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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	1263	(Ry)	Press
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Dated	19-5-	1876	

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
19th May 1876.*

No. 351. Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Major-General G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 5th February 1876, No. 74 :—

I HAVE the honor to lay before Government a letter from the Agent of the Madras Railway, giving cover to the minutes of a meeting which was held on No. 82, dated 25th January 1876, with enclosures. the 21st December 1875, at the instance

of Mr. Juland Danvers, the Government Director of the Indian Guaranteed Railway Companies, for the purpose of discussing the working of the Madras Railway, and with the object of suggesting measures for the improvement of the traffic.

2. It will be seen that the following six resolutions were proposed by Mr. Danvers :—

- (1.)—That it is desirable that the earliest opportunity should be taken of obtaining a supply of more powerful locomotives, in order that the difficulty of taking heavy train loads up the severe gradients on the line may be removed, and economy of management secured.
- (2.)—That it is desirable that the differential rate now existing for conveying loose cotton to Madras to be done away with, and that all such cotton be accordingly conveyed at 18 Pies per ton per mile.
- (3.)—That, with the view of increasing the traffic and meeting the requirements of the producers, the rates for the staples of the country, now included in the present first-class, be reduced from 12 to 9 Pies per ton per mile.
- (4.)—That, with the view of promoting a return traffic up-country, the rates for piece goods be reduced from 18 to 10 or 11 Pies per ton per mile.
- (5.)—That an experiment be made in such districts as the Traffic Manager may recommend with a pick-up train once or twice a week, for the purpose of taking on goods from places situated at a long distance from the two stations.
- (6.)—That, with a view of introducing Bengal coal on the line, arrangements be made with the Government for chartering a steamer for the purpose of bringing coal from Calcutta and taking back salt.

3. The first resolution was unanimously agreed to. During the year 1874-75, the average load of goods trains on the Madras Railway was only 48½ tons, being by far the smallest of all the Indian Railways. This is to be attributed in great measure to the severity of the gradients, and to the insufficiency of the engine power to haul full loads up the inclines. The lengths of steep gradients are—

	MILES.
From 1 in 60 to 1 in 100	66
" 1 in 100 to 1 in 200	209

These are distributed over the whole of the Company's system, which comprises 857 miles. Excluding tank engines, which are used for shunting at stations and other special purposes, the number of engines available for working the traffic is 106. Of these only 30 have cylinders 17 inches in diameter, the cylinders in the remainder being only 15 and 16 inches.

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4. An application lately came forward for the addition of ten engines to the existing stock; and, for the sake of economy, it was suggested to utilise a large quantity of duplicate stock now in store. With this object, it was proposed that only six of the ten engines should have 17 inch cylinders, and that the remaining four

*Vide Proceedings of Government, dated 29th September 1875, No. 2,803.
18th November 1875, No. 3,297.*

should have 16 inch cylinders. From the papers quoted in the margin, it will be seen that this application has not yet been finally disposed of, but subsequent consideration of the matter has convinced me that all additions to the engine stock of the Madras Railway should have cylinders not less than 17 inches in diameter with a stroke of 24 inches, and that it would be false economy to utilise the existing duplicate stock in the construction of engines whose power would be insufficient to haul full train loads over the heavy gradients.

5. The second resolution, with regard to the rates now in force for the carriage of cotton, was opposed by the Agent and by the Traffic Manager. Mr. Danvers' argument was that differential rates for the same article were, as a rule, objectionable, and should, if possible, be abolished. Upon the other hand, the Railway officials hold that differential rates, varying according to localities, are in some instances necessary in order to attract the maximum of traffic to the Railway; and they maintain that, in the special case of cotton, differential rates such as those now in force are essentially required in the interests of the Company.

6. Full explanation regarding the existing cotton rates is contained in the Proceedings of Government noted in the margin. The rates themselves are given in an appendix to this letter. It will be seen that on the North-west Line, where

*12th May 1875, No. 1,350.
30th June " " 1,820.
22nd Jan. 1876, " 166.*

the bulk of the cotton traffic is, loose cotton is conveyed at 36 Pies per ton per mile, and Class E pressed cotton at 14 Pies per ton per mile. The avowed object in view in fixing this heavy differential rate was to induce consignors to have the cotton pressed before tendering it for despatch. This policy has of late years been repeatedly asserted by the Company's officials, and has been endorsed both by the Directors and by the Government. The chief reason for it is that the greatest quantity of loose cotton that can be placed upon a wagon is 3 tons, whereas 8 or 9 tons of Class E cotton can be loaded on the same vehicle. The inflammable nature of cotton in an unpressed state, and its liability to take fire, also add considerably to the risk involved in carrying it.

7. Besides the general rate of 36 Pies per ton per mile for loose cotton, there is also a special rate of 18 Pies for conveying it to a cotton-pressing station, such as Adoni, Bellary, and Cuddapah; and it is this rate which Mr. Danvers wishes to have universally applied. With two exceptions, this low rate is quoted only from stations south of a cotton-pressing station; and the Traffic Manager explains that the constant set of traffic on the North-west Line is from north to south, so that the special rate enables the return empty wagons to be partly filled; in addition to which, as Mr. Church observes, the cotton, so carried in a loose state, is afterwards carried in a pressed state over the same piece of line.

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In paragraph 5 of his report, Mr. Church explains that full-pressed cotton bears a rate of 12 or 14 Pies per ton per mile, and that there appears to be no valid reason for reducing that rate. He further argues that the rate for loose cotton should be determined with reference to that paid for pressed cotton. In this principle I agree; but the statement in paragraph 6 of his report, to the effect that loose cotton is "wagon for wagon more costly to haul" than pressed cotton, does not seem quite correct.

The weight of a high-sided open goods wagon is 5.3 tons, and therefore a wagon loaded with cotton will weigh.

Pressed $8 + 5.3 = 13.3$ tons.
Loose $3 + 5.3 = 8.3$ "

Assuming that the increased resistance on account of wind pressure, in the case of a wagon of loose cotton, adds 20 per cent. to its nominal load (by no means an excessive estimate), the weight of a wagon of loose cotton would be 10 tons; and, if an engine hauls eighteen wagons of pressed cotton, it will haul twenty-four wagons of loose cotton. In other words, the cost of hauling three wagon loads of pressed cotton, or 24 tons, is the same as the cost of hauling four wagon loads of loose cotton, or 12 tons. Upon this supposition the rates should be as 2 to 1; but the set of traffic being entirely from north to south, it is necessary to allow for hauling the wagons back empty. The weights to be hauled per ton of cotton are—

Pressed.				Loose.			
			Tons.				Tons.
Down freight ...	...	...	1	Down freight ...	...	...	1
dead load ...	...	...	.66	" dead load ...	...	...	2.33*
Up " "	...	...	.66	Up " "	...	...	1.77
			2.32				5.10

* Including percentage for extra wind pressure.

Assuming the rate for pressed cotton to be 14 Pies per ton per mile, that for loose cotton should be—

$$\frac{5.10 \times 14}{2.32} = 30.8 \text{ Pies.}$$

10. It should be observed that this rate of 30.8 Pies per ton per mile represents the difference in cost of haulage only. Something should be added to cover the increased risk involved in carrying loose cotton on account of its inflammable nature. And, as pointed out by Mr. Church, the cost of additional rolling stock and its maintenance remain to be calculated in fixing a rate for loose cotton. Taking these items into consideration, I cannot see that, except in special cases, the rate for loose cotton should be less than 36 Pies per ton per mile. As explained in the Proceedings of Government, under date the 12th May 1875, No. 1,350, a special rate of 26 Pies per ton per mile for loose cotton booked to Madras, in wagon loads of not less than 3 tons, and at owner's risk of fire, has been lately quoted in the hope of securing the carriage of the cotton required by the Madras Spinning and Weaving Company, which must be brought in an unpressed state. The circumstances which led to this rate being quoted are of an exceptional nature, and the rate is at present only experimental. The result will be seen in due course.

