

# MINUTES FROM THE ENGINEERING COMMITTEE MEETINGS

by Tony Beard

## MEETING No.207 HELD ON 2 MAY 1938

### Ventilating Plant: Tube Railways: Report on Tenders

Mr Robertson submitted a memorandum dated 30 April, reporting that tenders had been received from firms set out below for the ventilating plant required at Tufnell Park, Maida Vale, Earl's Court and Caledonian Road stations:

Colliery Engineering Co. Ltd.

Davidson & Co. Ltd.

J. Howden & Co. Ltd.

He explained that Airscrews Ltd., and Musgrave & Co. Ltd., who were included in the list of firms invited to tender for this plant, did not manufacture the type of plant required and that it had been decided to add the Colliery Engineering Co. Ltd. to the list.

It was recommended that for the reasons set out in the memorandum, the tenders set out below should be accepted:

Station	Contractor	Tender
Maida Vale	Colliery Engineering Co.	£687
Earl's Court	Colliery Engineering Co.	£930
Caledonian Road	J Howden & Co. Ltd.	£1,333
Tufnell Park	Davidson & Co. Ltd.	£1,005

This was approved.

*(The mention of Airscrews Ltd. (correctly the Airscrew Co.) might be of interest to LT historians. The Company took over Jicwood Ltd. which produced laminated wood sheets, one of its products being used for the upper deck ceilings in some RT bus bodies when new).*

### Rayners Lane Station Reconstruction

Mr Holden reported that the new station building at Rayners Lane would be completed by June next but that the completion of the scheme north and south of the new ticket hall depended, in the former case upon the erection of shops etc., and in the latter case upon the removal of the temporary ticket hall which could not take place until the new provision is open.

### Highgate (LNER) Station

Mr Holden submitted a drawing showing the smaller sized ticket hall, approved earlier, which had been altered to meet Sir Harley Dalrymple Hay's wish not to interfere with the position of the columns that had been agreed. It was decided that the layout shown on the drawing should be approved subject to:

- The enlargement of the ticket hall by setting back the wall on the south side sufficient to provide space for stalls etc.
- The second storey of the trainmen's mess-room being constructed over an enlarged building at the Priory Gardens entrance, if this is cheaper than the buildings previously proposed.

### Sloane Square Station

The Vice-Chairman stated that Sir Edwin Lutyens had made certain proposals regarding the space for frescoes which had been suggested for Sloane Square station. The Vice-Chairman directed Mr Heaps to confer with Sir Edwin to ascertain how far a scheme satisfactory to both parties might evolve. A report would be submitted.

### Hounslow East Station

Mr Robertson submitted a memorandum dated 22 April, setting out a letter which had been received from the Town Clerk of the Heston and Isleworth Borough Council dated 14 April 1938 in which it was stated that it did not appear advisable to carry out the widening of Kingsley Road unless the Board proposes to reconstruct the station at the same time. Confirmation was therefore sought to ascertain whether the Board proposed to rebuild the station within the next few years.

It was decided that the matter would be deferred until the next meeting and that meanwhile Mr Evan Evans should ascertain if the traffic at Hounslow East station is increasing that would bring about its reconstruction.

### Rolling Stock Position: Railways

A report dated 28 April upon the rolling stock position on the Board's railways was submitted on behalf of the General Manager (Railways) together with a covering memorandum. The recommendations contained in the report are summarised below:

#### Part One: Rolling Stock Requirements – Piccadilly Line

In order to meet the continued growth of traffic on the Piccadilly Line, it was recommended that 51 new tube cars be ordered for delivery after the completion of the present order for new tube cars and that brake retarders should be fitted to the Piccadilly Line rolling stock and the cars to work on the Central Line, at a total estimated cost of £349,000.

#### Part Two: Passenger Push Button Door Control – Central, Northern City and Bakerloo Lines

It was recommended that passenger push button door control should be fitted to the existing rolling stock which would operate upon the above lines so that the whole of the rolling stock upon these lines might be so equipped. The total estimated cost is £67,000.

#### Part Three: Development of 9-car Train Operation

It was recommended that minor engineering and signalling alterations should be made at a probable cost of £73,000:

- (a) On the Northern Line to permit the operation of 9-car trains on the High Barnet and Finchley sections.
- (b) On the Central and Bakerloo lines, in conjunction with the present new works, to permit the operation of 9-car trains in the future, if found to be required.

