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COMMONS DEED

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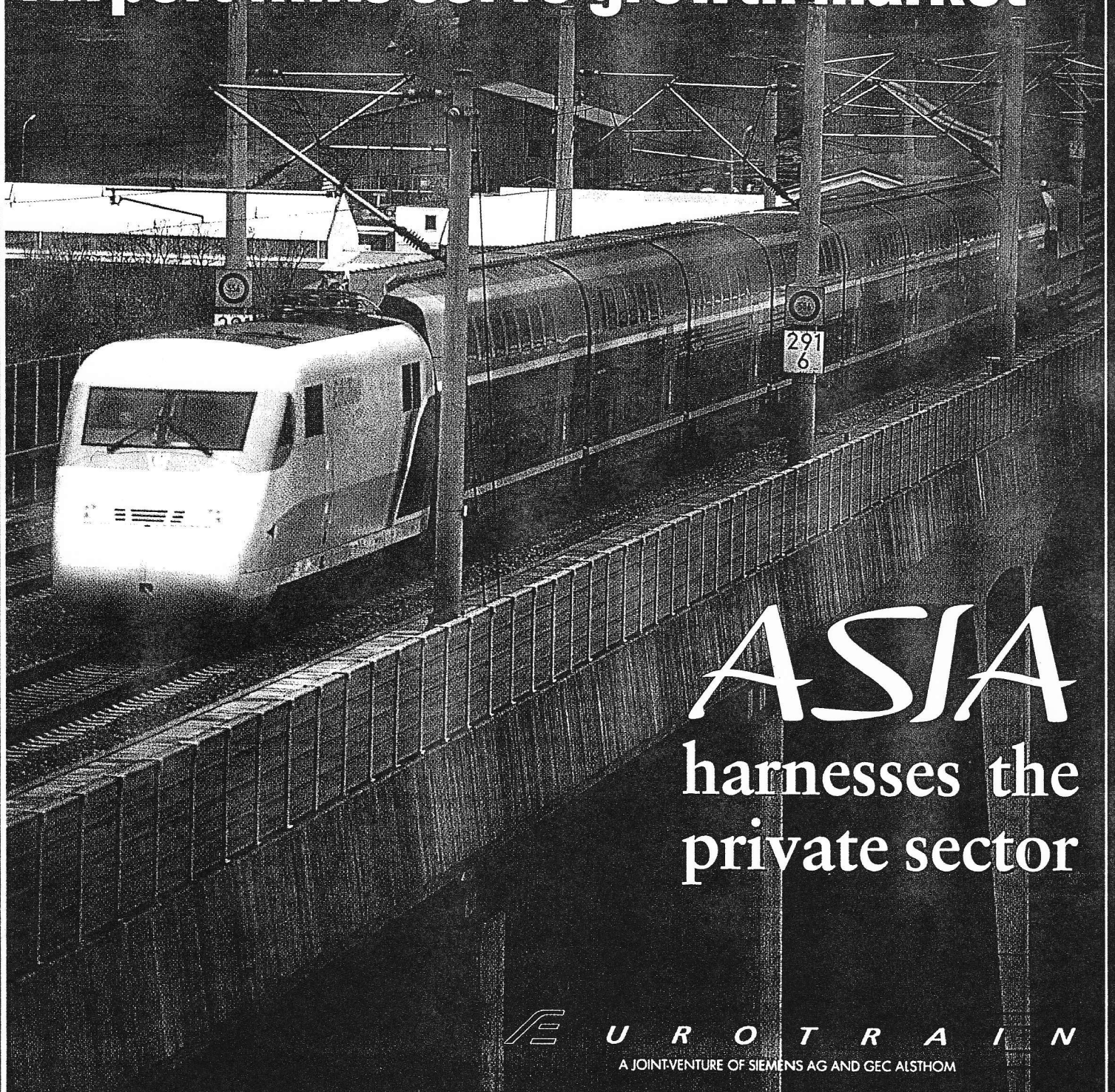
First with the world news: www.railgaz.co.uk

June 1998

Railway Gazette

I N T E R N A T I O N A L

Airport links serve growth market



ASIA

harnesses the
private sector



U R O T R A I N

A JOINT VENTURE OF SIEMENS AG AND GEC ALSTHOM

Monorail for sale

AFTER going round in circles for a decade, Sydney's Darling Harbour monorail could be heading for pastures new. Australian business group TNT announced at the end of April that the single-track loop opened in July 1988 is up for sale. Built at a cost of A\$65m to offer visitors a leisurely tour of the city centre and the refurbished waterfront, the line has failed to attract serious volumes of traffic and has never shown a profit. Asking price is said to be around A\$30m.

