ENGINEERS AUSTRALIA

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Department of the Environment and Energy
Liquid Fuel Security Review
GPO Box 787
Canberra ACT 2601

30 April 2019

RE: Liquid Fuel Security Review

To Whom It May Concern,

Engineers Australia welcomes the opportunity to respond to the Department's Liquid Fuel Security Review – Interim Report. Engineers Australia has held a long interest in Australia's liquid fuel security, and has consistently called on the government to put forward a comprehensive energy security strategy that addresses the shortfalls in liquid fuel security.

Engineers Australia is the peak body of the engineering profession. We are a member-based professional association with about 100,000 individual members. Established in 1919, Engineers Australia is a not-for-profit organisation, constituted by Royal Charter to advance the science and practice of engineering. Our members are governed by our code of ethics, using our knowledge and skills for the benefit of the community, ahead of sectional interests.

When Engineers Australia first became involved with the topic of liquid fuel security it was only regarded as a supply-side issue, however in more recent years the discussion has transitioned to include demand issues alongside supply. This is a positive shift in the narrative of liquid fuel security, as the discussion now takes into account what the future mix of energy in Australia will be.

Australia's energy network (electricity, liquid fuel, gas) is an ad-hoc system, organised within stovepipes of energy types, creating system and systematic vulnerability. In the short-term Australia is faced with significant risk in liquid fuel security and there are no easy solutions to addressing it. While it is outside the scope of the review, Engineers Australia strongly believes that there needs to be a better examination of the energy transition across all fuel types because each fuel's role in the transition will affect the others. This submission provides comments on this factor as understanding the tensions of the transition affects energy security.

Engineering House
11 National Circuit, Barton ACT 2600
Phone: +61 2 6270 6555 | Facsimile: +61 2 6273 1488
engineersaustralia.org.au

Engineers Australia is encouraged by the release of the interim report and believes that the interim findings raise some key issues that need further discussion and consultation before the development of the final report. In this submission, Engineers Australia will address some issues that the Department raises in the interim report, which we believe should form part of the consultation process.

Interim Findings

Engineers Australia notes the 10 interim findings, and questions how the findings will be further explored. The method described in 'Next steps' of modelling disruption scenarios is an excellent technique for assessing supply chain robustness, but it is unclear if the interim findings are being tested or if they form assumptions for the next phase. It is also unclear if the findings are contestable.

Indeed the relationship between Interim Finding 1 that 'Liquid fuel, particularly diesel and jet fuel, will be an important energy source for Australia beyond 2040' and Interim Finding 5 that 'Australia may be left behind as the world moves away from oil-based fuels to other forms of transport energy such as electricity and hydrogen' may compete against each other. The report acknowledges that liquid fuel supply and demand is transitioning but it seems these two findings are a contest between two approaches that is a slow change while the other calls for more rapid change. Testing approaches requires simulation against future states, not scenario testing of the supply chain.

IEA Requirements and the consumption cover

Engineers Australia supports the use of days of consumption cover as an improved articulation of domestic liquid fuel security. Publication of the method of calculation and source data used to calculate consumption cover will assist transparency.

The noncompliance with International Energy Agency (IEA) requirements remains relevant to the debate on liquid fuel security in the global context. Engineers Australia believes that it is important to focus on the number of days' use, but this still must be done within the context of the 90 days' obligations as part of the IEA agreement, of which Australia is a part. This provides a much longer timeframe and larger safety net in the event of major disruption, and this is the commitment Australia made. The discussion should continue to be centred around our international obligations under this agreement.

Diesel demand

One of the key highlights of the interim report is the importance of diesel and jet fuels to Australian industries. The report highlights the importance of diesel and jet fuel for essential uses, and how wide-reaching the consequences the disruptions of these fuels would be in an emergency where there is no longer security of supply.

The question of whether 18 and 23 days of consumption cover for diesel and jet fuel is adequate needs to be tested under the disruption scenarios. Engineers Australia believe this is a low figure

and certainly not a resilient benchmark, particularly when the full logistical flow of fuel around the country, and how and where the fuel needs to move is considered.

