ENGINEERS
AUSTRALIA
Tasmania Division

13 December 2013

Tasmanian Shipping Inquiry
Productivity Commission
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– BY EMAIL –

Dear Sir/Madam

Re: Engineers Australia Submission to Tasmanian Shipping and Freight Inquiry

Engineers Australia is the peak representative body for the engineering profession in Australia. With over 100,000 members across Australia, we represent all disciplines and branches of engineering. Engineers Australia is constituted by Royal Charter to advance the science and practice of engineering for the benefit of the community.

Infrastructure delivery remains a major concern for the engineering profession. With roughly 60,000 engineers employed – in varying capacities – on infrastructure projects across Australia, market fluctuations and policy settings can have a significant effect on the overall engineering workforce. With shipping and freight infrastructure being a vital component of Tasmania's – and Australia's – economic viability, Engineers Australia would like to offer broad comments to this Inquiry.

The 'boom/bust' cycle of infrastructure delivery seen in Australia over recent years has created acute demand spikes across specific locations and engineering specialisations. In the context of engineering skills shortages witnessed in Australia over recent years, these fluctuations can have significant economic consequences.

The quantum, quality and condition of economic infrastructure are key determinants of productivity growth and economic growth. These connections and the critical importance of productivity growth to Australia's future were articulated in the Australian Treasury's Intergenerational Report.

While effective infrastructure delivery is critical to Australia, we also need to be realistic in terms of our capability to deliver benefits from infrastructure. Political, business and community expectations about new or improved infrastructure are often raised to unrealistic levels, resulting in unnecessary public criticism and blame when projects do not achieve their expected outcomes. New projects are often described in transformative terms and claimed that they can be delivered in short time frames. However, in reality, the vast majority of these

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projects provide only incremental improvements and all have lengthy design, construct and commissioning phases.

Progress towards optimising Australia's economic infrastructure has been slow and uneven. This has been the message from Engineers Australia's Infrastructure Report Cards, first released in 1999, with updated national reports in 2001, 2005 and the latest in 2010. In 2010, Infrastructure Report Cards were also released for each state and territory.

Engineers Australia's Infrastructure Report Cards

Engineers Australia's Infrastructure Report Cards are complex documents that synthesise qualitative and quantitative information about the nation's infrastructure into a form useful for policy analysis and policy deliberations.

Documents examined include regional development plans, infrastructure strategic plans, documents relating to specific infrastructure projects, government reports and government budgets and budget statements. Statistics examined included financial statistics made available by state and territory governments and the Commonwealth Government on funding for infrastructure, the progress of these commitments and funding of and progress of maintenance of existing infrastructure assets. Background statistics from a range of agencies on population and population growth, traffic volumes, freight volumes, water supplies and use, waste water collections and volumes recycled, energy supplies and demands and other statistics that influence the demand for, and supply of, infrastructure services are also examined.

The synthesis includes the considered views of engineers with expertise and experience in infrastructure matters in all states and territories. The final outcomes of the process are assessments about the suitability of existing infrastructure for current and planned future uses. The scale used for the assessments is as follows:

A (Very Good); Infrastructure is fit for its current and anticipated future purposes.

B (Good); Minor changes are required to enable infrastructure to be fit for its current and anticipated future purposes.

C (Adequate); Major changes are required to enable infrastructure to be fit for its current and anticipated future purposes.

D (Poor); Critical changes are required to enable infrastructure to be fit for its current and anticipated future purposes.

F (Inadequate); Inadequate for current and anticipated future purposes.

The 1999 Infrastructure Report Card assessed Australian economic infrastructure as 'D', poor and critical changes were required to enable infrastructure to be fit for its current and

anticipated future purposes[1] . Subsequent reports saw sufficient improvement to lift assessments to 'C' in 2001 and 'C+' in 2005 and again in 2010[2].

