

Date: 30 July 2015

Item: Jubilee and Northern Lines Additional Trains

**This paper will be considered in public.**

## 1 Summary

<b>Jubilee Line World Class Capacity Northern Line Upgrade 2, Northern Line Extension</b>				
Existing Financial Authority	EFC	Existing Project Authority	Additional Authority Requested	Total Authority
xxxx	xxxx	£1.407m*	£ 4.62m*	£6.027m*

\* Excluding matching NLE funds – see 1.3 below

**Authority Approval:** The Committee is requested to approve additional budgeted authority of £4.62m, increasing the total Project Authority to £6.027m with an expiry date of 30 November 2016. The funding sought in this paper is matched by an equal amount already approved within the Northern Line Extension (NLE) project.

**Outputs and Schedule:** Four bidders have been evaluated during the pre-qualification phase with three approved to go forward to the tender stage. The project will proceed to Invitation to Tender in September 2015 with a view to contract placement in October 2016. The target dates for trains to be in service are: Jubilee Line World Class Capacity by April 2019, with NLE 1 from January 2020 and Northern Line Upgrade 2 by April 2021.

- 1.1 This paper requests that the Committee grant additional budgeted Project Authority to progress the Invitation to Tender stage of the procurement of additional trains for the Jubilee and Northern lines. A further paper will be submitted in September 2016 seeking Project and Procurement Authority to place a contract.
- 1.2 Trains will be provided for the following three projects:
  - (a) Jubilee Line World Class Capacity (WCC), which will increase the number of trains per hour (tph) on the Jubilee line from 30tph (current peak service) to up to 36tph peak service by 2019;
  - (b) Northern Line World Class Capacity (NLU2), which will increase the number of trains per hour on the Northern line from 22/26tph (current peak service) to 30tph peak service by 2021; and
  - (c) Northern Line Extension (NLE), which will deliver as per the Journey Time Capability obligation to the Battersea developer from January 2020.

- 1.3 The total sum required to progress this project through the invitation to tender phase is £9.2m. These costs are split equally between the WCC programme and NLE. Post contract award costs will be allocated on a proportional basis ie NLE will provide funding for five trains. Full Project Authority has already been approved for NLE inclusive of these commitments.
- 1.4 Under Standing Orders, the authority sought in this paper is reserved to the Board. On 26 March 2015, the Board delegated to the Finance and Policy Committee authority to approve any matter reserved to the Board from 2 July to 23 September 2015. Authority is sought now to allow the project to progress.
- 1.5 A paper is included on Part 2 of the agenda, which contains exempt supplementary information. The information is exempt by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the business affairs of TfL.

## **2 Recommendation**

### **2.1 The Committee is asked to:**

- (a) note the paper and the supplemental paper on Part 2 of the agenda; and
- (b) exercise the authority delegated by the Board to approve additional Project Authority of £4.62m increasing total Project Authority to £6.027m.

## **3 Background**

- 3.1 The three projects identified in paragraph 1.2 all require additional trains. Procurement and delivery of the additional trains is managed as a separate project which combines the requirements into a joint order to enable economies of scale. An OJEU was issued in August 2014 and it is proposed that a contract will be awarded in October 2016 following approval of full Project Authority.
- 3.2 The three projects are at different levels of maturity, summarised in the table below, as included in the updated Quarter 1 Forecast. In order to cope with the uncertainty of order size, the contract is being prepared around a base order size of 34 trains, which represents the minimum number of trains consistent with the current Business Plan, and options up to the maximum conceivable number of trains.

	<b>Jubilee WCC</b>	<b>NLE</b>	<b>NLU2</b>	<b>Total</b>
Base Order Size	10 trains	5 trains	19 trains	34 trains
Maximum Order Size (*) inc NLU3 (see 3.3)	18 trains	5 trains	45 trains (*)	68 trains
Cars per Train	7	6	6	
Last Gate Review	Gate B August 2014	Gate B Autumn 2013	Gate A June 2014	
Target date for Beneficial Use	April 2019	January 2020	April 2021	