11. The third resolution, having for its object the lowering of the rate for certain first-class goods from 12 Pies to 9 Pies per ton per mile, is not objected to by

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the Railway Officers, but they point out that its adoption will result in an immediate loss of revenue upon short distance traffic; and they show that the principal staples are now carried at a lower rate than 9 Pies for all distances over 200 miles. This is incontrovertible; but at the same time the recommendation embodied in the resolution seems to me to be in the right direction. As bearing upon this subject, the changes in the classification advocated by the Railway Traffic Commission in paragraph 19 of their report deserve attention.

12. The fourth resolution, regarding the reduction in the rates for piece goods, is objected to by the Railway Officers, not upon principle, but because, in their opinion, the resolution goes too far. They recommend that the reduction in the rate for piece goods should be from 18 Pies to 14 Pies per ton per mile instead of to 10 or 11 Pies as proposed in the resolution. The traffic in piece goods is almost wholly *up* (i.e., from Madras) in the direction contrary to the general set; and, bearing this in view, I am not of opinion that it would be impolitic to adopt the rate named in the resolution, in the hope of increasing the return traffic; but it might be well to try first the effect of the change advocated by the Railway Authorities.

13. In connection with this matter, it should be borne in mind that, with a view to secure the traffic in piece goods, the greater portion of which is now carried by sea between Madras and Bombay, the Madras Railway Company proposed, in May 1874, a uniform through rate of 11 Pies per ton per mile on their line and the Great Indian Peninsula Railway, but that the authorities of the latter Company objected to a uniform mileage rate, and offered to reduce their rate from 25 Pies to 12.44 Pies on condition that the Madras Railway Company reduced their rates from 18 to 9 Pies. In May 1875, the Government of India addressed the Government of Bombay upon the subject, expressing their opinion that, upon contiguous Railways, the rates for through traffic should be the same. The action taken by the Government of Bombay and by the Great Indian Peninsula authorities in reply to that representation is not known.

14. The fifth resolution, containing a recommendation for a "pick-up" train, has been acceded to by the Railway officials, although they anticipated some difficulty in giving effect to it. So far as I know, the experiment has never been tried in this Presidency; but bearing in view that, with eighty-three stations, the distance between stations exceeds 12 miles in twenty-nine instances, the proposal seems to deserve trial.

15. The sixth and last resolution, having for its object the chartering of a steamer for the purpose of bringing coal from Calcutta and taking back salt, deserves serious consideration. In the matter of fuel the Railway Companies in this Presidency are placed at a great disadvantage when compared with those in other parts of India, and any measure which would tend to reduce the cost of coal would be a great boon to them. The results of the experiments recorded in the papers noted in the margin show that, for locomotive purposes, Indian coal can hold its own with either English or Australian coal. The price at present paid for Bengal coal, delivered into store at Madras, is Rupees 20-10-0 per ton; and of this it is probable that

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Rupees 8 represents freight charges from Calcutta to Madras. The difficulty in obtaining a return cargo is the principal bar in the way of effecting any material reduction in this item; but if the arrangements contemplated in this resolution can be carried out, and a steamer chartered to convey alternate cargoes of coal and salt, great advantage would without doubt follow. The consumption of coal upon the Madras Railway is about 1,000 tons per mensem; but, if a material reduction in cost could be effected, it is not improbable that this figure would be increased.

*RATES AT PRESENT IN FORCE FOR CONVEYANCE OF COTTON.
North-west Line.*

				Per Ton per Mho. PIES.
Cotton screwed to 35 lbs. per cubic foot (E Class)	...	...	...	14
" to 25 " " (D ")	...	...	...	16
" to 19 " " (C ")	...	...	...	18
" to 15 " " (B ")	...	...	...	21
" to 10 " " (A ")	...	...	...	24
Loose cotton	...	...	...	36

Special Rates.

E Class (full-pressed) cotton from Bellary, Adoni, and Raichore to Madras	...	...	...	12
D Class (full-pressed) cotton from Bellary and Adoni to Madras	...	...	...	14
Loose cotton from any station south of a cotton-pressing station to the cotton-pressing station; also from Raichore to Adoni and Bellary, and from Auspree and Nuncherla to Bellary, in wagon loads of not less than 3 tons and at owner's risk of fire	...	...	...	18
Loose cotton from all stations to Madras, in wagon loads of not less than 3 tons and at owner's risk of fire	...	...	...	26

South-west Line.

Cotton screwed to 35 lbs. per cubic foot (E Class)	...	...	...	12
" to 25 " " (D ")	...	...	...	14
" to 19 " " (C ")	...	...	...	16
" to 15 " " (B ")	...	...	...	19
" to 10 " " (A ")	...	...	...	24
Loose cotton	...	...	...	36

Special Rates.

Loose cotton from any station east of a cotton-pressing station to the cotton-pressing station, in wagon loads of not less than 3 tons and at owner's risk of fire	...	...	...	18
Loose cotton from all stations to Madras, in wagon loads of not less than 3 tons and at owner's risk of fire	...	...	...	26

(Signed) J. H. M. SHAW-STEWART, Lt.-Col., R.E.,
Consulting Engineer for Railways.

From R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Madras, 25th January 1876, No. 82.

I HAVE the honor to enclose herewith, for submission to Government, Minutes of the meeting held in my office on the 21st ultimo when Mr. Juland Danvers, the Government Director of

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Indian Guaranteed Railway Companies, proposed certain resolutions with regard to the working and traffic of this Railway.

2. The resolution proposed by Mr. Danvers as to the rates for cotton appeared to me to be so important that I called upon the Traffic Manager to make a special report upon the subject, a copy of which I now enclose in order that you may submit it to Government with the Minutes.

* C 1,280
1,487, 12th January 1876.

3. I think you will agree with me in thinking that, as a new scale of rates for pressed and loose cotton was introduced so recently as October last, it will be prudent to await the result of that experiment before we make any further alteration in our charges for the conveyance of cotton.

MADRAS RAILWAY.

Minutes of a Meeting held at the Royapooram Terminus, Madras, on the 21st of December 1875.

PRESENT.

Mr. Juland Danvers, Government Director of Indian Guaranteed Railway Companies.
Lt.-Col. Shaw-Stewart, R.E., Consulting Engr. for Railways to the Madras Government.
Capt. W. H. Coaker, R.E., Deputy do. do.
Mr. H. E. Church, Traffic Manager, Madras Railway.
„ R. B. Elwin, Agent and Manager, Madras Railway.

Mr. Elwin stated that the meeting had been convened at the instance of Mr. Juland Danvers to discuss the want of development in the traffic on the Madras Railway, and in the hope that some measures might be suggested for its improvement.

The first subject which was brought under consideration was the small loads hauled by the engines of the Madras Railway, and after discussion the following resolution was agreed to:—

That it is desirable that the earliest opportunity should be taken of obtaining a supply of more powerful locomotives in order that the difficulty of taking heavy train loads up the severe gradients on the line may be removed, and economy of management secured.

The question of the differential rates which are now in force for the carriage of cotton was then discussed, and, after viewing the question in all its bearings, the following resolution was proposed by Mr. Danvers.

That it is desirable that the differential rate now existing for conveying loose cotton to Madras be done away with, and that all such cotton be accordingly conveyed at 18 Pies per ton per mile.

Mr. Elwin and Mr. Church did not assent to this proposal, as they considered that the difference between the rates for loose and pressed cotton was too small, and would in all probability result in the Railway Company again being called upon to carry cotton in loose borahs instead of pressed.

It should be stated that, while 9 tons of pressed cotton can be conveyed in a high-sided open goods wagon, a similar wagon can only carry 3 tons of loose borahs. Cotton must be pressed somewhere before it is shipped, and it is certainly in the interest of the Railway Company that it should be conveyed over the Railway in a pressed state rather than loose in borahs.