A memorandum dated 23 October 1937, which had been prepared by Mr A.R. Cooper, (deferred at the request of the General Manager, Railways) was submitted that reviewed the possibility of lengthening the platforms from Camden Town to Kennington (inclusive) on the Northern Line. It was decided:

**Part One:**

That 51 new tube cars should be order for delivery after the completion of the present order for new tube cars and to have fitted brake retarders to Piccadilly Line rolling stock and for the cars to work on the Central Line at a total estimated cost of £349,000.

**Part Two:**

That passenger door control should be fitted to the existing rolling stock that will operate on the Central, Northern City and Bakerloo lines at a total estimated cost of £67,000.

**Part Three**

That reports are required for submission at successive meetings regarding the works required to permit the operation of 9-car train operation on the Northern, Central and Bakerloo lines separately, the works being divided into those which it is desirable to undertake now and those required at a later date, with estimates of cost. The general assumption to be made that all new or reconstituted stations on open sections are so arranged that provision can be made for the operation of nine-car trains at a later date.

**Air Raid Precautions: Acton Works and Northfields Depot**

A covering memorandum dated 28 April signed by Mr Durrant, Mr Graff-Baker, Mr A.V. Mason and Mr Robertson was submitted reporting that it was considered that generally where spare land was available, trenches would be the most suitable type of protection, their being provided at very short notice and practically no cost. Where inspection pits were available, it was felt that they provided adequate protection when covered by a vehicle but where works or depots are congested and no spare land exists, air raid shelters were considered necessary.

The Vice-Chairman pointed out that the obligation upon the Board was to provide for the maintenance of its services at all times they were required and for the same degree of protection for its staff as would be obtained if they were in their own homes. He stated that the Board had provisionally authorised the expenditure of £100,000 upon providing protection against the results of air-raids. He directed that the Air Raid Precautions Committee to submit for approval to the Engineering Committee, schemes to provide the protection necessary on the Board's premises as quickly as possible. A special expenditure requisition for £10,000 to be submitted as necessary (say each month) to cover the cost of works and plant required. He further directed the Air Raid Precautions Committee ascertain from the Heads of Departments concerned, the particulars of all plant required such as fire equipment, trench digging tools, sand bins and sand bags to facilitate an order for a proportion of the requirements being placed at an early date;

The following provisional decisions were taken in respect of the premises covered by the reports of 28 April. They also apply to premises of a similar type.

**Acton Works**

The scheme for digging trenches in the event of war, was agreed, subject to the immediate construction of three special shelters equipped with telephones and water, etc. that would serve as control points and first aid rooms.

**Northfields Depot**

The scheme set out in the memorandum for using pits as shelters was agreed subject to one place being provided which would serve as a control point and first aid room. Two sand bins, sand bags and tools to be provided.

## **MEETING No.208 HELD ON 9 MAY 1938**

**Plans Signed**

The following plans having been approved and signed by the officers concerned, were submitted for the approval and signature of the Vice-Chairman:

(a) **Edgware Station Reconstruction: Layout**

Drawing No 3302Fz showing the general layout of Edgware station. This was approved and signed for general layout; detailed drawing would be submitted when ready.

(b) **Mill Hill East: Track Layout**

Drawing No C2500-B showing the revised layout of tracks at Mill Hill East. These were approved and signed.

(c) **East Finchley Station Reconstruction**

Drawing No.9310/47A – Plan at Street Level.

Drawing No.9311/48A – Plan at Platform Level.

Drawing No.9312/49 – Plan at Gantry Level.

These were approved for the shell of the station building only; detailed drawings of equipment in the ticket hall and platforms would be submitted

**Mill Hill (The Hale)**

Mr Robertson submitted a drawing showing the proposed reconstruction of Mill Hill (The Hale) station with the slope of the subway to the LMS Railway modified in accordance with a previous decision. It was decided to approve the arrangement shown on the drawing for submission to the LNER and LMS and after their agreement, a final drawing would be submitted for signature.

