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MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. 939	Press
697-78	~~Mis.~~
Dated 30-3.	1871 .

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
30th March 1871.*

No. 697. Read the following letter from the Deputy Secretary to the Government of India, Public Works Department, (Railway,) to the Secretary to the Government of Madras, Public Works Department, Railway Branch, dated Fort William, 17th March 1871, No. 469-R:—

I AM directed to acknowledge the receipt of your letter, No. 160, dated 20th January 1871, on the subject of the point of bifurcation from the main line of the Great Southern of India Railway Extension to Madura and Tuticorin, and giving the reasons of the Government of Madras for preferring that the junction should be at Trichinopoly, and that the extension should be taken *via* Dindigul.

2. In reply, I am desired to state that, if it were proper to deal with this extension by itself in considering the place of junction, the place at which the Great Southern of India Railway Extension southwards through Madura should leave the main line, is clearly indicated in the Madras Government Proceedings of February 1868. The Governor-General in Council believes that if the question be narrowed to the supposition that, as at present so in the future, there shall be only one line of railway communication from Tuticorin and Madura to Madras, the best line is certainly through Caroor. The districts between Dindigul and Caroor are known to be as rich and populous as others in the neighbourhood; the local traffic of Salem and Coimbatore would be better served; the local traffic of Trichinopoly would not be placed at an unreasonable disadvantage; the through distance to the Madras Railway from the south of the Peninsula would be least, and the length of new line to be constructed on this route would be 15 miles less than with the junction placed at Trichinopoly. This last point is of paramount importance in a country of which the traffic is so limited, as to yield a return of less than 2 per cent. on the capital required for construction. Neither with the experience of the cost of past construction, both on the Great Southern of India and the Madras Railways before them, can the Government of India believe that the sum of £57,700 at all adequately represents the saving to be effected by a reduction of 15 miles in the length of a new broad gauge line.

3. Were the question, however, thus dealt with the Great Southern of India Railway, under the arrangements that have been entered into by the Secretary of State, would have their line extended from Caroor through Dindigul and Madura *direct* to Tuticorin, a distance of about 160 miles, and the Carnatic Railway would be carried out for a distance of 81 miles between Conjeeveram and Cuddalore, and both on the broad gauge as contemplated in the contracts. The mileage cost of these lines cannot be taken at less than £8,000, and allowing that the conversion of the 19 miles of the existing narrow gauge line between Arconum and Conjeeveram could be done at half that rate, the total outlay would be £2,004,000. To this outlay the State it may be said is actually committed, and keeping in view the magnitude of the sum and the certainty that the revenue will not for many years, if ever, cover the guaranteed interest, it is manifest that in carrying out these two schemes, the Government would have to restrict them in every possible way consistent with the contracts, and that no further proposals for Railway extensions in Madras would have any prospect of being entertained, at all events for a very long period.

4. It appears, therefore, to the Governor-General in Council that it is on all points most desirable that the question should not be thus dealt with. In my letter No. 1,588-R., of the 17th September 1870, the subject of the gauge that should be adopted on the Carnatic Railway was re-opened, in consequence of a despatch that had been received from the Secretary of State, and the opportunity was taken to invite an expression of the views of the Madras Government as to the adoption of the narrow gauge on the extension of the Great Southern of India Railway also. No reply has yet been received to that letter, but as in the interests of the last mentioned Railway it is highly desirable that no delay should occur in deciding the point at which the extension shall bifurcate from the existing line, and the adoption of the narrow gauge would, by reducing the outlay, place the Government in a better position for considering in a comprehensive manner the development of these two schemes that would be most suited to the country, it seems to the Governor-General in Council that the point of bifurcation of the Great Southern of India extension, the possible extension of the Carnatic Railway to join the Great Southern of India Railway, and the gauge of both, should now be re-considered in mutual connection with one another, the more especially as any such extension of the Carnatic Railway would present an alternative and, under certain circumstances, shorter means of communication between the southern districts of the Presidency and Madras.