The third resolution proposed by Mr. Danvers was to the following effect:—

That, with the view of increasing the traffic and meeting the requirements of the producers, the rates for the staples of the country, now included in the present first-class, be reduced from 12 to 9 Pies per ton per mile.

With regard to this resolution, the officers of the Railway have no great objection to urge, though its adoption will doubtless result in an immediate loss of revenue upon short

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distance traffic, but they would point out that at the present moment the staples of the country are carried at a lower rate than 9 Pies per ton per mile, as the following illustration proves:—

Felloes ...	...	..(At owner's risk).
Grain of all kinds ...	...	do.
Ground-nuts (in bags)...	...	do.
Jagree ...	...	do.
Molasses (in casks) ...	...	do.
Myrabolanes (in bags)...	...	do.
Nux Vomica(unprepared)	...	do.
o. Yettycottay ...	...	do.
Oil-cake ...	...	do.
Onions ...	...	do.
Potatoes ..	...	do.
Soap-nuts (in bags) ...	...	do.
Soap-sand ...	...	do.
Scrap iron and broken metal ...	...	do.
Sugar, brown, country ...	...	do.
Tamarind, raw ...	...	do.
Turmeric, common ...	...	do.
Wheat ...	...	do.

Either in separate consignments of 8 tons or collectively in consignment aggregating not less than 8 tons for distances of 200 miles and less than 300 miles are charged 8 Pies per ton per mile, and for distances of 300 miles and upwards at 6½ Pies per ton per mile.

Mr. Danvers next proposed, "that, with the view of promoting a return traffic up-country, the rates for piece goods be reduced from 18 to 10 or 11 Pies per ton per mile."

This rate the officers of the Railway consider too low when the value of the piece goods is borne in mind. They, however, are prepared to recommend a reduction from 18 to 14 Pies per ton per mile, or from third to second-class.

Two other resolutions proposed by Mr. Danvers were to the following effect:—

- (1.)—That an experiment be made in such districts as the Traffic Manager may recommend with a pick-up train once or twice a week for the purpose of taking on goods from places situated at a long distance between the two stations.
- (2.)—That, with a view to introducing Bengal coal on the line, arrangements be made with the Government for chartering a steamer for the purpose of bringing coal from Calcutta and taking back salt.

With regard to the first proposition, the officers of the Railway anticipate some difficulty in giving effect to Mr. Danvers' views, but the Agent promised to give the measure a trial, and, if found to answer, to adopt it generally on sections of the line.

The last suggestion as to the chartering of a steamer is a matter entirely for the consideration of the Government.

No doubt the introduction of Bengal coal at a reasonable rate would be an immense advantage both to the Railway Company and to the Government; but the principal difficulty which at present exists, viz., the scarcity of freight from Calcutta to Madras, would be obviated if the Government see their way to adopt Mr. Danvers' suggestion.

From H. E. CHURCH, Esq., Traffic Manager, to R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, dated Madras, 12th January 1876, No. C 1,280 A & M.
1,487

Rate for Loose Cotton.

YOUR No. 4,515 of 22nd ultimo, asking for my opinion in writing as to Mr. Danvers' suggestion "that the differential rates now existing for conveying loose cotton to Madras be done away with, and all such cotton be accordingly conveyed at 18 Pies per ton per mile."

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2. In making rates to attract the maximum of traffic to a Railway it is found necessary, in order to prevent any sacrifice of revenue to uniform mileage rates, to introduce differential rates. In other words, to secure all the traffic worth carrying on different parts of the line at the highest rate it can afford to pay, or at which it can be attracted in any particular locality. This principle might be regarded by some as no principle at all, but it is only necessary perhaps to point to the most successful of English Railways to show that "it pays," and if, as I believe, the object of the present administration is to make Indian Railways commercially successful, we can scarcely do better than follow a practice which has been found so advantageous elsewhere.

3. On this as on other Railways "differential" rates exist for the same commodity carried under different conditions, simply because under some circumstances it can afford to pay a comparatively high rate, and competition does not require the Railway to carry it at a low rate, while in other cases competition forces the Railway to accept a low rate in order to prevent the traffic falling into other channels.

4. In the case of "loose" cotton, competition with country bandies forces the Railway to quote a comparatively low rate for this commodity from stations south of a cotton-pressing station to the cotton-press itself, but this low rate pays, because, in consequence of the set of the traffic on the North-west Line being from the north to the south "returned empty," wagons are always travelling from south to north, and a low rate to fill these wagons at least pays for the cost of the train, which must be run whether the wagons are loaded or empty. The low rate also pays because the cotton is carried in both directions over the same part of the line, *viz.*, in one direction "loose" to the cotton-press, and in the other direction "pressed" from the cotton-press to the port of shipment.

5. There seems, however, no reason why this rate should be applied to "loose" cotton carried southward or to Madras, if, as it is believed, the present rates for "full-pressed" cotton command the traffic. Experience has shown that cotton "full-pressed" in the interior will bear a rate of 12 or 14 Pies per ton per mile for transport by Railway to the port of shipment, and each wagon will carry eight tons of such cotton, so that each wagon of "full-pressed" cotton earns at least 8 Annas per mile, and this I would respectfully submit is the data upon which the rate for "loose" cotton from the interior to Madras should be determined. The Company could probably afford to carry full pressed cotton at a cheaper rate, but, until it can be shown that a lower rate would stimulate increased production, there seems to be no sufficient reason why the present "full-pressed" rates should be reduced, if, as it is believed, they secure to the Railway all the traffic that can be expected legitimately to fall to its share.

6. As already stated, a wagon will carry 8 tons of "full-pressed" cotton, and, taking a train load at eighteen vehicles, an engine will haul 144 tons of paying load, while the same description of wagon will only carry three tons at most of "loose" cotton, and a paying train load of 54 tons only. Therefore, the relative cost of hauling "loose" and "full-pressed" cotton is as 2½ to 1, and, if the traffic by full pressing the cotton can be secured at 12 Pies per ton per mile, it does not seem unreasonable to ask 30 Pies per ton per mile for "loose" cotton. But the cost of hauling loose cotton is still greater than the figures given above, because while a train load of pressed cotton presents little surface to side winds, a train load of loose cotton, which is piled up to the maximum moving dimensions in order to secure a load of even 3 tons per wagon, presents a very large surface to side winds, and is therefore wagon for wagon more costly to haul.

7. There is still, however, another very important element for consideration, and that is the question of rolling stock. If it is intended to encourage the transport of loose cotton to the port of shipment instead of full-pressed cotton, a very considerable addition must be made to the present stock of engines and wagons, which has hitherto been found sufficient, except in cases of pressure, under the present system of pressing cotton up-country, and the interest on the cost of this additional stock will be another item to be added to the cost of carrying loose cotton.

8. Unless then the Board are of opinion that the existing rates for cotton, pressed as well as loose, are too high, I would not recommend the change advocated by Mr. Danvers; but, if it

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should be determined to adopt Mr. Danvers' suggestion, the Board will probably think it necessary to reconsider the "full-pressed" rates, in order to make them consistent, for the reasons I have urged, with the proposed "loose rate."

No. 352.

ORDER THEREON, 19th May 1876, No. 1,263.

RAILWAY, No. 39.

THE Consulting Engineer for Railways submits with the letter above recorded the results of the meeting convened at

the instance of Mr. Juland Danvers, Government Director of Indian Guaranteed Railways, for the purpose of taking into consideration measures calculated to conduce to economical working of the traffic on the Madras Railway. The proposals brought forward may be summarised as follows:—

- (1.)—The desirability of obtaining an early supply of more powerful locomotive engines.
- (2.)—The expediency of superseding the existing differential rate for loose cotton to Madras by a rate of 18 Pies per ton per mile.
- (3.)—Reduction of the rate for the staples of the country now included in the present first-class (12 Pies per ton per mile) to 9 Pies.
- (4.)—Reduction of the rates for piece goods from 18 to 10 or 11 Pies per ton per mile, with the view of fostering a return traffic up-country.
- (5.)—The introduction of a pick-up train once or twice a week in such districts as may be considered necessary, for the purpose of taking up goods between stations.
- (6.)—The chartering of a steamer for the purpose of bringing coal from Calcutta and taking back salt.