Our correspondent also reports that TNT may be looking to pull out of the Sydney Light Rail consortium, whose 3.6 km line parallels the monorail along the back of the Darling Harbour exhibition and conference centre. The consortium wants to extend west to Lilyfield and north into the city centre to create a genuine public transport corridor, but the NSW government has decided to delay any decision until after the 2000 Olympic Games. No matter that resi-

dents might find a tramway into the city of practical benefit, the shopkeepers who have spent a decade watching the monorails rumbling past their shop windows are rather more sceptical. With ridership still below budget, the delay could prove too much for the light rail promoters.

TNT's latest rail venture seems just as uncertain; it is backing the A\$2bn Inter-Capital Express venture to introduce German high-speed trains between Sydney and Canberra. ICE was shortlisted in April along with the Speedrail TGV venture backed by GEC Alsthom, Capital Rail with an Adtranz X2000 derivative, and the ever-hopeful Transrapid promoters offering a 550 km/h maglev line which could cut the journey time to just 59 min.

All four groups envisage they could have the line ready by around 2002, but none is now in a position to harness the publicity and business incentive of serving the Olympics. If Canberra really wants a 'high-tech' plaything, perhaps it could buy a second-hand monorail instead. Going cheap, low-mileage, with one careful owner. □

UP woes over?

ATTACK is the best form of defence, so the saying goes. Perhaps this explains Union Pacific's May 1 decision to pour \$1.4bn into its Texas and Louisiana operations over the next five years, with up to \$160m to be spent this year. Of this, about half will go on upgrading track and signalling on the 850 km San Antonio - New Orleans corridor. The rest will be invested in expanding line capacity, yards and terminals.

UP's plans have been drawn up as a result of a strategic study carried out in the wake of the congestion which nearly crippled the network at the end of last year (RG 11.97 p721), and which led the Surface Transportation Board to issue an emergency order in December (RG 1.98 p18). However, Union Pacific CEO Dick Davidson has made it clear that the proposed capital investment will only be made if UP has exclusive use of the facilities it upgrades, giving a fair return on its

investment. This can be seen as a move to try and head off the prospect of third party operators which could follow calls for open access.

Even in late April UP still had lingering trouble spots. A report filed to the STB revealed that the Memphis intermodal terminal was full and causing delays (UP is spending \$53m on its expansion), and there was also a shortage of double-stack wagons in southern California and congestion on the central corridor to the Midwest. There were fewer delayed trains, but still about three times more than normal. Yet at the same time UP's wagon inventory showed a fall from 360 000 at the height of the crisis to 325 000, little more than the normal level. Cross-border traffic into Mexico has also returned to normal, with UP ending the permit system controlling southbound wagons on April 23 after the backlog had been more than halved to 2700. UP may just have turned the corner, but no-one, least of all the shippers, is going to forget. □

Patience exhausted

BACK in 1992 Norwegian State Railways placed a Nkr300m order for a small fleet of Type Di6 diesel locomotives from Krupp-MAK and Siemens for delivery in 1994-95. They arrived in Norway two years behind schedule.

Since then the locos have had a chequered history, and at one stage they were returned to Siemens Schienenfahrzeugtechnik in Kiel for modifications. Among the problems were higher than specified lateral track forces, and one locomotive catching fire. NSB refused to accept the locomotives until December last year, when it agreed to take 11 out of 12 units under a deal which provided for Siemens to extend the guarantee period from two to four years.