5. In this view, the selection of the line for the Tuticorin Extension should be settled on a consideration of other future extensions, and the arguments in favour of Caroor as a junction would be no longer of the same force. Should the Carnatic Railway Company and the Madras Government assent to the Carnatic Railway to Cuddalore being built for the narrow gauge, then, in preference to laying down a third rail on the Madras Railway between Arcenum and Madras, as suggested by the Secretary of State, direct access to Madras from Chingleput or Conjeeveram might be allowed, the total distance to Cuddalore by this route being about 116 miles. The existing line between Arcenum and Conjeeveram might if desired remain, and the latter place be joined with Chingleput.

6. Taking £5,000 and £8,000 to represent the cost of a mile of narrow gauge and a mile of broad gauge railway, respectively, £1,850 per mile as the cost of laying down a third rail on the Madras Railway, including stock, and £4,000 per mile as the cost of converting the present Conjeeveram line to broad gauge, we have the following comparative estimates of capital outlay:—

Narrow gauge schemes—

Madras to Cuddalore—

(1).—Direct

(2).—Via Arcenum

Broad gauge scheme—

(3).—Via Arcenum.

£

530,000

483,000

724,000

The income on the direct narrow gauge line would certainly be the highest, because it would have direct access to Madras, and would work over 116 miles of country not in any way served by the Madras Railway, while the line by Arcenum would only have a length of about 80 miles having that character. Further, the saving effected by this change from broad to narrow gauge, £141,000, would

not only cover about one-third of the cost of a southern extension on the narrow gauge, towards the Great Southern of India Railway, but the result would be a railway which would probably pay its guaranteed interest in a few years. In fact, it would seem that by using a 3 feet 3 inches gauge, the Carnatic Railway Company might nearly double their mileage and income, while spending the same amount of capital that they would require if their railway were broad gauge.

7. As respects the system of the Great Southern of India Railway Company, it may be expected that, sooner or later, a branch to the north from Trichinopoly or Tanjore, in order to cross the Cauvery river in the most favourable manner, and to meet the Carnatic Railway at some point north of Tanjore, will come to be regarded as a desideratum. This branch to the north as well as the extension to the south through Madura to Tuticorin, and perhaps to Tinnevely, if on the narrow gauge, with the interpolation of a third rail over a limited distance of the existing line, would afford unbroken communication between the districts south of the Cauvery and Madras; in this event, it might even be found desirable to convert the existing railway, east of Trichinopoly, to the narrow gauge also, but this need not now be discussed.

8. The case, as viewed by the Government of India, may, therefore, be stated as follows:—

If the proposed new lines of Railway to be executed by the Carnatic and the Great Southern of India Railway Companies be made on the broad gauge, we should have to construct 260 miles of railway at a cost of, say, £2,000,000.

If the narrow gauge be adopted we might have 477 miles of connected Railway at a cost of, say, £2,350,000, including the third rail and stock for the narrow gauge on 33 miles of the Great Southern of India Railway between Tanjore and Trichinopoly.

9. It would thus appear that with about 15 per cent. more capital outlay, nearly 90 per cent. additional length of railway may be obtained if the narrow gauge be adopted. When it is considered how poor the returns have hitherto been on the Great Southern of India Railway, the absolute necessity of keeping down the first outlay on every additional mile of railway that is constructed will be the more evident. The Great Southern of India Railway has cost £8,500 per mile. During the last eight years, the average half-yearly net receipts per mile open have been Rupees 1,121, which is about equal to 2.6 per cent. per annum on a capital outlay of £8,500. The loss therefore is 2.4 per cent., or on 2 millions of new capital would be £48,000 yearly. To cover this the net receipts must rise by Rupees 1,000 per mile. Should the net receipts per mile open on the new narrow gauge lines be an average Rupees 1,124 per half-year, and obviously they would be as great as on a broad gauge line, they would clear $4\frac{1}{2}$ per cent., or nearly cover the guaranteed interest on their cost if it did not exceed £5,000 per mile. In this case, the corresponding loss would be $\frac{1}{2}$ per cent. on £2,350,000, or £11,750 yearly, which would be covered by an increase of Rupees 125 per mile.

