

THALES SSL CONTRACT SIGNED AT LAST

by Piers Connor

SIGNED

Finally, after eight years and a combination of delay, obfuscation, mind-changing, foolish optimism, technical ignorance and hopelessly naive management, TfL has finally signed a contract with Thales for the resignalling of the Sub Surface Lines (SSL). They will supply a system broadly similar to the one they installed on the Jubilee and Northern lines. The announcement was made on 3 August 2015 and a figure of £761million has been quoted as the contract price. This has proved a painful exercise and readers of this journal over the last few years will be aware of the sad story that has dragged on since the original contract for the SSL resignalling was first signed in April 2003. We should begin with a look back.

TIMELINE

Date	Event
April 2003	Contract signed between Metronet and Bombardier/Westinghouse for SSL resignalling at a cost of £755million.
July 2007	Metronet goes into administration.
April 2008	Westinghouse contract terminated with a payment of £95million.
June 2011	Bombardier contract let at £354million.
December 2014	Bombardier contract terminated with a payment of £85million.
August 2015	Thales contract announced at £761million.

So, it has dragged on for 12 years. Allowing for inflation, the original contract is worth £1.1billion today so, at £761m, you might think that the new contract offers a good deal, but it's not as simple as that. The project has already spent £180million on Westinghouse and Bombardier and another £125million of "enabling works" quoted in the budget. If you add up all the numbers, you get £1.06billion spent and, on top of that, is the long delay to the completion of the improvements.

Under the PPP, the original completion date was intended to be 2014 when the whole of the SSL would have been under automatic operation with a planned capacity of 33-34 trains per hour in each direction in the central area. This would have tied in the with completion of delivery of the S Stock fleet on the District and given the SSL something close to a 30% improvement in capacity. With the new contract comes a completion date of 2022, eight years later than originally expected. This means that eight years of capacity improvements have been lost. What this equates to in lost passenger benefits I can't say but it probably won't affect the business case for the renewal programme because the system desperately needs the upgrade just to keep working.

TECHNICAL CHANGES

Of course, there are some technical changes that come with the Thales SSL proposal. One difference between the Jubilee and Northern Thales system and the one they are to fit to the SSL is that the new system will use radio as the transmission medium instead of the track-based, wired induction loops used on the Jubilee and Northern lines. This will be a relief to the signal maintenance teams, who have constantly complained about the damage caused to the loops during track maintenance work. Things have got better as people have become more aware of the risks to the wiring but it is nevertheless a vulnerable part of the system and, if it fails, it stops the railway.

The radio system is new to LU, although it has been used on new lines overseas and it is regarded as a mature system with a strong reliability and security base but I would imagine that it will be the biggest technical hurdle for both sides to overcome in terms of validation on the Underground and Network Rail. A feature of the new contract is that it excludes equipping the Piccadilly Line 1973 Tube Stock with the new signalling system. This will require retention of the tripcock system over sections of the District and Metropolitan lines that are used by the Piccadilly Line. The same situation will also apply to the Chiltern trains running over the Metropolitan Line.

In the case of the Network Rail route to Richmond and LU's former Network Rail route to Wimbledon,

it is intended to provide the Thales system in “overlay” format so that the existing main line fleets can operate over the routes under AWS and TPWS without changes to their on-board systems. Hopefully, and I use that word advisedly, the usual hassle that anyone has when dealing with Network Rail will be minimised by this decision. However, the interfaces here do represent another big project risk.

Now, at this point, the more technically minded reader might wonder if the overlay mode will actually allow LU to run more trains than currently over these routes and therefore whether it is actually worth their while installing the new system over them. After all, if you have to limit the performance of the system to the worst performing train, i.e. one protected by TPWS, what’s the point of installing a new system that doesn't give you anything. Well, the advantage is that you don’t have to equip the LU trains with AWS & TPWS – you are merely exchanging the outdated tripcock system for the Thales S40 system and you get rid of some kit on the track.

Finally, the current thinking is that Automatic Train Operation (ATO) will start to appear on the SSL in 2019 and that the whole system will be completed in 2022. Now, if I was a betting man