

CELEBRATION OF THE COMPLETION OF THE B2 TRAM CONTRACT

POTENTIAL FOR THE USE OF Z CLASS TRAM NUMBER 1

The B2 class tram contract is nearing completion, with the last five articulated trams now being fitted out at Preston Workshops. It is understood that the Minister will mark the occasion with a celebration.

The occasion marks much more than the completion of a \$237 million dollar contract for 130 articulated Light Rail Vehicles.

When car 2132 enters service, it will be the last of 432 modern all-electric trams that have revolutionised Melbourne's tram network, and guaranteed its long term service as a vital asset and icon of this City.

The first of this new fleet was Z class tram number 1. It is currently receiving an overhaul at Preston Workshops, after some time out of service. It would be very appropriate to paint Z1 in its original orange livery and include it in the celebrations to mark the end of the B2 contract. The following notes are offered to explain the significance of this very special tram.

The first all-electric tram was introduced by the Hamer Government in 1975. Classed Z, it was given the number 1 to mark it as the first tram of a new era.

From 1955 to 1975 doubts about the viability of trams had led to a policy of "benign neglect" which had virtually starved the M&MTB tram network of new investment, other than the track relaying program - the M&MTB was responsible for road surface condition.

However, in that twenty year period every city in Australia had abandoned their tram networks (Adelaide retained a single line).

In 1975 the Hamer Government took a risk by investing in new tram technology, in the shape of an all-electric tram based on trams running in Hanover, West Germany.

The risk is apparent when it is realised that by 1975 only a handful of cities in the English speaking world still retained tram networks - Melbourne was by far the largest (and still is), but others were operated in Toronto, Philadelphia, San Francisco, Boston, Calcutta and Hong Kong. A few other cities retained isolated lines (Adelaide, New Orleans).

Similarly, the French speaking world had largely divested its tram systems.

Simultaneously with the introduction of the Z class, the Hamer government further expressed its faith in the future of the trams by opening the East Burwood extension.

The Z class were the first "all-electric" trams in Melbourne. All systems on these cars are electrically driven, whereas the older trams used compressed air to operate brakes, windscreen wipers, sliding doors, etc.

The Z class were the first trams in Melbourne equipped with heaters. Their lighting was much brighter than any previous car, and they included features like public address and a seated conductor.

This latter feature enabled fare evasion to be drastically reduced, thereby helping the tram system maximise revenue.

The Z's had much faster acceleration than the W class, and introduced electromagnetic track brakes which gave them braking ability equivalent to private cars - a vital road safety factor.

The Z class were a radical departure on the various series of W class tram then running, and to emphasise this they were painted in the new M&MTB orange livery.

The then Chairman of the M&MTB knew how important the success of the Z class was. He was on first name terms with the electrical technicians charged with ironing out the bugs, and impressed on them all that if they failed, Melbourne would lose its tram system. They were all on 24 hour call, and made a tremendous effort to ensure a successful introduction.

Introduced on Bourke St runs, they soon held exclusive sway on many tram routes to the Northern and Eastern suburbs, including the new line to East Burwood.

A whole generation of Melbourne youth has grown up with the Z class.

The success of the first order of 100 trams led to a further extension of 15 similar cars (the Z2 class), and then 115 more Z3 class.

In 1977 car number 5 was chosen as a test vehicle for a new electrical control system. ASEA thyristor (or "chopper") controls were fitted, which provided much smoother acceleration and braking, and more importantly, provided regenerative braking (where power generated in braking mode is fed back into the overhead wires, thereby reducing the net amount of power consumed by the tram system). This was the first chopper controlled rail vehicle in Australia.

When the Z3 class was introduced, all were fitted with chopper controls, placing Melbourne's trams well ahead of its trains, technologically!

The Z class has been criticised for consuming more power than the W class. However, the W consumed more than the slow single truck trams of the Tramway Trust days, but offered much improved customer appeal. Similarly, the additional power consumption of the Z was in the service of customer benefits - high standard lighting, heating, and much faster acceleration.

The power demands of the new trams started a quiet revolution on the tram network. To strengthen power supplies, a program commenced to replace the aging pre-War electrical sub-stations with modern rectifiers. The rail network had replaced all its old sub stations by the early 1970's, but lack of funds had prevented a similar program on the tram network.

A reliable, high capacity power supply is a fundamental requirement for a modern tram network. By prompting action in this arena, the Z class tram further contributed to the long term retention of the Melbourne tram network.

It can therefore fairly be said that of all trams now running on the Melbourne network, Z number 1 deserves the greatest honours. Without it Melbourne's tramway would have gone the same way as Calcutta's - slow deterioration to the point where the bill for rehabilitation was impossibly high, and abandonment the only option.

The development of modern trams that started in Melbourne with the Z class has progressed through the chopper controlled Z3 class to the A and finally the articulated B2 class.

All these vehicles have been built by ABB and its predecessor ComEng, at their Dandenong works. The expertise gained in modern light rail has enabled them to secure export contracts for supply of new trams to Hong Kong.

The B2 class, designed for the North South Light Rail project, has introduced air conditioning to the tram network, together with significantly increasing seating capacity on high density routes when overcrowding has been a serious problem.

With 51 W class retained and refurbished as reminders of our great tramway heritage, Melbourne's tram fleet re-equipment is now complete. Number 1 and number 2132 represent the alfa and omega of this great work!

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