10. The Government of India think that, the facts just stated, taken in connection with the figures given in the 8th paragraph, demonstrate irresistibly that the narrow gauge ought to be adopted for the railway extensions now proposed in Madras, for in this way only does it appear to the Governor-General in Council that complete as well as continuous railway communication between Madras and the more southern districts can be obtained within a reasonable time, and without serious pressure on the finances. I am accordingly directed to invite the Madras Government to take the matter under immediate consideration in the manner indicated in this despatch. The state of the surveys of the extension of the Great Southern of India is such that an early decision is called for, and the Governor-General in Council is willing, after this full exposition of the views entertained by the Government of India, to leave that decision with the Government of Madras. The location for the extension of the Great Southern of India Railway, recommended in your letter, No. 457, of the 14th February 1871, is fully approved if that decision be in favour of the narrow gauge, but if not, the only portion of the location that can be approved for a broad gauge line is between Dindigul and Madura, and the needful surveys for a line connecting Dindigul and Caroor, and for the extension from Madura to Tuticorin by the most direct route should, in that event, be put in hand without delay.

No. 698.

ORDER THEREON, 30th March 1871, No. 939.

RAILWAY, No. 66.

COMMUNICATED to the Consulting Engineer for Railways.

2. The Government have already in their Proceedings, No. 910, of the 27th March 1871, recorded their views of the necessity of making the Carnatic Railway of the narrow gauge, and of the expediency of taking it from Madras to Chingleput direct instead of from Arcot round by Conjeeveram and Wallajabad, and they at the same time expressed their opinion that, as the line could not be longer looked upon as of purely local importance, but must be regarded as a link in the system of railway communication between Madras and the districts to the south, its extension to form a junction with the Great Southern of India Railway at Tanjore, or elsewhere, at no distant date must be considered a certainty.

3. With this in view the Government in their Proceedings No. 1,257, of the 16th May 1870, in passing orders on the location of the sanctioned extension of the Great Southern of India Railway, decided that it should start from Trichinopoly as the most eastern point from which a junction with the Carnatic Railway might, with the greatest convenience to the traffic of the country, be effected.

4. In approving of Trichinopoly as the point of bifurcation of the extension from the main line the Government of India make it a condition that the gauge on which the extension is to be constructed shall be considered in connection with that which may be fixed for the Carnatic Railway. Fully concurring in opinion with the Government of India that the circumstances of the country make the adoption of the cheapest description of railway that will suffice to meet the necessities of traffic essential to the financial success of these undertakings, and

recognizing the great importance of providing the means of unbroken through communication by adhering to the same gauge in the construction of the Carnatic Railway and, the Great Southern of India Extension to Tuticorin and Tinnevely, His Excellency the Governor in Council is satisfied that the latter as well as the former should be made on the narrow gauge. This will be intimated to the Government of India, and they will be informed that, if the Great Southern of India Railway Company can be relieved of the large quantity of permanent-way materials for a broad gauge line, which they have sent out under the sanction of the Secretary of State, or can be indemnified for their outlay thereon, this Government see no objection to requiring that Company to adopt the gauge of 3 feet 3 inches sanctioned by the Government of India as the standard future narrow gauge of India.

5. Working plans and estimates for the construction of the extension as a broad gauge line on the location approved in Proceedings of the 14th February 1871, No. 456, are, it is understood, nearly ready for submission, but, under these orders, the Consulting Engineer will call upon the officers of the Company to recast those plans and estimates for a railway on the gauge now sanctioned, and in accordance with the detailed specification communicated in G. O., No. 872, of the 23rd March 1871, with the Proceedings of the Government of India No. 283-R, dated 22nd February 1871.

6. As the direction in which the Carnatic Railway will have to be taken in traversing the richer and more populous districts south of Panrooty, will probably carry it by Chellumbram and Mannargoody to Tanjore, the continuity of the narrow gauge will have to be established by laying a third rail on the main line of the Great Southern of India Railway between that place and Trichinopoly.