Only one jurisdiction, the ACT, was assessed higher but was qualified. Engineers Australia argues that these assessments are inconsistent with the productivity growth necessary to meet the future challenges outlined by the Treasury Intergenerational Report and that Australia's economic infrastructure must be improved through coordinated planning, maintenance and development at all levels of government.

2010 Infrastructure Report Card - Overview

In our 2005 Infrastructure Report Card, Engineers Australia identified that meeting demands for new infrastructure and maintaining, upgrading or replacing ageing infrastructure was a major challenge facing Australia.

There had been significant under-investment in infrastructure across the nation, which was imposing constraints on all parts of the economy and the community. We called for coordinated planning frameworks, and cooperation between governments as being vital to providing Australia's future infrastructure needs. Most importantly, we believed that Australia would benefit from the establishment of a 'national infrastructure council' to provide independent advice about infrastructure priorities of national significance.

In the intervening five years, Australia experienced significant economic and population growth, and some improvements in infrastructure. It also weathered the global financial crisis (GFC). Spending on infrastructure increased and there was a much better understanding of the role that infrastructure plays in sustaining a viable economy. We saw the establishment of an independent infrastructure advisory body at a national level, Infrastructure Australia, and a priority setting process that applied more rigour to project funding decisions. Many jurisdictions developed infrastructure plans – though of variable type and quality.

This 2010 Infrastructure Report Card for Australia was distilled from individual state and territory outcomes, with appropriate weighting given to the relative size and economic importance of each. The ratings of each state and territory showed that there were limited effects resulting from the early work of Infrastructure Australia and the federal government's GFC stimulus package.

Given the long lead times for major infrastructure, it is not surprising that there was a mix of no change, slight improvement and slight deterioration in individual infrastructure types between 2005 and 2010. In 2005, the result was a 'C+' overall and remained a 'C+' in 2010 (a 'C' rating reflects infrastructure that is only adequate and in need of major changes).

Overall, our 2010 Infrastructure Report card showed that Australia's infrastructure was in need of some major improvements. It was clear that Australia faced significant challenges;

[1] See: www.engineersaustralia.org.au/infrastructure-report-card/previous-reports.
[2] See: www.engineersaustralia.org.au/infrastructure-report-card.

economic growth depends on our addressing the backlog of nationally significant infrastructure works. We identified that this would require a greater focus on ongoing maintenance and renewals as well as new infrastructure to meet demand.

It was clear in 2010 that the investment in infrastructure had still not caught up with the estimated $700 billion shortfall (then) caused by years of under-investment. Engineers Australia's engineering construction index charts for each state and territory provided some guidance. The overall index for Australia had increased at a modest rate to almost $250 million per 100,000 population during the last 20 years. Only Queensland and Western Australia, the resources states, exceeded the national average; all other states and territories lagged behind to varying degrees.

The lack of long-term strategic planning, coordination, integration and cooperation between levels of government was a clear and severe constraint on Australia's infrastructure. Australia had, and still has, an extremely fragmented regulatory and planning framework. There are many federal bodies that are responsible for regulation, policy or investment in infrastructure, and there are dozens more at the state and territory level, each having different and often competing responsibilities and interests – add to this the 700 local governments. This remains a major weakness in the Australian system, which requires a willingness to cooperate between the various spheres of government to deliver efficient outcomes for the community.

In 2010 Engineers Australia strongly recommended that priority-setting for projects must be based on the advice of Infrastructure Australia at a national level following rigorous analysis and justification. States and territories would benefit from advisory bodies operating on similar principles to Infrastructure Australia and following the assessment guidelines that the national body has developed. Priority-setting should include all infrastructure sectors.

Engineers Australia believes that underlying principles in any infrastructure planning process needs to include productivity, liveability and sustainability. Sustainability is not only about the natural environment, but includes economic and social issues, equity, affordability and effectiveness. Planning regimes must remain flexible and open to change, given that forecasts often turn out to be inaccurate.