#### **Tottenham Court Road Station; Additional Accommodation on Platforms; Northern Line**

Mr Robertson submitted a drawing showing two alternative schemes for the provision of additional accommodation on the platforms at Tottenham Court Road station, Northern Line. Scheme A embodied the Moscow type of opening and Scheme B, cross-passages. Mr Robertson also submitted a covering memorandum dated 7 May reporting that the approximate cost of Scheme A was £8,500 and scheme B £4,000 and that the General Manager (Railways) favoured Scheme A.

It was decided to approve the execution of Scheme A. Mr Robertson would confirm with the Secretary and Chief Legal Advisor that Parliamentary powers are not required for this scheme and subsequently to submit a special expenditure requisition, together with a drawing, for signature. The General Manager (Railways) was requested to prepare a memorandum justifying this proposal for the Chairman's Meeting and the Board.

#### **Down Street Disused Station; Ventilation**

Mr Robertson submitted a memorandum dated 6 May reporting that complaints had been received for the occupiers of property adjoining Down Street Station of the smell which emanates from the ventilation shaft at the station and that it was proposed that the present ventilator should be sealed off and that air be deflected and discharged through a duct at a higher level to obviate the problem. The estimate cost of this work was £300.

Approval was approved for the work to be undertaken immediately the cost of which would be charged to maintenance.

#### **Watford: Provision of New 7-Ton Jib Crane**

Mr Graff-Baker submitted a memorandum dated 30 April referring to the fact that trouble had been experienced in maintaining the 5-ton crane in the yard at Watford and that the Watford Joint Railway Committee had approved the purchase of a new 7-ton crane at a cost of £525. A revised estimate had since been obtained and authority was now sought for an expenditure of £559 upon the new crane.

It was decided to approve the provision of a new 7-ton jib crane at Watford at a cost of £559, subject to the Watford Joint Railway Committee confirming the purchase at the increased price at its next meeting.

### **MEETING No.209 HELD ON 16 MAY 1938**

#### **Special Expenditure Requisitions Approved**

##### **Other than New Works Programme 1935/40**

- (a) CB121 for the purchase of 51 new tube cars and for the fitting of brake retardation equipment on existing stock to work on the Piccadilly and Central lines at a total cost of £348,674, the purchase to be made and the work to be executed by the Chief Mechanical Engineer and to be completed by December 1940.

This was approved and would be charged as to £320,484 to Capital Account and £28,190 to Maintenance Reserve Account.

- (b) CB 122 for fitting passenger push button door control to 834 cars which will work on the Central, Northern City and Bakerloo lines at a cost of £66,960, the work to be executed by the Chief Mechanical Engineer and to be completed by December 1940.

This was approved and would be charged as to £7,500 to Capital Reserve and £59,460 to Maintenance Reserve Account.

#### **Swiss Cottage Station (Metropolitan Line);**

##### **New Passageway on Down Platform Tenders Opened**

It was reported that tenders had been received from the firms set out below for the construction of a passageway at the rear of the south end of the down platform at Swiss Cottage station (Metropolitan Line):

Balfour Beatty & Co. Ltd.

Mitchell Bros., Sons & Co. Ltd.

Chas Brand & Son

John Mowlem & Co. Ltd.

John Cochrane & Sons Ltd.

Edmund Nuttall Sons & Co. (London) Ltd.

Kinnear Moodie & Co.

It was decided that Mr Robertson should examine the two lowest tenders and to accept the tender submitted by Messrs Mitchell Bros., Sons & Co. Ltd. subject to it being correct and remaining the lowest after taking into account those items in respect of which no prices were submitted.

#### **Finchley Road: Completion of New Northbound Tunnel: Contracts**

Mr Robertson submitted a memorandum dated 11 May recommending that the construction of 200 yards of the new northbound tunnel just south of Finchley Road, for which a contract had yet to be placed, should be undertaken by extending Messrs Chas Brand's contract from the point where the company's present contract terminated to the point where the new tube tunnel breaks the invert of the old Metropolitan tunnel, at a cost of £5,000 and by extending Mess Mowlem's daywork contract to complete the tube tunnel through the existing Metropolitan tunnel at an estimated cost of £20,00. This was approved.