2. The first proposal has been unanimously agreed to. It is explained that of the existing stock of 106 engines available for working the traffic only thirty have cylinders 17 inches in diameter, the cylinders of the remainder being only 15 or 16 inches. The collective haulage power of the engines is therefore small, and is calculated to be less than that hauled on any other of the Indian Railways. Under these circumstances, it seems essential that locomotives of increased power should be provided.

3. The necessity for increased engine power was recognized by the officers of the Madras Railway so far back as January* 1872. The Government of India however declined† to sanction the indent submitted for additional locomotives, suggesting instead the utilization of surplus stock of other Railways. Acting on this suggestion, the Madras Railway became possessed of two engines from the Calcutta and South Eastern (State) Railway which are reported to be the smallest‡ in the Company's possession, and to have cost as much as would procure from England engines of a more powerful type.

* Locomotive Superintendent's letter, recorded with G.O., No. 390, dated 9th February 1872.

† Letter recorded with G.O., No. 928, dated 8th April 1872.

‡ Locomotive Superintendent's letter, recorded with G.O., No. 947, dated 10th April 1876.

4. The Madras Railway Engineers appear, however, to have urged a want of additional engines rather than of engines of greater power. It appears on consider-

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ation of the reports of the Railway Officers and of Consulting Engineer for Railways that the latter point is the one to be now aimed at, and that all new engines to be obtained should have 18 inch cylinders and boilers in proportion. The pattern of engine should receive careful consideration as a standard form for the Madras line. The Governor in Council does not, in expressing this opinion, omit to notice that on the main line at least heavier rails will also probably have eventually to be provided, and this should be kept in mind whenever purchases of new materials for permanent-way are made or ordered.

5. The second proposition is opposed by the Railway authorities as unsuited to the circumstances of the traffic.

6. No opposition is offered by the Railway Authorities to the third proposition, although they anticipate an immediate loss of revenue on short distance traffic should it be adopted. His Grace the Governor in Council desires that the officers consider and report whether a scale cannot be prepared which, while affording the concession for long distance, should avoid the anticipated loss referred to.

7. With reference to the fourth proposition, the Railway Authorities object to the extent of the proposed reduction. The rate should not, in their opinion, be less than 14 Pies per ton per mile. His Grace the Governor in Council considers that the partial reduction proposed by the officers of the Company may be carried into effect.

8. The fifth proposition is acceded to. The places where it is proposed to work must, however, be carefully selected as regards gradients, and suitable signals of a temporary character, if necessary, erected; or the experiment may lead to danger.

9. The Railway Authorities are of opinion that the sixth proposition is worthy of consideration, and in this view His Grace the Governor in Council fully concurs. A well organized scheme carefully carried out will be of material benefit. There seems reason to believe that, if the Madras Railway Company would contract for the supply of all the coal they require for three or five years, the Coal Companies will readily supply the freight themselves and keep up the steam power required. The salt trade it is understood would give return freights of great value. The Agent and Manager of the Company will be requested to prepare estimates of quantity and proposed draft forms of tender which should be submitted through the Consulting Engineer of Railways for the information of Government, and to take measures for ascertaining by public tender the terms which can be obtained.

(True Extract.)

To the Consulting Engineer for Railways.
" Editor's Table.

Exd. W. J. Lewis.
Spate Copies

Colonel,
Offg. Under Secy. to Govt., P.W.D.

RAILWAY DEPARTMENT

CONSULTING ENGINEER'S OFFICE.

Madras, 14th January 1876.

No. 74

From

LIEUT.-COLONEL J. H. M. SHAW-STEWART, R.E.,

Consulting Engineer for Railways,

To

MAJOR-GENERAL G. W. WALKER, R.E.,

Secretary to Government,

Public Works Department,

Fort Saint George.

*See notes on
Table of rates
14/4*

No 82

25 Jan'y: 76

with enclosure

*I have the honour to
lay before Government a letter from the
Agent of the Madras Railway, giving
over to the minutes of a meeting which
was held on the 21st December 1875, at
the instance of Mr. Fuland Danvers, the
Government Director of the Indian
Guaranteed Railway Companies, for
the purpose of discussing the working
of the Madras Railway, and with the
object*

object of suggesting measures for the improvement of the traffic.

2. It will be seen that the following six resolutions were proposed by Mr. Danvers:—

(1) That it is desirable that the earliest opportunity should be taken of obtaining a supply of more powerful locomotives, in order that the difficulty of taking heavy train loads up the severe gradients on the line may be removed, and economy of management secured.

(2.) That it is desirable that the differential rate now existing

existing for conveying loose cotton to Madras to be done away with, and that all such cotton be accordingly conveyed at 18 pios per ton per mile.

(3) That, with the view of increasing the traffic and meeting the requirements of the producers, the rates for the staples of the country, now included in the present first class, be reduced from 12 to 9 pios per ton per mile.

(4) That, with the view of promoting a return traffic

traffic up country, the
rates for piece goods be
reduced from 18 to 10 or 11
pies per ton per mile.

(5) That an experiment
be made in such districts
as the Traffic Manager
may recommend with a
pick-up train once or twice
a week, for the purpose of
taking on goods from places
situated at a long distance
from the two stations.

(6) That, with a
view of introducing Bengal
coal on the line, arrangements
be

be made with the Government ³
for chartering a steamer for the
purpose of bringing coal from the
Colcutta, and taking back ^{the}
salt.

3. The first resolution was
unanimously agreed to. During the
year 1874-75 the average load of goods
trains on the Madras Railway was
only $48\frac{1}{2}$ tons, being by far the
smallest of all the Indian Railways.
This is to be attributed in great measure
to the severity of the gradients, and to the
insufficiency of the engine power to haul
full loads up the inclines. The
lengths of steep gradients are, —
from

from 1 in 60 to 1 in 100 ————— miles
66

— " — 1 in 100 to 1 in 200 ————— 209

These are distributed over the whole of the Company's system, which comprises 857 miles. Excluding tank engines, which are used for shunting at stations and other special purposes, the number of engines available for working the traffic is 106. Of these only 30 have cylinders 17 inches in diameter; the cylinders in the remainder being only 15 and 16 inches.

4.

An application lately came forward for the addition of 10 engines to the existing stock; and, for the sake of economy, it was suggested to

utilise

Vide No of G.
29 Sept: 75
No 2803.

18 Nov: 75
No 3297

utilise a large quantity of duplicate stock now in store. With this object, it was proposed that only 6 of the 10 engines should have 17 inch cylinders, and that the remaining 4 should have 16 inch cylinders. From the papers

quoted in the margin, it will be seen that this application has not yet been

consideration of the matter has convinced me that all additions to the engine stock of the Madras Railway should have cylinders not less than 17 inches in diameter, with a stroke of 24 inches; and that it would be false economy to utilise the existing duplicate stock

in

in the construction of engines whose power would be insufficient to haul full train loads over the heavy gradients.

th 5. The second resolution, 85 with regard to the rates now in force

for the carriage of cotton, was opposed by the Agent and by the Traffic of Managers. Mr. Danvers' argument

was that differential rates for the same article were, as a rule, objectionable, and should if possible be abolished.

15 Upon the other hand, the Railway 4 officials hold that differential rates, varying according to localities, are in some instances necessary in order to attract the maximum of traffic to the railway;

railway; and they maintain that, in the special case of cotton, differential rates such as those now in force are essentially required in the interests of the company.

