What other measures could be taken to reduce bottlenecks at loading gantries at terminals?

Q39. Refining NZ is not suitably qualified to comment.

Q40. What other measures can be taken to increase coastal shipping capacity in an emergency?

A40. Refining NZ is not suitably qualified to comment.

Q41. Do you agree that a government campaign to encourage voluntary demand restraint in a short- term disruption will be effective at minimising a short-term supply shortfall?

A41. Such a government campaign would need to be carefully managed to avoid panic buying or potential hoarding of fuel supplies by consumers. We believe there are lessons to be had from recent experiences in the UK.

Q42. Do you envisage that any consenting process would result in delays to emergency repairs of fuel infrastructure? If so, what are they?

A42. Requiring Authority status is being constantly reviewed by Ministry for Environment under the RMA. This will have impact on infrastructure currently having Requiring Authority status

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and should it be implemented, will require Local Authorities to take on this process.

Q43. Do you think that a handbook with representative domestic supply disruption scenarios, and supply-side response measures would help to expedite an emergency response?

A43. Scenarios and supply-side response measures have been reviewed by Infrastructure groups and are published in National, Regional Fuel Contingency Plans. We believe these could well be formulated as handbooks.

Q44. Do you agree that building the RAP-WAP bypass is a reasonable 'insurance premium' to pay to avoid disruption of jet supply to Auckland Airport? Which party is best placed to cover these costs?

A44. Refining NZ believes the option of a RAP/WAP bypass proposed by this discussion paper, merits further analysis - to understand the need, cost/benefit, and funding issues for this significant capital expenditure. Further discussion amongst industry participants and affected parties will also be needed.

Q45. What work could be pre-emptively undertaken to expedite the building of a RAP-WAP bypass following a disruption, how much time would this work expedite the build by, and what would this work cost? Which party is best placed to cover these costs?

A45. As above.

Q46. What preparatory measures could industry take to expedite the importation of trucks from Australia in the event of a long-term terminal outage? What measures can government take to ensure that the importation process is sped up?

A46. Refining NZ is not suitably qualified to comment with surety on industry measures to import trucks from Australia.

Q47. Do you agree that the construction of domestic stockholding is not an economic solution to improving domestic oil security? If you disagree, please state why?

A47. As stated in our submission, we do not believe this option to be economic.

Q48. What cost effective options are there for improving the resilience of the network? Please provide an explanation of the network vulnerabilities that the option would address, and an estimate of costs.

A48. Our submission has identified measures already being undertaken – and proposes others that would increase resilience in the network. As stated, Refining NZ believes the option of a RAP/WAP bypass proposed by this discussion paper, merits further analysis - to understand the need, cost/benefit, and funding issues for this significant capital expenditure. Further discussion amongst industry participants and affected parties will also be needed.

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