When considering the movement to Australia, it is important to remember that Australia is a vast country with long vulnerable links between major hubs and the regions. Any planning and modelling for moving fuel around the country must consider the time it takes to move from major fuel hubs and ports through to regional areas where agriculture needs stocks and to industrial and business districts that use large amounts of fuel. Also consider that the transportation to these regions also uses large amounts of fuel.

It could be argued that 18 days of consumption cover for diesel fuel is a very short timeframe in the event of a major disruption to fuel supply lines, or in an extreme weather event. Full consideration must be given to extreme weather events in Australia and how fuel can be physically transported in the event of major storms, heatwaves and bushfires. To this point this has not been truly tested, and is heavily reliant on the country's existing infrastructure, which either has not been tested, or has previously been found lacking in a natural emergency.

Liquid Fuel Emergency Act and modelling and planning

Engineers Australia believes the Review Taskforce should also make recommendations to update the *Liquid Fuel Emergency Act 1984*. This Act provides the legislative basis for contingency planning and the management of liquid fuel emergencies and stocks.

The Act needs updating because it is at risk of becoming inconsistent with how federal and state governments work in the modern day. The only reason that this outcome has not been realised is because there has not yet been an event which has put the Act into action. There is however too much at stake to wait for this to happen.

Additionally, there needs to be better transparency of government planning in the event of a liquid fuel stock emergency. There needs to be greater public visibility and open feedback options to scenario testing and scenario modelling as we are reliant on increasingly fragile maritime supply chains as the potential for trade wars loom. This must include the process followed by the National Oil Supplies Emergency Committee (NOSEC) and the plan to which they would advise the Australian Government to respond in an emergency.

Australia is the only developed oil-importing country in the world with no government-controlled stocks, no mandated commercial stock requirements for oil companies, and no government involvement in oil markets. It is a risky proposition for the government to outsource this function to industry and the market.

What we are yet to see, and what the Review Taskforce could analyse in greater depth, is how far-reaching the consequences of a major disruption would be. This is vitally important as much of the planning for a fuel stock emergency has been left to be managed by the industry, yet the industry doesn't manage the stock holdings, and doesn't manage the control of operations in the event of an emergency. This raises questions of the industry's preparedness in the event of a major disruption.

Transition plan for long term stability

Australia needs a national strategy for long-term energy security policy which outlines a transition to a domestic capability to become self-sufficient, without being reliant on global supply chains. This strategy should avoid creating unwanted vulnerabilities and intended consequences and should develop energy resilience by linking associated climate risks.

A review of Australia's liquid fuel security cannot exclude an analysis of Australia's future energy mix along with a transition plan, and factor in how this potential mix could provide fuel security for Australia. A long-term transition should look at the potential uptake of hydrogen and electric vehicles in Australia, along with the development of a hydrogen industry in Australia.

If the uptake of these new technologies is significant over the next decade, it will greatly alter Australia's reliance on imported liquid fuels and lessen the risks associated with liquid fuel security. The introduction of stronger emission reduction policies can also accelerate the uptake of alternative fuels, lessening the reliance on imported fuels and these should also be considered.

Although a short term vision is needed to address immediate deficiencies, simply building fuel storage options is not appropriate, is expensive, and will only address one vulnerability. Supply chain diversification and buying fuel tickets (where a third-party stores fuel for us) is managing the margins. We can't afford to mitigate risks by simply replacing our old infrastructure with a similar version.

It is time to develop a positive forward-thinking strategy that builds jobs in new industries, linking this strategy to evolving transport modes and fuel options, and position Australia as a global leader. This vision will cost money, but the alternative is the real prospect of our nation grinding to a halt and being rendered defenceless in a matter of weeks.

Engineers Australia thanks the Department for the opportunity to comment on the Liquid Fuel Security Review – Interim Report. To discuss any of the points raised above in more detail, please contact Jonathan Russell, National Manager for Public Affairs, on 02 6270 6565 or at JRussell@engineersaustralia.org.au.

Yours sincerely,

Jonathan Russell
National Manager, Public Affairs