- 3.3 During the later stages of the 2014/15 Business Planning process, Northern Line Upgrade 3 (NLU3) was included in the budget with additional funding made available for a further six trains and associated stabling and infrastructure works. NLU3 will deliver a fully separated Northern line offering between 33 and 36tph by April 2023. It is dependent upon the prior implementation of the Camden Town Station Congestion Relief scheme for which Transport and Works Act Order approval is expected during autumn 2017 and, as a consequence, the additional trains required for NLU3 beyond those for NLU2 will be specified as contract options to be exercised subsequent to this date.
- 3.4 The programme requirements of the parent projects preclude consideration of New Tube for London style vehicles as this would have entailed significant delay to benefit realisation. Options to cascade existing fleets between lines such that an entirely new fleet could be sourced for the Jubilee line have been considered but dismissed due to its weak business case. Similarly, an option to provide all Jubilee/Northern line additional trains to the Battersea to Edgware branch of the Northern line is not being progressed as it had a marginal business case and was considerably more expensive than the current funding envelope allows.
- 3.5 The additional trains will have the same dimensional characteristics as the current Jubilee/Northern line trains, but will feature modern subsystems, such as traction packages, customer information systems and train management systems.
- 3.6 The Procurement Strategy is based around procurement of an attractive minimum order size of 34 trains and keeping competitive tension between suppliers for as long as possible in order to achieve the best price.
- 3.7 The form of contract to be used is based on that developed for new vehicles for London Overground. Relevant sections will be aligned with those included in the New Tube for London contract with specific requirements added for the Northern/Jubilee line trains.
- 3.8 Leasing of the new trains, as opposed to outright purchase, has been considered. Unlike trains used for the national rail network, there is no realistic alternative use for rolling stock purchased specifically for the deep tube network. Consequently, there is no realistic possibility that leasing could be used as a means of transferring whole life ownership risk to a third party in the way it has been done with (for example) the Class 378 fleet operated on the London Overground.

### **Preferred Option**

- 3.9 Evaluation will be based on a limited number of scenarios which reflect the base order size and then options based on the best view of the number of additional trains and the likelihood of each order size being placed. These scenarios will be subjected to a pricing sensitivity analysis to ensure the evaluation scenarios and weightings provide a robust and appropriate output. This approach encourages bidders to take a competitive approach to pricing options but ensures that the most probable outcome has the greatest weighting whilst ensuring that other outcomes do not represent significantly poorer value for money.
- 3.10 Thus prices for a range of fleet sizes are included in the evaluation but with probability weightings attached to model the assumed most likely ordering scenario. Both continuous and discontinuous build scenarios will be covered.

## **4 Benefits**

- 4.1 The individual programmes have fully prepared business cases. For the Jubilee Line WCC scheme the benefit cost ratio (BCR) is 7.7:1 and for NLU2 it is 4.1:1. The NLE will support regeneration of the Battersea Nine Elms Opportunity Area.

### **Delivery of Preferred Option**

- 4.2 The Invitation to Tender phase will be undertaken by internal project management, engineering and commercial resources, supplemented with appropriate legal support.
- 4.3 Key milestones for the next stage of the project are as follows:

Milestone	Target Date
Issue Invitation to Tender	September 2015
Award Contract	October 2016

- 4.4 The top risks for the next stage of the project include; interface risks (Connect, CCTV, Thales), prolongation and new scope from individual programmes.

## **5 Financial Implications**

- 5.1 The cost estimate for this phase is as summarised below:

Internal Costs (Project Management/ Engineering/ Commercial)	£1.93m
Legal	£0.70m
Design of Connect Free Issue Equipment	£2.30m
Design of OPO CCTV Free Issue Equipment	£1.20m
Thales Free Issue Equipment	already approved [within existing £1.4m]
Risk	£3.1m
<b>TOTAL</b>	<b>£9.24m</b>
<b>Less NLE 50% already approved</b>	<b>£4.62m</b>

- 5.2 To minimise Train Operator training, the train cabs will be highly similar to those of the existing 95/96 rolling stock. All additional Train Operator and maintenance costs are reflected in the individual programme level documents and budgeted in the Business Plan.
- 5.3 Additional stabling and maintenance facilities for the additional trains are included in the budgets of the individual programmes.

## **6 Assurance**

- 6.1 The project successfully passed through a pre-ITT Independent Assurance Review in December 2014 when it was intended to seek funding in January 2015. This was delayed in order to allow for re-set of the Business Plan, review of mixed fleet operations and maintenance strategy, all of which have been successfully completed and inform the ITT.

- 6.2 The TfL Project Assurance Review was undertaken by Jacobs, as the external expert, in October 2014. An Independent Investment Programme Advisory Group (IIPAG) review was also undertaken in parallel. There were no critical issues raised with 11 Programme Management Office (PMO) recommendations and six IIPAG recommendations made. Further update meetings were held with both the IIPAG and PMO in March and June 2015 and updated reports, together with an updated management response, have been produced.

**List of appendices to this paper:**

Exempt supplemental information is included in a paper on Part 2 of the agenda.

**List of background papers:**

IIPAG and PMO reports

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