In 2010 we recommended that land use decisions must give priority to infrastructure that is nationally significant, sustainable, affordable, and is vital to state and territory interests. Land use decisions must be integrated with infrastructure priorities and urban encroachment on ports and airports must be curbed. Australia's economy is dependent on trade, which, in turn, is dependent on ports and airports. To operate efficiently, there must be good road and rail transport links from ports to metropolitan and regional centres.

One area identified in 2010 as needing particular attention was the sharing of financial and operational risk between public and private participation in projects, which needs to be equitable for both parties – this remains relevant today. All infrastructure owners must have adequate data on their infrastructure assets, and must utilise this to plan and fund maintenance and renewal programs. Maintenance may not be the most newsworthy activity,

but it is the most essential in ensuring the longevity of any infrastructure asset. Full transparency of whole-of-life asset costs is critical.

Engineers Australia's 2010 Infrastructure Report Card recommended the following:

All governments must:

- Deliver more efficient infrastructure outcomes and develop innovative funding models to provide the required infrastructure.
- Harmonise infrastructure planning and regulation through improved cooperation and collaboration between all levels of government, business and the community.
- Address the imbalance between urban and rural and remote communities regarding access to high quality, reliable infrastructure.
- Develop plans and implement projects in all sectors in advance of need, and either build in capacity for growth or preserve land in all infrastructure sectors, particularly for ports, airports and transport corridors.
- Encourage private sector funding for infrastructure and where infrastructure delivery models include the private sector, have the appropriate allocation of risk to deliver the best project outcome.

State and territory governments must:

- Develop long-term infrastructure visions and plans that accommodate projected economic growth and population increases.
- Establish independent planning infrastructure advisory groups to provide advice on infrastructure priorities and provide infrastructure planning and funding advice.

Infrastructure owners and managers must:

- Improve the maintenance of existing assets, through adequate funding and asset management plans.
- Integrate climate change mitigation and adaptation into infrastructure plans.

The Tasmanian Context – 2010 Infrastructure Report Card

Overall, Tasmania's infrastructure was found to be stressed, and was mostly rated as either adequate or poor. In examining transport infrastructure, state roads were the only sector to maintain their 2005 rating due mainly to the backlog of work being partly addressed. Local and national roads and ports lost ground since the 2005 report. While some major upgrades and bypass work were being completed or were underway, there was a deterioration in the quality of roads due to increases in freight usage and pavements exceeding their design life.

To improve the rating for the future, Engineers Australia called out the need for better planning, funding and delivery of road infrastructure. Port infrastructure appeared to be adequate at the time in terms of capacity, but integrated land use, and transport planning outcomes were slated to have a substantial negative effect on capacity in the future.

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This 2010 report included a rating for rail, airports, irrigation, and gas, which were not rated in 2005. Of these, rail received a fail rating on the basis that Tasmanian rail was considered inadequate for (then) current and future purposes. While there was some rail infrastructure work carried out near the time the Report Card was delivered in 2010, there was then no plan for the future of Tasmanian rail, and the level of investment to provide an effective and efficient rail service was considered to be very substantial. Tasmanian airports fared better, recognising that infrastructure had improved considerably since 2005.

In the 2010 Report Card, Engineers Australia expressed concern that:

- Critical changes were required to Tasmania's infrastructure to make it fit for (then) current and future needs.
- Long-term integrated infrastructure planning was missing, as was transparent advisory and decision-making mechanisms.
- Given its small and rapidly ageing population compared to other states, infrastructure funding was considered likely to be a persistent and critical issue.
- Skills shortages in the engineering, construction and planning disciplines were forecast to continue to affect Tasmania's ability to plan and deliver future infrastructure projects.
- Maintenance and rejuvenation of ageing assets needed to be funded on a more sustainable basis.

