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ROAD TRAINS AND OFF HIGHWAY RIGS

Ladies and gentlemen, it is a great pleasure to be here in New Zealand and talking to you on the subject of road trains.

Before I do though, a few points about the organisation I represent, the Road Transport Forum.

The RTF is the peak national body for the Australian road transport industry.

It has 16 member organisations drawn from:

- industry organisations
- major companies
- and the Transport Workers Union.

We are a unique organisation in that we have such a broad cross-section of the Australian road transport industry.

We deal only with national road transport issues

- our charter precludes us from dealing with divisive issues such as industrial relations.

The four goals of the RTF are:

- build unity in the road transport industry
- raise community awareness of road transport

- influence governments on behalf of road transport
- introduce self-regulation to the road transport industry.

In my second presentation to this Convention I will detail how these goals are inter-related, however for the moment we will look at probably one of the greatest innovations in the history of the Australian road transport industry, the road train.

The term road train in Australia is almost a contradiction in terms.

- across the Tasman, when we think of trains, we think of an inefficient and in some cases archaic transport system.
- a system that annually loses \$4 billion. That's right, \$4 billion a year losses
- that equates to \$126 per second.

On the other hand, road trains are probably one of the most efficient forms of transport that Australia has at its disposal.

You only have to look at the configuration of a road train, do some quick back of the envelope figures and you can see why they are the most efficient form of land transport available.

Road trains in Australia operate on either a two trailer or three trailer configuration.

That is

- one prime mover towing two full-length trailers (12.5 - 13.7 metre long trailers)
- or one prime-mover towing three full-length trailers

By far the majority of the time the trailers are triaxle configurations while the dollies - the set of axles under the front of the trailers - are a tandem axle configuration.

Maximum gross weight for a two trailer road train is around 80 tonnes.

- with the introduction of longer trailer and prime-mover dimensions in Australia, maximum length for a two trailer road train is 36 metres.

Maximum gross weight for a three axle road train is around 115 tonnes.

- maximum length is 53 metres.

The configuration can vary in some States -

- In some areas of Queensland and the Northern Territory and Western Australia some road train operations are allowed with a rigid vehicle, usually an eight wheeler, towing up to three trailers.

But by far the predominance is for double and triple trailer road trains. The last official count provided by the National Road Transport Commission shows that there was 2414 double road trains operating in Australia and 1864 triples.

As for efficiency, lets get back to our back of envelope figures. In general transport

- a single trailer six axle semi-trailer carries approx 24 tonnes of freight. With the latest technology engine it should return at least six MPG.
- a two axle road train carries around 48 tonnes of freight - 24 on the lead and 24 on the second trailer. It should return between four and 4.5 MPG.
- a three axle road train carries around 72 tonnes of freight and returns around 2.5 - three MPG fuel consumption.

While there are many other factors including increased capital cost of equipment, increased wear and tear etc, the bottom line is that these rough calculations show that for half the fuel consumption you can carry almost three times the freight.

That's not bad efficiency gains in anybody's language.

But to be even more specific:

- one of the RTF's member organisations recently undertook some economic modelling in an effort to open up a particular route to two trailer road trains.

The modelling showed that on a LPG carrying operation covering a 600 km round trip, the use of road trains would reduce truck traffic from 120 loads per week to 70 loads

- it would also save the customer \$1.4 million per year.

Once again, it's hard to argue with that sort of efficiency gain

- governments still do though

As with all configurations from road trains to semi-trailers, the latest crop of electronic engines are delivering fuel efficiency gains through increased torque

- a vital factor for road train operators - and lower engine operating speeds.

The technological advances available to other configurations - new suspension designs, light tare components and the like - are limited for road trains due to the nature of the terrain that many road trains operate in.

- as you are logging operators, I don't have to tell you too much about harsh conditions.
- the damage can be compounded though when you've got gross weights in excess of 100 tonnes, as I'll get to in a moment.

Governments in the more populous States are recognising the efficiency gains of road trains.

- recently road train routes in some

States have been extended quite close to the coast and some of the major population centres as governments recognise the efficiency of road train transport.

As in many cases, the limiting factor is access through government restriction.

- Governments aren't keen to increase access due to public concern about sharing the road with road trains,

- however the whole question of public concern is being addressed by the work of the RTF.

- We have been lobbying governments to get a more general acceptance of the industry.

- This work will be reinforced by the public awareness work the RTF is doing and which I'll outline in my second presentation.

The recognition of road train operations coincides with the increased use of B-doubles in Australia in populated areas such as Melbourne, Brisbane and Sydney.

At last count there was over 1100 B-doubles registered in Australia although this number has increased rapidly over the last 12-18 months.

The current configuration of B-doubles is an overall length limit of 23 metres and a 59 tonnes gross weight. A tandem axle prime-mover and a triaxle and tandem axle configuration is allowed on the two trailers.

At present tri-tri B-doubles 25 metres in length and with a gross weight of 62.5 tonnes are being trialled and it is expected that this configuration will be accepted Australia-wide.

Further, one B-double with a quad-triaxle combination is currently in operation in Victoria on a private road servicing the Melbourne Port.