#### **West London Electrification Scheme**

Mr Robertson submitted notes of a meeting held at Paddington on 3 May 1938 to consider matters in connection with the West London Electrification scheme, together with a covering memorandum dated 13 May

It was noted that the dates proposed by the Great Western Railway for the opening of the various sections of the line were as under, but that the GWR had agreed to consider if the line to Ruislip Depot could be opened in October 1940 when it is hoped to open the Eastern Extension to Newbury Park.

North Acton – Greenford (including Greenford station)	April 1940
Greenford – West Ruislip	March 1941
West Ruislip – Denham	April 1940
Ruislip Depot	March 1941

Mr J.P. Thomas had suggested that the extension to Greenford should be opened in April 1940 with six-car trains maintained at Wood Lane, when it was proposed to open the Eastern Extension to Loughton.

The position was noted and it was decided to approve the notes of the meeting held at Paddington on 3 May 1938 subject to it being made clear to the GWR that the Board would only agree to the orders for current rails and cables being placed in South Wales if the prices were no higher than elsewhere and, so far as cables are concerned, if suitable guarantees are received that they meet the Board's specifications.

#### **Euston Station: Air Raid Shelter for LMS**

Mr Robertson submitted a memorandum dated 16 May reporting that, at the request of the London, Midland & Scottish Railway, a scheme had been prepared for the construction of an air raid shelter for that company, at the foot of the lifts of the Board's station at Euston. The scheme was shown on a submitted drawing.

It was proposed that the engineering work estimated at £4,000, should be undertaken by the Board and the equipping by the LMS, which would be responsible for the whole expense. It was decided:

- (a) To approve the provision of an air raid shelter at Euston for the LMS.
- (b) To approve the scheme shown on the submitted drawing subject to confirmation that it would not interfere with any scheme for installing escalators at the station and to Mr Robertson suggesting to the LMS that there should be a second entrance to the shelter as indicated at the meeting.
- (c) That the whole of the expenses incurred in connection with the construction and maintenance of the shelter should be borne by the LMS and that the company should be charged a nominal rental of £1 per annum for the accommodation.

#### **Nine-Car Train Operation**

Mr Robertson submitted a memorandum dated 12 May, setting out the works required on the Northern, Central and Bakerloo Lines to permit the running of 9-car trains, with estimates giving the cost of the works if carried out in the future and the effect on the present programme of new works.

It is also here recorded for convenience that this matter was discussed at a meeting between the Vice-Chairman, Mr J P Thomas and Mr Graff-Baker on 12 May 1938. Mr Graff-Baker reported that he was designing a special type of rolling stock to form block trains of the same length as a 9-car train to run in peak-hours only it was decided:

##### **1 Northern Line**

- (a) That the necessary works should be undertaken now to permit of the operation of 9-car trains between Archway (Highgate) and High Barnet and Edgware.
- (b) That the rearrangement of signalling between Archway (Highgate) and Camden Town to be completed immediately.
- (c) That further endeavour should be made to devise a satisfactory scheme for improving the capacity of the junction at Camden Town, it being suggested that greater use might be made of speed control signalling.
- (d) That Mr Millen should consider and report the additions required to the power supply equipment in view of the proposal to run 9-car trains on the Northern Line.
- (e) That no other action should be taken for the running of 9-car trains on the Northern Line at the present time.

##### **2 Central Line**

- (a) That the length of the station tunnels at Wanstead, Redbridge and Gants Hill should be increased from a length of 435ft to 480ft, the additional length being the diameter necessary to provide a platform width of 4ft 6ins only, if cheaper than continuing with the standard size of tunnel. A false headwall would be provided at the end of the 435ft platforms, the additional distance not being finished off.
- (b) That the new siding at Liverpool Street should be constructed to accommodate 9-car trains.
- (c) That consideration should be given to alterations at Grange Hill Depot to provide accommodation for the limited number of 9-car trains which will be required for this line for which a proposal would be submitted.
- (d) That consideration should be given to the facilities required at Wood Lane station and depot to permit the reversal of 9-car trains at this point for which a scheme was requested.
- (e) That Mr Millen should consider and report upon the addition power supply equipment required if 9-car trains are placed in service on the Central Line.
- (f) That no other action should be taken for the running of 9-car trains on the Central Line at the current time.

##### **3 Bakerloo Line**

That no provision was currently required for the operation of 9-car trains on this line.

