

S-stock variations

by John Hawkins

The news that Metronet have agreed to fit new Metropolitan Line trains with additional seating (see NF 40/06) adds interest to an otherwise 'uniform' S-stock fleet. Such a large order provides Metronet with economies of scale in manufacture and maintenance. In comparison, revising the seating on over a third of the new trains could be compared with moving the chairs on the deck of the Titanic!

But how does LU feel about this? With over a third more 8-car trains and improved performance, the equivalent of a 50% increase in Metropolitan Line trains, a more frequent service should maintain the seats provided in the peak direction. Of course, some of these trains will replace C-stock on the Barking branch. It is a pity that these trains will not reach Upminster in replacement of some 7-car District Line trains – the platforms are already long, having served 8-car District Line trains until 1971.

With the inter-working of services, a common fleet should provide compatible performance, including station dwell times. Additional seats on some trains could slow down boarding, resulting in the following train closing the service interval.

However, the mix of train lengths will probably result in slower boarding of shorter trains, with higher end car loadings. For example, travellers between King's Cross and Liverpool Street will take the first train: a Metropolitan Line train will offer a third more doorways than a 6-car equivalent train. So perhaps additional seats on 8-car trains can slow down boarding to match that of shorter trains. Or else computer control may finely adjust train performance to match.

To assess practically the effect on station dwell times of the two proposed seating layouts, it would be good to see two cars of a D-stock train modified on renovation. Such an exercise was done before the A-stock layout was defined, although probably today this will be done through computer simulation.

A further problem with inter-running mixed length trains is the uneven spread of doors along these trains, leading to a third heavier loading at car-end doors, where the gap is more than double that between other doorways. The inter-car gangway will only allow access to an equally full car end. Unless train stopping marks are exactly a car-length apart, different length trains will have car-ends in different positions down the platform to the confusion of even regular travellers, slowing boarding and alighting.

A different seating fit-out for the new Metropolitan Line trains leaves the possibility of a different internal finish, linked to the line colour. These trains will need only the

Metropolitan Line diagram, which can be omitted from the line diagram on the rest of the fleet.

It was originally intended that the S-stock would be fully interchangeable between lines, so it will be based on a 6-car train to replace the C-stock. It is hoped that these trains can be lengthened when platforms and sidings are extended, so the design will provide for the insertion of an additional car, much as the Jubilee Line trains have been lengthened with a 'special' trailer. However, the S-stock is based on all cars being motor cars. The D-stock replacement trains will be delivered with the additional car already inserted. The insertion of a second of these cars will therefore provide the 8-car trains for A-stock replacement, to be delivered first. Perhaps the business case for the 7-car replacement of C-stock is helped by the fact that a 6-car train of S-stock is already effectively over half a car longer than the current trains requiring, in any case, lengthening of platforms, sidings, etc. In fact, the new trains are all longer than the trains they will replace. I wonder, do any of the original 6- and 7-car stopping marks remain for use by the new trains, or will they all need to be replaced?

Will the proposed 6-car Chesham shuttle be of the same Metropolitan Line stock, perhaps by withdrawing two cars from a standard train? Even so it is unlikely that a spare will be held available, and therefore Chesham will sometimes be served by a train otherwise seen no nearer than Baker Street! Will the Chesham train remain the only 6-car in the fleet when the others are lengthened to 7 cars? This seems unlikely, since it would then require the availability of a 6-car spare that could see little use. So a 7-car Chesham shuttle would probably use a spare from the C-stock replacement fleet again, otherwise confined beyond Baker Street. Dedicated Metropolitan Line trains will reduce the interchangeability of the new fleet, and additional spares should be provided. This is unlikely to happen, given the uncertainties in the original calculations. It is likely that train sets will rarely be reformed, normally remaining in their 6/7/8-car formations. But perhaps we can hope to occasionally see a train operating on the wrong line. A Metropolitan Line train could be shortened to cover a 6- or 7-car train, or perhaps a 'special' car could be moved from one District Line train to another to provide cover for both a 6-car Circle and a Metropolitan Line train. And the ultimate sight may be a mixed train of both Metropolitan and standard cars!

With regards to David Burnell's letter in the May 2006 *Underground News*, I have seen no further information on the new S-stock since my article in the September 2003 *Underground News* issue 501, page 401. This was mainly based on the press release and artists impressions of March 2003. I imagine that Metronet resources have been concentrated on the 2009 tube stock, which is due for service almost a year earlier than S-stock. Assuming that the S-stock is technically similar to the Victoria Line trains, and therefore may need a year less for testing, then we can expect the first S-stock bodyshell within the next year, with the first completed test train a year later.

Concern over seating reduction does not take account of the scale of the planned service upgrade. Current Metropolitan Line peak services north of Baker Street provide 21 trains an hour, each with 448 seats. The promised service provides 33 trains an hour, each with 304 seats, around 6% more seating. If the wheelchair positions are now to be fitted with folding seats, and if transverse seats are widened for three, then the new service may provide nearly a quarter more seats than the current service.

However, the complete new service will await the withdrawal of all older trains, and the full commissioning of a new signalling system. How long will this take, and what will happen in the meantime? Initially it may be expected that the new trains will replace the old on a 'one-for-one' basis, giving a seating reduction of almost a third. The replacement of A-stock will take two years, with another year to replace C-stock, and the total upgrade for SSL (north) is not promised until 2014, a five-year changeover period. This may be the reason for additional seating to be provided in the new Metropolitan Line trains, perhaps lasting only until the first seating renewal. The Victoria Line signalling upgrade, promised for 2013, has already been underway for at least a year – a start on the Metropolitan Line should be seen anytime soon.

So the Metronet decision about Metropolitan Line train seating adds interest to our S-stock anticipation. Are we to see S09 and S11 stock, or S-stock Mark I and II? Surely there will be some indication as to line availability.