10. Full explanation regarding the existing cotton rates is contained in the Proceedings of Government noted in the margin. The rates themselves are given in an appendix to this letter. It will be seen that, on the North-west line, where the bulk of the cotton traffic is, loose cotton is conveyed at 36 pios per ton per mile, and class E pressed cotton at 14 pios per ton per mile. The avowed object in view

* 12 May: 75
No 1350

30 June: 75
No 1820

22 Jan: 76
No 166.

in

in fixing this heavy differential rate was to induce consignors to have the cotton pressed before sending it for despatch.

This policy has of late years been repeatedly asserted by the Company's officials, and has been endorsed both by the Directors and by the Government. The chief reason for it is that the greatest quantity of loose cotton that can be placed upon a wagon is 3 tons, whereas 8 or 9 tons of class E cotton can be loaded on the same vehicle. The inflammable nature of cotton in an unpressed state, and its liability to take fire, also add considerably to ^{the} risk involved in carrying it.

6
7. Besides the general rate of 36 pies per ~~ton~~ per mile for loose cotton, there is also a special rate of 18 pies for conveying it to a cotton-pressing station, such as Adoni, Bellary, and Buddahaly, and it is this rate which Mr. Danvers wishes to have universally applied. With two exceptions, this low rate is quoted only from stations North of a cotton-pressing station; and the Traffic Manager explains that the constant set of traffic on the North-west line is from North to South, so that the special rate enables the return empty wagons to be partly filled; in addition to which,

as Mr. Church observes, the cotton, so carried in a loose state, is afterwards carried in a pressed state over the same piece of line.

8. In paragraph 5 of his report, Mr Church explains that full pressed cotton bears a rate of 12 or 14 pies per ton per mile, and that there appears to be no valid reason for reducing that rate. He further argues that the rate for loose cotton should be determined with reference to that paid for pressed cotton. In this principle I agree; but the statement in paragraph 6 of his report, to the effect that loose cotton is, "wagon for wagon, more costly

to

to haul" than pressed cotton, does not seem quite correct. 12

9. The weight of a high-sided open goods wagon is 5.3 tons, and therefore a wagon loaded with cotton will weigh

$$\text{pressed} \text{---} 8 + 5.3 \text{---} = 13.3 \text{ tons}$$

$$\text{loose} \text{---} 8 + 5.3 \text{---} = 8.3 \text{ tons}$$

Assuming that the increased resistance on account of wind pressure, in the case of a wagon of loose cotton, adds 20 per cent to its nominal load, (by no means an excessive estimate,) the weight of a wagon of loose cotton would be 10 tons; and, if an engine hauls 18 wagons of pressed cotton, it will haul 24 wagons of loose cotton. In

other

other words, the cost of hauling 3 wagon loads of pressed cotton, or 24 tons, is the same as the cost of hauling 4 wagon loads of loose cotton, or 12 tons. Upon this supposition the rates should be as 2 to 1; but the set of traffic being entirely from North to South, it is necessary to allow for hauling the wagons back empty. The weights to be hauled per ton of cotton are,

<u>Pressed.</u>	<u>Loose.</u>
Down freight _____ tons	Down freight _____
— dead load _____ 66	— dead load _____ 2.33*
Up ————— 66	Up ————— 1.77
<u>2.32</u>	<u>5.10.</u>

* including percentage for extra wind pressure.

Assuming

Assuming the rate for pressed cotton to be 14 pios per ton per mile, that for loose cotton should be,

$$\frac{5.10 \times 14}{2.32} = 30.8 \text{ pios.}$$

It should be observed that this rate of 30.8 pios per ton per mile represents the difference in cost of haulage only. Something should be added to cover the increased risk involved in carrying loose cotton on account of its inflammable nature. And, as pointed out by Mr. Church, the cost of additional rolling-stock, and its maintenance, remain to be calculated in fixing a rate for loose cotton. Taking these items into consideration, I cannot see that

that, except in special cases, the rate for loose cotton should be less than 36 pies per ton per mile. As explained in the Proceedings of Government under date the 12th May 1875, No 1350, a special rate of 26 pies per ton per mile for loose cotton booked to Madras, in wagon loads of not less than 3 tons and at owner's risk of fire, has been lately quoted in the hope of securing the carriage of the cotton required by the Madras Spinning and Weaving Company, which must be brought in an unfused state. The circumstances which led to this rate being quoted are of an exceptional nature, and the rate is at present only experimental.

The

The result will be seen in due course.
11. The third resolution, having for its object the lowering of the rate for certain first class goods from 12 pies to 9 pies per ton per mile, is not objected to by the Railway officers; but they point out that its adoption will result in an immediate loss of revenue upon short distance traffic; and they show that the principal staples are now carried at a lower rate than 9 pies for all distances over 200 miles. This is incontrovertible; but at the same time the recommendation embodied in the resolution seems to me to be in the right direction. As bearing upon this subject

subject, the changes in the classification advocated by the Railway Traffic Commission in paragraph 19 of their report deserve attention.

12. The fourth resolution, regarding the reduction in the rates for piece goods, is objected to by the Railway Officers, not upon principle, but because in their opinion the resolution goes too far.

They recommend that the reduction in the rate for piece goods should be from 18 pios to 14 pios per ton per mile, instead of to 10 or 11 pios, as proposed in the resolution.

The traffic in piece goods is almost wholly up, (i.e. from Madras)

in

10
in the direction contrary to the general set; and, bearing this in view, I am not of opinion that it would be impolitic to adopt the rate named in the resolution, in the hope of increasing the return traffic; but it might be well to try first the effect of the change advocated by the Railway Authorities.

13. In connection with this matter, it should be borne in mind that, with a view to secure the traffic in piece goods, the greater portion of which is now carried by sea between Madras and Bombay, the Madras

Vide Pro of Govt.
10 March 75
No 676
15 June 75
No 1684

Railway Company proposed, in May 1874, a uniform through rate of 11 pios per ton

ton per mile on their line and the
Great Indian Peninsula Railway; but
that the Authorities of the latter Company
objected to a uniform mileage rate, and
offered to reduce their rate from 25 pies
to 12.44 pies, on condition that the Madras
Railway Company reduced their rates
from 18 to 9 pies. In May 1875 the
Government of India addressed the
Government of Bombay upon the subject,
expressing their opinion that, upon con-
tiguous railways, the rates for through
traffic should be the same. The action
taken by the Government of Bombay
and by the Great Indian Peninsula
Authorities in reply to that representation

is not known.

14. The fifth resolution, contain-
ing a recommendation for a pick-up train,
has been acceded to by the Railway
Officials, although they anticipated some
difficulty in giving effect to it. So far as I
know, the experiment has never been tried
in this Presidency; but, bearing in view
that, with 83 stations, the distance between
stations exceeds 12 miles in 29 instances,
the proposal seems to deserve trial.

15. The sixth and last resolu-
tion, having for its object the chartering of
a steamer for the purpose of bringing coal
from Calcutta, and taking back salt,
deserves serious consideration. In the
matter

matter of fuel, the Railway Companies
in this Presidency are placed at a great
disadvantage when compared with those
in other parts of India; and any measure
which would tend to reduce the cost of coal
would be a great boon to them. The

results of the experiments recorded in the
papers noted in the margin show that,
for locomotive purposes, Indian coal can
hold its own with either English or Austro-

lian coal. The price at present paid for
Bengal coal, delivered into store at Madras,
is Rs 20.10.0 per ton; and of this it is
probable that Rs 8 represents freight charges
from Calcutta to Madras. The difficulty
in obtaining a return cargo is the principal

bar

Pro of Govt.
16 Decr 74
No 3532
14 Decr 75
No 3524.

12
bar in the way of effecting any material
reduction in this item; but if the ar-
rangements contemplated in this reso-
lution can be carried out, and a
steamer chartered to convey alternate
cargoes of coal and salt, great advantage
would without doubt follow. The con-
sumption of coal upon the Madras
Railway is about 1000 tons per month;
but if a material reduction in
cost could be effected, it is not im-
probable that this figure would be
increased.