##### **4 Rolling Stock**

That Mr Graff-Baker should continue with the design of the special rolling stock for peak hour operation and that meanwhile one or two 9-car trains of existing stock should remain in service on the Northern Line until the special stock

is available in order to preserve the continuity of method of operation. The new type of stock must not be designed for making up into 9-car trains

### **Rolling Stock Improvements Programme; Contracts**

Mr Graff-Baker submitted a memorandum dated 2 May reporting that tenders had been received for the 32 cars required for the replacement of old Metropolitan F stock from the firms set out below:

Birmingham Railway Carriage & Wagon Co. Ltd.

English Electric Co. Ltd.

Metropolitan-Cammell Carriage & Wagon Co. Ltd.

It was recommended to accept the offer submitted by the Birmingham Railway Carriage & Wagon Co. Ltd. as set out below:

12 "A" Motor Cars @ £3,173 each	£38,112
12 "B" Motor Cars @ £3,143 each	£37,716
4 "A" Trailer Cars @ £3,230 each	£12,920
4 "B" Trailer Cars @ £3,213 each	<u>£12,852</u>
	£101,600

This was approved.

### **Rolling Stock: Metropolitan Line: Automatic Couplers**

Mr Graff-Baker submitted a memorandum dated 11 July reporting that trouble had been experienced as a result of the breakage of couplers on the Metropolitan Line compartment stock. Alternative schemes to overcome the situation were submitted for consideration; These were:

- (a) Fitting of Wedgelock couplers, complete with electric and pneumatic, at mid-point of compartment stock trains and link coupler at all other points. The total cost would be £15,500.
- (b) Fitting of Wedgelock couplers for mechanical coupling only and centred trailer points for compartment stock trains and link couplers at remaining points on the train. The total cost would be £12,100.

It was proposed that Wedgelock couplers should also be fitted to the 60 coaches of steam stock which could be converted to electric working. The cost of fitting new coupling gear on these coaches would be £4,500 for scheme (a) or £2,500 for scheme (b)

In accordance with Mr Graff-Baker's recommendation it was decided that Wedgelock couplers for mechanical coupling should be fitted at controller trailer points and link couplings at remaining points on the electric compartment stock to be reattained under the surface lines programme and on the steam stock to be converted to electric working, at a total cost of £14,600. A special expenditure requisition would be submitted.

### **Rolling Stock for East London Line**

Mr Graff-Baker submitted a memorandum dated 12 May reporting that the shuttle service between Shoreditch and New Cross on the East London Line was maintained by six 4-car trains which were scheduled for scrapping but that no steps had been taken to replace them. It was decided that Mr Graff-Baker should consider and report upon a proposal to retain for use on the East London Line, the best of the surface line rolling stock due for scrapping, for a further period of three to five years.

## **MEETING No.210 HELD ON 23 MAY 1938**

### **Special Expenditure Requisition Approved**

CB 119 for the installation of a new 7-ton jib crane at Watford Goods Depot at a total cost of £559, the work to be executed by the Chief Mechanical Engineer, to be completed in three months and charged to The Watford Joint Railway Committee. This was approved together with the authority to withdraw the existing 5-ton hand operated jib-crane under CB114.

### **Withdrawal of Redundant Assets**

Mr Graff-Baker submitted authority No CB 118 covering District Line motorcar body damaged beyond repair in the collision at Charing Cross on 17 May last, together with a covering memorandum dated 21 May reporting that it was proposed to scrap this car, since it had entered service in 1914 and the cost of rebuilding it would not be less than £1,500. Form CB118 was approved for allocation by the Comptroller and Accountant and subsequently for submission to the Chairman's meeting.

### **Wellington Sidings: Shed**

Mr Graff Baker reported that he had been informed by Sir Nigel Gresley that, in addition to the housing of the Royal Train, running repairs were carried out to main line stock in the shed at Wellington Sidings and that it would be impossible to obtain other accommodation for effecting repairs to carriages before April 1939, when the shed and sidings would be required by the Board.

Mr Robertson reported that he had been informed by Mr Inglis of the proposal to construct a new carriage shed and sidings at Bounds Green to replace those at Wellington Sidings and that the estimated cost was £71,512. A drawing of the new shed and sidings was submitted.