All seemed to be well, but more problems then surfaced. NSB says another unit caught fire, and the electronics failed to function at -35°C whereas the specification required -40°C. The railway issued a statement on April 28 saying that 'availability has up to now not been at the agreed level and new faults have occurred in 1998', prompting it to issue 'a written notice about rescission of the contract'. This means that 'the contract will be terminated on July 1 if the availability does not come up to the agreed level.'

NSB comments that this means 'looking round for new diesel locomotives. At the same time an upgrading programme must be initiated in order to keep the existing engines from the 1950s, the Di3, in working order a few years more.' □

Ground vibration boom

RAILWAY-generated ground vibrations can cause significant disturbance for residents of nearby buildings. As speeds rise, the intensity of vibrations generated by trains generally increases. Recent theoretical investigations of ground vibrations from high-speed trains undertaken at Nottingham Trent University have contributed to a better understanding of why this should be. Researchers had predicted that especially large increases in vibration level would occur if train speeds exceeded the velocity of Rayleigh surface acoustic waves in the ground (Krylov V V, Applied Acoustics 44, 1995, pp149-164). If this happens, a ground vibration boom occurs, similar to the sonic boom predicted by Austrian physicist E Mach about a century ago.

More than 50 years passed between publication of Mach's theory and appearance of the first supersonic aircraft generating a sonic boom. Much less time elapsed between the first theoretical prediction of a ground vibration boom from high speed trains and the event occurring in practice. Dr Christian Madshus reported at a conference entitled 'Ground Dynamics and Man-made Processes: Prediction, Design, Measurement', organised by the Institution of Civil Engineers in London at the end of last year, that the research team from the Norwegian Geotechnical Institute observed a large increase in ground vibration level when train speeds exceeded the Rayleigh wave velocity in the supporting ground.

Swedish track authority Banverket observed the problem when SJ's 200 km/h X2000 trains began using the West Coast main line from Göteborg to Malmö. The X2000 outpaces Rayleigh wave velocities in this part of southwest Sweden, which is characterised by very soft ground. In particular, at a point near Ledsgård the Rayleigh wave velocity in the ground was as low as 45 m/s, so that an increase in train speed from 140 to 180 km/h led to a tenfold increase in generated ground vibration level. For speeds around 200 km/h the dynamic motion of the railway embankment was severe, with ground particle peak acceleration near 10 m/s². These results agreed well with the theoretical calculations carried out for the reported value of Rayleigh wave velocity in the ground.

According to Prof Victor Krylov, Head of Acoustics & Vibration Research at Nottingham Trent University, this confirms that a ground vibration boom is not an exotic effect of the future. It is a reality for high speed lines crossing soft soil, and so are 'supersonic' or more precisely 'trans-Rayleigh' trains. Builders and operators of high speed lines should take note. □

Integral slips

CZECH railwaymen looking forward to running 200 km/h tilting trains between Berlin, Praha and Wien may have to wait a little longer. CKD Praha announced last month that delivery of the prototype Class 680 *Integral* had slipped by another nine months to April 15 next year.

When the contract for 10 sets was awarded to the CKD-MSV-Siemens-Fiat consortium in 1995, the prototype was due to roll by the end of 1997, but last year this was postponed to July 1998. Citing problems with the tilt equipment and aluminium bodyshells, CKD also admitted that the price has risen from KC4-1bn to KC4-5bn.

The company still hopes to begin trials before the end of this year and claims that test running under three electrical systems in Germany, Austria and the Czech Republic can still be completed in time to have all 10 sets in service by the May 2000 timetable change as planned. □

Forcing open access

SHORTLY before Europe's environment and transport ministers convened in Chester in April, the European Commission issued a discussion document on open access. The latest proposals emanating from Brussels envisage that Europe's railways must offer 5% of the rail freight market to new entrants, with this proportion rising in stages over 10 years to perhaps 25%.

A more refined proposal is likely to be put to a meeting of the transport and environment ministers this month in Luxembourg. The idea is that new entrants would have an automatic right to a percentage of network capacity, but precisely how this would be measured, let alone implemented, is far from clear. We await enlightenment. □