I have the honour to be
Sir
Yours most obedt Servt.
Mantworth H. O. R. E.
Comm: Engineer for Railways

Dear Sir,

South-west Line.

			Porton per mile 12 hrs
Cotton screwed to 35 lbs per cubic foot / E class /			
D ^e	25	do	14
D ^e	19	do	16
D ^e	15	do	19
D ^e	10	do	24
Loose cotton			36

Special rates

- Loose cotton from any station east of a cotton pressing station to the cotton pressing station, in wagon loads of not less than 3 tons, and at owner's risk of fire 18
- Loose cotton from all stations to Madras, in wagon loads of not less than 3 tons, and at owner's risk of fire 26

V. Muntenant
 L. Hall & Co
 Consignees Railways

No. 82

MADRAS RAILWAY.

AGENT AND MANAGERS' OFFICE.

Madras, 25th January 1876.

From

R. B. Quinn Esq.

Agent and Manager of the M. R. Co.

To

Robert J. Webb Esq. & Stewart, R.E.

Consulting Engineer for Railways.

SIR,

I have the honour to enclose herewith for submission to Government Minutes of the meeting held in my office on the 21st ultimo when Mr. Ireland Danvers, the Government Director of Indian Guaranteed Railway Companies, proposed certain Resolutions with regard to the working and traffic of this railway.

The Resolution proposed by Mr. Danvers as to the rates for cotton appeared to me to be so important that I called upon the Traffic Manager to make a special report upon the subject, a copy of which I now enclose in order that you may submit it to Government with the Minutes.

I think you will agree with me in thinking that as a new scale operates for pressed and loose cotton

M. 385/96

C 1280 - 12th
1487
January 1876.

10
was introduced so recently, as October last,
it will be prudent to await the result
of that experiment, before we make any
further alterations in our charges for
the conveyance of Cotton.

I have the honour to be,
Sir,
Your most obedient Servant.

Wm. Brown

Agent and Manager

50 13
20

Present:

Mr. Ireland Dances - Government Director
of Indian Guaranteed
Railway Companies.

Lieut Colonel Shaw Stewart R.E. Consulting
Engineer for Railways
to the Madras Port.

Captain M. H. Baker R.C. - Deputy - Do -
W. H. B. Church - Works Manager
Madras Railway
W. R. B. Elwin - Agent and Manager
Madras Railway.

Mr. Elwin stated that the meeting had been convened at the instance of Mr. Euland Danvers to discuss the want of development in the traffic on the Madras Railway and in the hope that some measures might be suggested for its improvement.

Iron *The Agent and Manager*

The Consulting Engineer

For Inquiry.

Dated 26 February 1910
 Recd. 26.

28

According to instructions
to Mr. J. H. Smith's of a
meeting held on the
27th instant with Mr.
J. C. and D. C. and
J. R. and O. S. and
H. L. and T. H. and
and H. L. of the same
factory.

Mr. 985
0/96.

18

(2)

The first subject which was brought under consideration was the small loads hauled by the Engines of the Madras Railway, and after discussion the following Resolution was agreed to: -

That it is desirable that the earliest opportunity should be taken of obtaining a supply of more powerful Locomotives in order that the difficulty of taking heavy train loads up the severe gradients on the line may be removed, and economy of management secured.

The question of the differential rates which are now in force for the carriage of Cotton was then discussed, and after viewing the question in all its bearings, the following Resolution was proposed by Mr. Dawson.

That it is desirable that the differential rate now existing for conveying loose Cotton to Madras be done away with, and that all such

19
Cotton be accordingly conveyed at 18
pico per ton per mile. *W*

Mr. Chau and Mr. Church
did not assent to this proposal; as
they considered that the difference
between the rates for loose and pressed
Cotton was too small and would in
all probability result in the Railway
Company again being called upon to
carry Cotton in loose bales instead
of pressed.

It should be stated that
while 4 tons of pressed Cotton can be
conveyed in a high sided open Goods
Wagon, a similar Wagon can only
carry 3 tons of loose bales - Cotton
must be pressed somewhere before it is
shipped, and it is certainly in the
interest of the Railway Company that it
should be conveyed over the Railway
in a pressed state, rather than loose
in bales.

The third resolution
proposed by Mr. Damento was to the

following effect.

That with the view of increasing the traffic and meeting the requirements of the Producers, the Rates for the staples of the Country, now included in the present first class, be reduced from 12 to 9 pice per ton per mile.

With regard to the Resolution the Officers of the Railway have no great objection to urge; though its adoption will doubtless result in an immediate loss of Revenue upon short-distance traffic, but they would point out that at the present moment the staples of the Country are carried at a lower rate than 9 pice per ton per mile, as the following illustration proves.

Yellow - (at owner's risk)	
Grain of all kinds -	do -
Ground nuts (in bags) -	do -
Jaggery -	do -
Malasses (in Casks) -	do -
Myrabolanes (in bags) -	do -
Sup. Vanica (unprepared or yellow cotton) -	do -
Oil Cake -	do -
Onion -	do -
Potatoes -	do -
Soap nuts (in bags) -	do -
Either in Sept. or later in consequence of 8 tons or Collee. -	
= lively in consequence of ment. aggregating -	
not less than 8 tons for distances of 500 miles and	

Soap Sand — (at owner's risk)
 Soap Iron and broken metal — do —
 Sugar brown Country — do —
 Amosind, Raw — do —
 Messers, Cannon — do —
 Wheat — do —

21
 6
 Less than 300
 miles are
 charged 8 pice
 per ton per
 mile, and for
 distances of 300
 miles and above
 at 10 1/2 pice per
 ton per mile.

Mr. Danners next proposed
 "that with the view of promoting a return
 traffic up country, the rates for Pese
 goods be reduced from 18 to 10 or 11 pice
 per ton per mile."

This rate the Officers of the
 Railway consider too low, when the
 value of the Pese goods is borne in mind.
 They however are prepared to recommend
 a reduction from 18 to 14 pice per ton
 per mile or from third to second class.

Two other resolutions proposed
 by Mr. Danners were to the following
 effect.

(1) That an experiment be made
 in such Districts as the Traffic

Manager may recommend with a
pick up train once or twice a
week for the purpose of taking on
goods from places situated at a
long distance between the two stations.

(2) - That with a view to introducing
Bengal Coal on the Line, arrangements
be made with the Government
for chartering a steamer for
the purpose of bringing coal
from Calcutta, and taking back
Salt.

With regard to the first
proposition the Affairs of the Railway
anticipate some difficulty in giving effect
to Mr. Dunder's views, but the Agent
promised to give the measure a trial,
and if found to answer, to adopt it
generally on sections of the Line.

The last suggestion as to the
chartering of a steamer, is a matter
entirely for the consideration of the
Government.

No doubt the introduction
of Bengal Coal at a reasonable rate

would be an immense advantage both to the Railway Company and to the Government. The principal difficulty which at present exists, viz the scarcity of freight from Calcutta to Madras, would be obviated if the Government see their way to adopt Mr. Dames's suggestion.

29
Fair copy of Paras 3 and 4 of draft G.O.
in letter from the Comd. Engrs for Railways
No. 14 of 5th Febr. 1876.

Para. 3.

The necessity for increased
Engine power was recognized
by the officers of the Madras
Railway so far back as
January 1872. The Govt. of
India however declined to
sanction the Indent submitted
for additional Locomotives,
suggesting instead the
utilization of surplus stock
of other Railways. Acting
on this suggestion the
Madras Railway became
possessed of two Engines
from the Calcutta and
South Eastern (State) Railway
which

* Locomotive Superintendent's letter
recorded with G.O. No. 390-9th
February 1872.

* Letter recorded with G.O. No. 928
dated 8th April 1872.

For Orders.

31

The Consulting Engineer for Railways submits the accompanying papers which contain the results of a meeting convened at the instance of Mr. J. P. Dammers, Government Director of Indian Guaranteed Railways, for the purpose of taking into consideration the question of the economical working of the traffic on the Madras Railway.