<u>Engineers Australia Recommended that:</u>

1. Government must take responsibility for implementing a long-term integrated infrastructure plan for the state.
2. The structure and mechanisms for developing and achieving the long-term plan must be open and transparent and must include wide consultation with industry, the professions and the community at large.
3. Strategies must be developed alongside the infrastructure plan to ensure that Tasmania has, and can access, adequate skills to deliver infrastructure projects.
4. Investment in infrastructure must increase overall.
5. Private sector funding for infrastructure must be encouraged and infrastructure delivery models that include the private sector must have the appropriate allocation of risk to deliver the best project outcome.
6. In the context of the 'F' rating for rail, further short-term investment was required to maintain an operational service while an integrated transport strategy (a component of the recommended integrated infrastructure plan) was prepared to determine the long-term future of rail in Tasmania.
7. Greater cooperation and resource sharing at a local government level was required to plan and deliver more efficient infrastructure provision and maintenance.

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Analysing Australia's Infrastructure Trends 2013

In order to assess any progress in the state of Australia's infrastructure following the 2010 Infrastructure Report Card, Engineers Australia published an interim review in 2013: Analysing Australia's Infrastructure Trends 2013[3].

This report is a comprehensive work assessing the current state of Australia's key infrastructure, including roads, ports, railways, bridges, water, electricity and telecommunications assets. In this report, Engineers Australia revisits the findings of our Infrastructure Report Card series to assess progress in these areas since our last evaluation in 2010.

In 1988-89, Tasmanian economic infrastructure activity was $523.5 million in real terms, 3.7 percent of national activity and total engineering construction was $626.8 million in real terms, 3.6 percent of national activity. For much of the 23-year period examined engineering construction activity in Tasmania was very flat and predominant changes were annual fluctuations. However, activity levels increased sharply between 2001 and 2006 and while subsequently the earlier flat trends re-established themselves, this occurred at about double the earlier level of activity. By 2011-12, activity on economic infrastructure was $791.5 million (1.4 percent of national activity) and total engineering construction was $947.6 million (0.8 percent of national activity).

The 2010 Infrastructure Report Card assessed Tasmanian national roads as 'C+', state roads as 'C' and local roads as 'D'. The main observations made concerned reactive practices and an inability to keep up with demand. In 1988-89, roads activity was $203.7 million in real terms – 39 percent of Tasmania's total economic infrastructure activity. Average growth in activity in the years prior to the 2010 Infrastructure Report Card was 1.0 percent per annum. ABS data show that this outcome was the net effect of a downward trend until about 2002 and some growth thereafter. Since the 2010 Report Card, average growth has been 9.5 percent per annum, despite the fall in activity in 2011-12. This trend suggests the status quo is being maintained.

The 2010 Infrastructure Report Card assessed rail infrastructure as 'F', inadequate for current and future purposes, and assessed ports as 'B-' with the reservation that there was poor integration between ports and transport infrastructure. There has been no rail activity since then and ports activity has been quite low but average growth leading up to the 2010 Report Card was 12.3 percent per annum and 30.5 percent per annum since, increasing activity to $53.4 million in real terms in 2011-12. These figures are promising but the last year fall needs to be reversed to be convincing.

Although there has been some non-economic infrastructure engineering construction occurring in Tasmania, this is relatively small and shared between the resources sector and

[3] www.engineersaustralia.org.au/sites/default/files/shado/Representation/Research_and_Reports/analysing_australias_infrastructure_trends_2013_1.pdf

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construction of recreational facilities. In 2011-12, resources and heavy industry activity was $82.0 million in real terms and activity in the recreation area was $74.2 million.

Conclusion

With the large number of engineers employed in delivering infrastructure assets across the state and across the country, Engineers Australia has a significant interest in ensuring that these projects are delivered efficiently and in a transparent and coordinated manner.

As an island state, shipping and freight infrastructure are integral to Tasmania's economic and social success. Engineers Australia strongly welcomes the Productivity Commission's inquiry into Tasmanian Shipping and Freight.

Thank you for consideration of this submission.

Yours faithfully

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