



AUSTRALIAN RAIL TRACK CORPORATION LTD

ARTC LIFTS MENANGLE BRIDGE SPEED RESTRICTION

Australian Rail Track Corporation Ltd CEO David Marchant, announced today that ARTC will lift the current speed restriction on the Menangle Rail Bridge following ARTC's finalisation of a safety assessment by engineering consultants URS Australia Pty Ltd.

This detailed review of the Menangle Bridge structure has determined that the speed restriction on the bridge can be lifted from the present 40 km/h to 80 km/h. ARTC has adopted the Report's recommendation and will lift the speed from 31 October 2005.

The URS report commissioned by ARTC confirms the safe workings of the bridge and the lifting of the temporary speed restriction as previously recommended in the Grundy Report of August 2003.

Since taking over the Lease of the NSW interstate network last September, ARTC has implemented the recommendations of the Grundy Report in its technical management on the bridge including condition monitoring and general maintenance.

The Grundy Report in 2003 recommended that the line speed be resumed immediately and that the bridge could remain in service for more than 50 years without the need to be replaced in 2006.

The Menangle Bridge since its four week closure in 2003 has operated at the maximum axle load of 25 tonne but has continued to operate with a speed restriction of 40 km/hr.

The Menangle Bridge is a crucial part of the Main South Line between Melbourne and Sydney and impacts on the efficiency of the line for freight and passenger services.

The lifting of the temporary speed restriction will benefit transit times between Sydney and Melbourne for freight operators and inter city passenger trains, as well as local passenger trains for southern highlands commuters.

ARTC in lifting the speed restriction is confident that the recommendations of URS and the previous Grundy Report confirm the structural integrity and safety of the Menangle Bridge.

Two years after the temporary speed restriction was lifted to 40 km/ph, the latest Investigation Report has found that no immediate work is required and no further deterioration of the infrastructure has occurred.

ARTC has implemented a tailored Maintenance Plan specifically for Menangle Bridge to ensure ongoing safe and reliable passenger and freight services. ARTC

plans to invest \$2 million over the next five years for further ongoing maintenance and enhancement of safety and reliability of the bridge

ARTC manages the NSW interstate line under a 60 year lease from the New South Wales government and has recently announced a \$1.3 billion investment program for the upgrade of the main North South Corridor between Melbourne and Brisbane.

The URS Report is available on the ARTC website at www.artc.com.au

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Background Paper

Menangle Bridge crosses the Nepean river between Campbelltown and Picton on the Main South Line that links Sydney with Melbourne.

Constructed in 1863, the bridge originally had 3 spans of 48.8 metres and in 1907 intermediate piers were constructed, resulting in 6 spans of 24.4 metres.

The bridge is a twin track transom top structure. The bridge superstructure is a through girder structure with wrought iron girders and a transverse wrought iron and steel girder deck system.

In 2003 following an inspection by Professor West, Menangle Bridge was closed to traffic for 4 weeks. This was due mainly to perceived problems relating to fatigue cracking of the secondary cross girder cleats and potential fatigue failure of the primary cross girder suspension bolts.

Following inspections, analysis and testing by Professor Paul Grundy and URS, the cracking was found not to be fatigue related and that the bolts had sufficient capacity.

In April 2003 the bridge was reopened to traffic at a speed of 20kms/hr. Following further analysis, in service strain gauge testing, and replacement of the suspension bolts, the speed was uplifted to 40 km/hr in August 2003.

Since the reopening the following reports on the bridge have been prepared:

- April 2003 Inspections and Report by Prof. Grundy of Monash University
- April 2003 Stage 1 (preliminary analysis) URS Report
- June 2003 URS Stage 2 (detail analysis) Report
- August 2003 URS Stage 2A (detail analysis and inst) Report
- February 2004 URS Stage 2A Addendum 1 – Bolt Saddle Analysis and Box Girder Bottom Cell Web Plates
- June 2004 Professor Grundy Final Report
- July 2005 URS – Uplifting Speed Restriction across Bridge

ARTC will follow the URS recommendations as detailed in their latest report of June 2005 to immediately lift train speed from 40km/hr to 80 km/hr on both tracks. Following inspections over the first 6 months of operations at 80km/hr ARTC will, subject to an independent assessment that there is no indication of deterioration of the functional safety of the structure, then uplift the track speed to normal track speeds over the bridge.

The heaviest trains will not exceed current loadings of 3 x 81 class locomotives and 100t CHS/NHFF wagons - a maximum axle load of 25 tonnes.

A tailored Maintenance Plan has been implemented and ARTC will invest \$2 million over the next 5 years to ensure the continued reliability of the structure over the next 25 years.