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05 May, 2005

ref. Subm050505

House of Representatives Standing Committee
on Transport and Regional Services
Parliament House
CANBERRA ACT 2600

Dear Committee Members,

re: **Inquiry into the Integration of Regional Road and Rail Networks
and their Connectivity to Ports.**

I am a qualified Mechanical Engineer, and I have been involved in the rail industry since 1969.

I have worked on the design and engineering of rolling stock in Australia, Canada and the U.K. Since 1985 I have operated as a consultant to the industry through my own company, Railway Project Engineering Pty. Ltd. I am also heavily involved in the building construction industry on the Mid-North Coast of New South Wales.

In recent years I have written a rolling stock engineering course which has been presented by the Queensland University of Technology as part of a railway management course, and has now been incorporated into a textbook on railway engineering, published by Engineers Australia.

I am the current National Secretary of the Railway Technical Society of Australasia, but in making this submission I am representing myself, not the RTSA. I believe that the RTSA will be making a separate submission.

The purpose of making this submission is to draw the Committee's attention to the fact that, with a relatively small amount of technical development, it would be possible to introduce a system to the Australian transportation system which allows standard shipping containers to be transferred directly between road and rail vehicles.

The significance of such a system is substantial, as its successful introduction would lead to a major re-think of the intermodal transport system. Potentially it could lead to a substantial reduction in the amount of freight transported long distance by road.

It would not lead to a reduction in the amount of freight that must be distributed over shorter distances between the railway trackside and users' premises. Overall, such a system does not present a threat to the livelihood of road transport operators. It simply means that there would be less long distance work, and more short distance work.

It is my belief that the greatest benefit of a system such as that proposed relates to the servicing of regional centres, ranging from the very small up to medium large.

Currently, containers transported by rail are 'line-hauled' between container terminals in major centres such as the capital cities and selected large regional centres. Containers are distributed to and from their end users by road from the major terminals. Because of the capital costs involved in the heavy equipment required, it is not economical to transfer containers on or off a train at intermediate stops. All intermediate stops must be serviced by road vehicle.

For example, and referring to a line-haul situation with which I am a little familiar, the North Coast line between Newcastle and Brisbane passes through Gloucester, Wingham, Taree, Wauchope, Kempsey, Coffs Harbour, Grafton, Lismore, Ballina, and Murwillumbah to name some of the larger towns on this route.

Each of these towns would consume several container loads of goods each day, and they would also be dispatching a similar quantity of produce and manufactured goods.

I do not have the specifics of the number of containers shipped into or out of each town, but, for the purposes of assessing the transport task involved, I am assuming an average of four container loads each day for each town. On this basis, 40 containers loads of goods are delivered **by road** on this route, **which runs beside a fully serviceable railway line**, each day, while a similar volume would be dispatched. Each of these containers would travel the full distance to or from Sydney, Newcastle, or Brisbane.

Using the container transfer system to which this submission refers, it would be possible for a train to be scheduled to stop at each centre, for, say, 20 minutes. Each of the containers destined for that centre would be transferred directly to a road vehicle, which would transport the container to its end destination. Alternatively, containers could be transferred to a fixed platform for distribution later. Similarly, each container destined for another town on the route, or the final destination, would be loaded directly onto the train from the truck which has brought it from its point of origin.

The use of this system need not be limited to centres of the size used in the above example. Much larger and much smaller centres could benefit from its use. A single container can be transferred on or off a train in about 5 minutes (total stopping time), and all that is required for a terminal is a hard-stand area beside the railway line. Potentially, it would be possible for a shipper to load a single container of produce or goods onto the train anywhere along the line, as long as there is a suitable hard-stand area.

The use of the container transfer system at major terminals, for example at each end of a line-haul operation, is likely to be beneficial, as major capital expenditure on heavy lifting equipment is avoided, and shippers can transfer containers directly onto (or off) a train without them being placed in a stack for distribution later.

The main issue that would need to be addressed is that of traffic management of the large number of heavy road vehicles that would descend on a terminal to unload a train on its arrival.

We believe that there is potential for the use of this system in transferring containers from major terminals to ports, probably in combination with a fast freight shuttle service such as that provided by the Cargo Sprinter which is in use in Victoria.

We developed a conceptual design for the proposed container transfer system some years ago, and we are convinced that, with some prototype development, a working system is feasible. The project did not proceed because of a lack of resources. Potential backing partners in the transport industry did not take up the idea in many cases, I believe, because while they were either in the rail industry, **or** the road industry, the implications (including the benefits) of the system affected both sides of the industry. The potential partners were not able to visualize how they could reap the full benefit of their investment in the project.

In the conceptual design, containers can be transferred between rail and road vehicle, a rail vehicle and a fixed platform at approximately railway wagon deck height, or a road vehicle and a fixed platform at approximately railway wagon deck height.

The system is not the same as existing side-lifting transfer systems, as it does not require additional structure to carry the weight of the container during the transfer operation. It relies on the existing railway wagon underframe and/or road vehicle chassis to support the container the whole time. Thus weight and cost penalties are minimised. Container transfer is a one-man, all weather, operation.

The concept does not allow for containers to be placed on, or picked up from, ground level. The concept does not accommodate double-stacked railway container wagons. Having said this, it is very likely that after a working version of the basic model has been produced, further development may well lead to a system which will load containers from the ground, and can be used on double-stacking wagons.

In summary, I believe that the Committee should not limit its consideration of rail container traffic to 'line-haul operations' between major terminals. There is potential to develop the technology to make far greater use of the railway infrastructure to distribute standard shipping containers to intermediate centres, both small and large, en route.

Yours sincerely

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