The following are the principal subjects brought under discussion, with the substance of the views of the Railway Authorities and the final remarks of the Consulting Engineer.

G. W.

P. O.

Propositions

Views of Railway Authorities

Remarks by Consulting Engineer

Orders of Government

1st The desirability of obtaining an early supply of more powerful locomotive engines

Unanimously agreed to

Of the existing stock of 106 Engines available for working the Traffic, only 32 have Cylinders 17 inches in diameter; the Cylinders of the remainder being only 15 or 16 inches. The Engines on the Madras Railway owing to their small haulage power and to the steep gradients to be surmounted do not take more than an average load of 48 1/2 tons per goods train; being the smallest of all the Indian Railways. Under these circumstances it is recommended that all additions to the Engine Stock should have Cylinders of not less than 17 inches in diameter with a stroke of 24 inches; notwithstanding that a large stock of duplicate gear of smaller dimensions is at present available in store.

I am quite of opinion that increased power is essential to profitable working - I think the increase should be to 18 inch. The pattern should be well considered on a great variety of patterns will be introduced which will be an asset - It must at the same time not be forgotten that the rails will also have to be heavier -

Not

W

M
8/5

2nd The desirability of super-seeding the existing difference in rate for loose cotton

This proposition is opposed by the Railway Authorities as involving the increased cost

The views of the Railway Authorities are virtually concurred in by the Consulting

I would ask the simplest question whether the Railway Company now Command Office actively the loose Cotton trade and if not, require it

Propositions

Views of Railway Authorities

Remarks by Consulting Engineer

Orders of Government

1st Cotton to Madras by a rate of 18 pice per dan per mile.

circumstances of the traffic. The grounds of their objections are fully stated in the Traffic Managers letter which accompanies these papers.

Consulting Engineer

Consideration
The relative rates for loose and full pressed Cotton seem fairly proportioned - but this is a high starting point, when as 5 or less is supposed to be the gross profit. 23

W. B.

3rd Reduction of the rate for the staples of the country now included in the present 1st class (12 pice per dan per mile) to 9 pice.

Not objected to by Railway Authorities; notwithstanding anticipated loss of Revenue by the adoption of the proposal.

Proposal concurred in by Consulting Engineer, and attention invited to para 19 of the report of the Railway Commission which deals with the subject of simplifying the classification of goods.

Mr. Portt might accept provisionally. What has been done on 18th 1896.

4th Reduction of the rates for piece goods from 18 to 10 or 11 pice per dan per mile with the view of fostering a return traffic up country.

Railway Authorities object to the extent of the proposed reduction. The rates should not in their opinion be less than 14 pice per dan per mile.

Consulting Engineer is not opposed to the original proposal, but suggests the adoption of the rate advocated by the Railway Authorities as a tentative arrangement.

Not sure? 14 aw. p.m.

5th The introduction of a pickup train once or twice a week in such districts as may be considered necessary.

Agreed to

Concurred in as an experiment

The places must be carefully selected as regards gradients & a well secured signal erected (it may of course be of a temporary nature) or the experiment may lead to danger. Portt

Propositions

Views of Railway
Authorities

Remarks by
Consulting Engineer

Orders of Government

necessary for the purpose
of taking up goods between
stations.

6th The chartering of a
steamer for the purpose
of bringing coal from
Calcutta and taking
back salt.

Railway Authorities
consider the introduction
of Bengal Coal at a
reasonable rate a great
desideratum and have
the consideration of the
question to the Government.

The Consulting Engineer
considers that great
advantage would accrue
if proper arrangements
can be made to convey
alternate cargoes of
Coal and Salt.

34
I think it very probable that
if this proposal be well
received & a charter obtained
on reasonable terms. The Rly. 1876
may be materially benefited
Bd

I have long held this to
be most important to both
the Railway Company and the
Coal trade of India - and also
to foreign interests - and
likely to become highly
profitable as it is perfectly
feasible; indeed, I believe
that I suggested the pro-
position to Mr. Danvers
himself simply and he
told me that he thought
that a proposal of the
Railway Company to purchase
a steam Collier for the
purpose would be favourably
received at Home.

I had a good deal of
communication with Mr. Robinson
the Agent for some of the
principal Coal Companies in
Calcutta while there in
January last. Mr. Robinson
assured me that it is a
mere matter of Contract
he held that of the Rly. was

If the Madras Railway Company
would contract for the
supply of all the coal,
they want for 3 or 5 years
(I forget which) the Coal
Companies will readily
supply the freight themselves
and keep up the steam
power required. He quite
saw that the salt trade
gave return freights of
great value.

Mr. Robinson promises
to visit Madras and see
to the matter before May
but had not come. Surely
it would be worth while
to send one of Col. Shaver
Stewart's assistants to
look into the subject at
Blenheim in connection
with the Coal
Agencies there and
Colonel Drummond. His
Honor S. M.

Cir. 4-5-76

Cir 10-2-76. O. L. Hunt 24 April

PROCEEDINGS of the MADRAS GOVERNMENT.

UNDER date the

READ the following:—

From

The Consulting Engineer
for Railways

} (H.E. No. 74 d/s 5th Feb. 1876)

The Consulting
Engineer for Railways
submits with the letter
above recorded the results
of the Meeting convened
at the instance of Mr.
Julian D. Danvers, Govt.
Director of Indian
Guaranteed Railways,
for the purpose of taking
into consideration measures
calculated to conduce
to economical working
of the traffic on the

Madras

Madras Railway.

The proposals brought forward may be summarized as follows:—

- (1) the desirability of obtaining an early supply of more powerful locomotive Engines.
- (2) the expediency of superseding the existing differential rate for loose Cotton to Madras by a rate of 18 pias per ton, per mile.
- (3) reduction of the rate for the staples of the country now included in the present first class (12 pias per ton per mile) to 9 pias.
- (4) reduction of the rates for piece goods from 18 to 10 or 11 pias per ton per

per mile, with the view of fostering a return traffic up country.

(5) the introduction of a pickup train once or twice a week in such Districts as may be considered necessary, to for the purpose of taking up goods between Stations.

(6) the chartering of a steamer for the purpose of bringing coal from Calcutta and taking back salt.

The first proposal has been unanimously agreed to. It is explained that of the existing stock of 106 Engines available for working the traffic only 30 have cylinders

cylinders 17 inches in diameter; the cylinders of the remainder being only 15 or 16 inches. The collective haulage power of the Engines is therefore small; and seeing that steep gradients have to be surmounted on many parts of the line, the average load per goods train is proportionately reduced, and is calculated to be less than that hauled on any other of the Indian Railways. Under these circumstances it seems quite essential to profitable working that increased locomotive power should be provided. All new Engines which

may

may be obtained should accordingly be provided with 18 inch cylinders. The pattern will require careful consideration and should be brought as far as possible into union with existing designs. It must at the same time not be forgotten that heavier rails will ^{also} probably ^{essentially} have to be provided & this should be kept in mind whenever purchases of new material are made or ordered. The second proposition is opposed by the Railway Authorities as unsuited to the circumstances of the traffic. But before giving his adherence to their views His Grace the Governor

in Council desires to be
assured that the Railway
Company can be held to
command effectively the
loose Cotton trade of
the Districts traversed
by their line. If not he
desires that proposition
2 may be further con-
sidered. The relative
rates for loose and full
pressed Cotton seem fairly
proportioned, but ~~the rates~~
per ton per mile is a high
starting point when 5 pie
or less is supposed to
represent the zero of
profit.

No opposition is
offered by the Railway
Authorities to the third
proposition, although they
anticipate

anticipate an immediate
loss of revenue in short
distance traffic should
it be adopted. His
Grace the Governor in
Council would accept
the change provisionally
pending report as to its
operation.