With a 29 metre overall length, the vehicle is allowed 6.5 tonnes on the steer, 26 tonnes on the drive, 33.5 tonnes on the triaxle and 42 tonnes on the quad.

- all up, a gross weight of 108 tonnes and certainly not bad for a B-double.

While the vehicle is operating on a private road, the fact that it has been allowed to operate in a rigidly controlled environment with safety, occupational health requirements and the like, means that the vehicle is a viable and safe configuration.

Perhaps in the future we will see more recognition of such efficient configurations on controlled routes.

But getting back to the everyday operations of road trains:

- It's a fair comment to say that road train operation in Australia would have to be the safest of any of the combinations used on Australian roads.
- anecdotal evidence suggests the speed of B-doubles and road trains is much lower than single trailer operations. Also, the drivers of these

configurations are usually highly experienced.

The file maintained by the Federal Office of Road Safety for 1990, the latest figures available, show that there were 12 fatal crashes involving road trains.

- Four of which were single vehicle crashes and five were head on collisions involving another vehicle.

The 1991 Australian Bureau of Statistics figures show the average annual distance travelled by a road train is 120,000 kilometres and therefore the crash rate is .025 fatal crashes per million vehicle kilometres.

- that's an impressive record in anyone's language.

The specifications of a typical road train are often heavily influenced by the type of area that vehicle has to operate in.

As most road train combinations operate in outback areas, the roads are therefore substandard and often quite demanding on the equipment.

Vehicles operating in remote areas are therefore specced quite heavily

- although you'll probably be surprised that they're not that much more heavily specced than a logging unit

American vehicles such as Kenworths, which make up the majority of my fleet, typically run

- a heavy duty six rod suspension,
- 54,000 pound diffs,

- 125,000 lb torque - rated Roadranger or equivalent Spicer transmission,
- and horse power ratings of at least 400 hp and up to 600 hp.

Historically the 14 litre Cummins and the V8 Mack engine have had a high profile amongst triple road train operators however European products from Volvo, Scania and Mercedes-Benz can also be found in triples work.

My operation is particularly demanding transporting livestock and oil tankers in the remote areas of Queensland.

- In my tanker operation, the average journey on my tanker run is 220 kilometres and that's a triple tanker configuration.
- 50% of that is on dirt road and the average speed of the vehicle is under 40 kilometres per hour.

As you would expect, under such demanding conditions the maintenance requirements of vehicles are quite high.

- As I said earlier, combine harsh conditions and gross weights over 100 tonnes and maintenance is critical.
- For example, on my triple tanker operations the bushes in the six KW rod have to be closely examined and kept up to the mark otherwise drive

tyre wear can reduce from 45,000 k's to 20,000 k's.

I use 400 horse powered Cummins engines and those engines are operating from 80-90% load factor with a gross vehicle weight of 115 tonnes.

We now have engine life out to 16,000 hours

- because of the slow average speeds it's no use trying to track engine maintenance by kilometres.

Experience has shown us that 16,000 hours is an excellent service life given the conditions and load factors the engines operate under

- on the tanker operation the engines are operating at an 80-90 percent load factor.

The main ingredient we have used to enhance engine life is to substantially reduce oil change intervals.

- that probably also won't come as much of a shock to anyone used to severe service conditions.

We are now running at 250 hours oil changes levels and that's about two-thirds of manufacturer's recommendations.

The other big factor we have found to maintaining engine life is that we must keep fuel pump pressures within manufacturer's limits.

- Many of you know that it's not difficult on a non-electronic Cummins engine to increase fuel pump

pressure and therefore horsepower.

Make no mistake though, it does have a severe impact on engine life, particularly under the 80-90% load factor that these engines operate at.

It's a big load, but they do a big job

- it's fair to say that Australia, particularly rural Australia, once road on the sheep's back, but not anymore.

These days road trains are the lifeline which provides the vastly widespread communities of rural Australia with a cost efficient means of getting its products to market - whether they be domestic or export - and in return providing remote communities with their essential supplies.

Several years ago a government proposal to increase the cost of road transport used a formula which would have severely penalised road train operators

- and with them, rural and remote Australia.

Thankfully we were able to make the Federal Government see sense.

And in fact, these days Governments are recognising the efficiency of road trains

- however the largest limiting factor for their use is regulation
- and this regulation is brought about by the inadequate road system.

It still remains that we have 17 million people in Australia and a land mass of the size of Europe which has 370 million people.

The problems of funding an adequate road system are manifest. The bottom line is there is not enough money to go around.

The roads aren't up to the standard that they should be and the RTF is working hard to push the Federal Government to the realisation that increasing road funding increases the efficiency gains for the economy.

There is an answer though - road trains.

If we can get the government, and the public, to accept the efficiency gains which can be made by road trains

- who knows, perhaps one day we'll see a dedicated road train route between Sydney and Melbourne.

In the meantime we are seeing the operating environments for road train operators eased

- moves are afoot to introduce a uniform, national operating requirements for road trains and a single, national permit system for B-doubles and road trains.

Yet, any major improvements in the operating environment will come as part of a whole public awareness and understanding of efficiency and requirements of road transport

- it won't come though without the Australian road transport industry

becoming more professional, more safe and improving its public image.

Just how we are going to do that, I'll deal with in my next presentation.

Thank you

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