7. This will involve no difficulty, and as the subscribed capital for the sanctioned extension is calculated for the construction of at least 215 miles on the broad gauge, it is confidently believed that, with the adoption of the narrow gauge, it will suffice not only to meet the cost of this addition, say at £1,850 per mile, but for the construction of some 120 additional miles of extensions. Taking the cost of a broad gauge railway in Southern India at £8,000 per mile, and that of a narrow gauge line at so much as £5,000 per mile, it is evident that an equal sum of money will make more than fifty per cent. greater length of the latter than of the former. This being the case the Government are of opinion that it is as much for the advantage of the Company as for the interests of the country that, adopting the narrow gauge, the Company should apply their capital to the completion of the sanctioned extension and of the prolongation of their line on that gauge through Combaconum to meet the Carnatic Railway on the banks of the Coleroon on the one hand, and to carry out the formation of a branch from Dindigul to join the Madras Railway at Coimbatore on the other.

8. The first mentioned short length of line has been already frequently advocated on its own merits as being necessary to bring the rich and thriving town of Combaconum and its adjoining populous districts into communication with the railway at Tanjore, and there is no doubt that its formation will open up a traffic that cannot fail to be of much value, while the branch from Dindigul to Coimbatore, accommodating as it will the large movement of produce from the

712

*Proceedings of the Madras Government, Public Works Department,
30th March 1871.*

westward which at present passing in the direction of Dindigul, proceeds by Madura to the coast, will prove, it is believed, a most useful and productive link in the system of railway communication south of the Coleroon of which this Government is prepared to recommend that the construction should be entrusted to the Great Southern of India Railway Company on the narrow gauge.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Acting Consulting Engineer for Railways.

Ed. S. T. Augustin.

Recd 14 February 1871 No 348 @ 350
" 20 January 1871 - 333 - 335
" 14 Feb - 328 @ 335

SW 1871 Sept
Pro of Govt for Madras
No 1352

GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.
RAILWAY.

To

THE SECY. TO THE GOVT. OF MADRAS,
IN THE P. W. DEPT., RY. BRANCH

No. 469 R.

Dated March 17, 1871.

Received 24 March 1871

GREAT SOUTHERN OF INDIA RAILWAY.
Location of the Extension to Madura and
Tuticorin, and gauge on which this extension
as well as the Carnatic Railway shall be
carried out.

P. W. D. Press-17-3-71-12.

Ch 697

No 939-30 March 1871

No 939

1352

Communicated
to the Consulting Engrs
for Railway.

The Govt have
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No 910 of the 27th March
1871 recorded their views
of the necessity of making
the Carnatic Railway
of the narrow gauge
and of the expediency

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of taking it from Madras
to Shinglepat direct,
instead of from Arc-
-num round by Conjee-
-varam and Wallajabad,
and they at the same
time expressed their
opinion that, as the
line could not be
longer looked upon
as of purely local
importance, but must
be regarded as a link
in the system of
railway communication
between Madras
and the Districts

91
to the south, its extension
to form a junction
with the Great Southern
of India Railway at
Tanjore, or elsewhere, &c.
at no distant date
must be considered
a certainty.

With this in view
the Govt in their Progs.
No. 1257 of the 16th May/70,
in passing orders on
the location of the
sanctioned extension
of the Great Southern
of India Railway,
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171
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141
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AL

The Chief Engineer
for Railways

Signed 29/12/71
Sd/- 31/3/71

No 14 February 1868 H 348 @ 350
 " 15 May 1870 " 224 @ 228.
 " 20 January 1871 " 333 - 335
 " 14 February " 328 @ 330
 " 23 March " 573 - 574
 " 27 " 645 - 647

8/107352

Govt of 1871 30 March.

PUBLIC WORKS.

to the Consulting Engr
for Railway

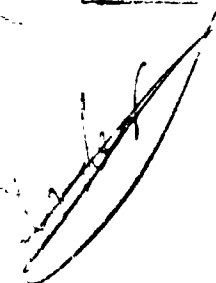
Further No 12 13/10 & 12-5-71
 " " 1352-14-5-71
 " " 1500-15-6-71

From

To

By

G. O. 30 March 1871 No. 939.



No. 697-698

Extension (Railway) Paper
 orders in the letter from the
 Govt of India Dept. for the
 location of the extension
 of the G. S. of S. Ry. to Madras
 & Tanjore & the map
 in which this extension
 as well as the Carnatic
 Ry. shall be carried
 Mr.