In view of the large cost of this alternative accommodation, it was decided that Mr J.P. Thomas should consider the possibility of equipping and operating the lines included in the North London Electrification Scheme while allowing the LNER to retain the use of the Wellington shed and any sidings which they might require and report on the additional cost incurred in providing alternative facilities for the Board's use elsewhere.

### **Central Line; Nine Car Train Operation**

- (a) **Grange Hill Depot**

Mr Robertson reported that it would be possible to make alterations at Grange Hill Depot to accommodate 9-car trains but this involved introducing curves of 5 and 6 chains radius, which were considered undesirable in a depot and the extending of the train shed which was already erected.

It was decided the tracks should be installed for 9-car operation and that where work still remains to be done, as in the case of the car cleaning shed, it should be undertaken for 9-car operation but that the remaining alterations that would cost no more when required, should not be carried out at this time. An estimate was requested for the additional cost that would now be incurred.

**(b) Newbury Park Station and Sidings**

Mr Robertson submitted a sketch showing the proposed sidings at Newbury Park arranged to accommodate 9-car trains. Instructions were also requested as to whether the platforms at this station should be laid out to take 9-car trains.

It was decided that the layout of the sidings and the station at Newbury Park should be designed to accommodate 9-car trains.

**(c) Loughton Station**

Mr Robertson reported that the existing platforms at Loughton station were being modified and that the existing layout did not provide for 9-car operation.

It was decided that the layout at Loughton Station should provide for 9-car trains at minimum expense, if necessary by providing narrow unloading strips at the ends of platforms only.

**Rolling Stock for East London Line**

Further to earlier discussion, consideration was given to the proposed replacement of rolling stock employed on the shuttle between Shoreditch and New Cross on the East London Line. It was decided that Mr-Graff-Baker should submit a scheme for the replacement of this stock by the purchase of new cars.

## **MEETING No.211 HELD ON 30 MAY 1938**

**Special Expenditure Requisition Approved**

The following special expenditure requisition, having been approved and signed by the officers concerned, was submitted for the approval and signature of the Vice Chairman.

F301 for signalling alterations between Kennington and Edgware and for lengthening platforms at Golders Green, Brent, Hendon, Colindale and Burnt Oak Stations to enable 9-car trains to be operated at total cost of £15,135. The work would be executed by the Chief Engineer and completed by 30 June 1938.

This was approved and would be charged as £4,809 to Capital Account and £10,326 to Maintenance Reserve Account. A claim for an additional allowance from the Pool to be submitted in respect of the whole of this expenditure.

**Plans Signed**

The following plan, having been approved and signed by the officers concerned was submitted for the approval and signature of the Vice-Chairman:

**Drayton Park Station – Sidings**

Drawing E12836 showing the proposed modifications to sidings at Drayton Park to provide accommodation for two 7-car trains and four 6-car trains

**East Finchley Station**

Mr Robertson submitted a memorandum dated 27 May reporting that the Chairman had suggested that a roof should be provided over both platforms and the central tracks at East Finchley station for a length equivalent to 4-cars. It was decided that a roof in the form of a skylight should be installed as requested and a revised drawing was requested.

**Drayton Park – Finsbury Park: Track Layout**

Mr Robertson submitted a drawing showing the proposed track layout between Drayton Park and Finsbury Park and an overlay showing the emergency crossover at Finsbury Park proposed by the Board. These drawings were approved.

**Eastern Extension and Electrification: Progress Report**

Mr Robertson submitted a report dated 31 May, upon the progress of the Eastern Extension and Electrification. The report was reviewed. It was noted that the provisional date for the opening of the section of tube line between Leytonstone and Newbury Park had been put back from October 1940 to December 1940 as a result of the time for the completion of tenders just received for the tunnelling between Wanstead and Gants Hill being longer than anticipated. It was decided:

- (a) Not to accept the proposed postponement of the opening of the new tube line between Leytonstone and Gants Hill and that every endeavour should be made to secure a reduction in the time taken for the tunnelling work on this section in order for the date of October 1940 might be maintained. A special report on this matter was to be included in the next report of progress on the Eastern Extension and Electrification to be submitted in three months' time.
- (b) That further representations should be made to the LNER to speed up the works for which they are responsible for at Stratford.