With reference to
the fourth proposition
the Railway Authorities
object to the extent of
the proposed reduction.
The rate should not in
their opinion be less
than 14 pies per ton
per mile. His Grace
the Governor in Council
considers that the partial
reduction proposed by the
Officers of the Company
may

From a report
of the Railway
Authorities
dated 1st Dec 1880
that the proposed
reduction of 5 pies
per ton per mile
would result in a
loss of revenue of
Rs. 1,00,000 per
annum.

may be carried into effect.

The fifth proposition is acceded to. The places where it is proposed to work must however be carefully selected as regards gradients, and suitable signals, of a temporary character if necessary, erected; or the experiment may lead to danger.

The Railway Authorities are of opinion that the sixth proposition is worthy of consideration, and in this view His Grace the Governor in Council fully concurs.

A well organized ^{scheme} ~~proposal~~ carefully carried out will be of material benefit

both

both to the Railway Company and ^{the} ~~the~~ trade of India, and also to Forest interests. There seems reason to believe that if the Madras Railway Company would contract for the supply of all the coal they require for 3 or 5 years the coal Companies will readily supply the freight themselves and keep up the steam power required.

The salt trade it is understood would give return freights of great value. The Agent and Manager of the Company will be requested to arrange for deputing ^{an} ~~a~~ ^{quantity} ~~a~~

a. Competent Officer
either of the Locomotive
or Traffic Department
to make enquiries at
Calcutta in communica-
tion with the coal Agencies
there and the Deputy
Secretary to the Govt.
of India in the Railway
Department.

Amr

22nd Sept 1901
To the Secretary
Railway Department
Calcutta
From the Secretary
Railway Department
Calcutta
In reply to your letter
of the 19th inst. regarding
the coal supply for the
Railway Department
Calcutta
I am, Sir, to inform
you that the coal supply
for the Railway Department
Calcutta is being
arranged by the
Railway Department
Calcutta.

Ex² Eds

Previously communicated
to Mr. James M. ...
10-5-

Amended

Chs 9.85

By shelf

GO- 19 May/76 No 1263

No 1263. ^{By} Public Works Department

PROCEEDINGS of the MADRAS GOVERNMENT. 41

UNDER date the 19 May/76.

READ the following:—

From
The Cons^l Eng^r for } (P.E. No 74 d^y 5th Feb. 1876)
Railways

12/5

The Consulting
Engineer for Railways
submits with the letter
above recorded the results
of the Meeting convened
at the instance of Mr.
Island Danvers, Govt.
Director of Indian Gua-
ranteed Railways, for
the purpose of taking
into consideration measures
calculated to conduce
to economical working
of the traffic in the
Madras Railway. The
proposals

proposals brought forward may be summarised as follows:-

- (1) the desirability of obtaining an early supply of more powerful locomotive Engines.
- (2) the expediency of superseding the existing differential rate for loose Cotton to Madras by a rate of 18 pies per ton, per mile.
- (3) reduction of the rate for the Staples of the Country now included in the present first class (12 pies per ton per mile) to 9 pies.
- (4) reduction of the rates for piece goods from 18 to 10 or 11 pies per ton per mile with the view of fastening a return traffic up Country.

28
31
le 2
(5) the introduction of a pick-up train once or twice a week in such Districts as may be considered necessary, for the purpose of taking up goods between Stations.

(6) the chartering of a Steamer for the purpose of bringing coal from Calcutta and taking back salt.

2. The first proposal has been unanimously agreed to. It is explained that of the existing stock of 106 Engines available for working the traffic only 30 have cylinders 47 inches in diameter, the cylinders of the remainder being only 15 or 16 inches. The collective haulage power of the Engines is therefore

therefore small, and is calculated to be less than that hauled on any other of the Indian Railways.

Under these circumstances it seems essential that locomotives of increased power should be provided.

3. The necessity for increased Engine power was ^{recognized} ~~suggested~~ by the officers of the Madras Railway so far back as January 1872, but was ~~not recognized by the~~ ^{however} Govt. of India ~~which~~ declined to sanction the indent submitted for additional Locomotives. ~~The suggestion~~ ^{instead} the utilization of surplus stock of other Railways; ~~and~~ acting on this suggestion

* Locomotive Superintendent's letter recorded with G.O. No 390-9th Feb'y 1872.

* letter recorded with G.O. 928-8th April 1872.

This paper has been seen by the ~~Engineers~~ ^{Engineers} of the Madras Railway and the ~~Government~~ ^{Government} of India. The ~~Government~~ ^{Government} of India has ~~not~~ ^{not} sanctioned the proposal for the purchase of Locomotives of increased power.

* Locomotive Superintendent's letter recorded with G.O. 947 of 10th April 1872.

4. The Madras Railway Engineers appear however ~~to~~ ^{to} have urged a want of additional Engines rather than of Engines of greater power. It appears on consideration of the ~~reports~~ ^{reports} of the Railway officers of our ~~own~~ ^{own} railways that the latter point is the one ~~the~~ ^{the} now aims at. ~~that~~

31
the Madras Railway ~~has~~ become possessed of two Engines from the Calcutta and South Eastern (State) Railway which are reported to be the [#] smallest in the Company's possession and to have cost as much as would procure from England Engines of a more powerful type.

All new Engines ~~which may be obtained~~ ^{have} should be provided with ~~18 inch cylinders~~ ^{18 inch cylinders in proportion}. The ~~Engines~~ ^{Engines} ~~should receive~~ ^{should receive} pattern with ~~regard~~ ^{regard} as a standard form for the Madras lines. ~~It does not~~ ^{It does not} ~~appear~~ ^{appear} that ~~the~~ ^{the} ~~Government~~ ^{Government} ~~is~~ ^{is} ~~not~~ ^{not} ~~forgetting~~ ^{forgetting} that in the ~~main~~ ^{main}

the main line at least heavier
car rails will also probably
the have eventually to be pro-
vided; and this should
be kept in mind whenever
it purchases of new materials for permanent way
are made or ordered.

5 The second pro-
position is opposed by
the Railway Authorities
as un suited to the cir-
cumstances of the traffic.

6 No opposition is
offered by the Railway
Authorities to the third
proposition, although
they anticipate an im-
mediate loss of revenue
on short distance traffic
should it be adopted.
His Grace the Governor
in Council desires that
the

the officers consider and
report whether a scale
cannot be prepared which
while affording the com-
pensation for long distance
should avoid the anti-
cipated loss referred to.

With reference to
the fourth proposition
the Railway Authorities
object to the extent of
the proposed reduction.

The rate should not in
their opinion be less
than 14 piers per ton per
mile. His Grace the
Governor in Council con-
siders that the partial
reduction proposed by
the officers of the Com-
pany may be carried
into effect.

The

8 The fifth proposition is acceded to. The places where it is proposed to work must however be carefully selected as regards gradients, and suitable signals, if a temporary character if necessary, erected, or the experiment may lead to danger.

9 The Railway Authorities are of opinion that the sixth proposition is worthy of consideration, and in this view His Grace the Governor and Council fully concurs.

A well organized scheme carefully carried out will be of material benefit. There seems reason to believe that

which is the substance of the
Cons. Eng. of N. W. for the
improvement of the

C. E. Smith
B. 17
Dec 8/6

33
that if the Madras Railway Company would contract for the supply of all the coal they require for 3 or 5 years the coal Companies will readily supply the freight themselves and keep up the steam power required. The salt trade it is understood would give return freights of great value. The Agent and Manager of the Company will be requested to prepare estimates of quantity and ^{proposed draft} forms of tender and to take measures for ascertaining by public tender the terms which can be obtained.

C. W. W.

985/1A

Gobt. of Madras.
PUBLIC WORKS.

To
The Commr. of P.W.D.

Dated
Encl.
Recd.

G. O. 19 May 1876, No. 1243

Nos. 357 2

Encl. 10-1-76

Economical ~~working~~ working
of Traffic in Madras

Passing orders on papers submitted by the Comr. for P.W.D. containing the Results of a meeting convened at the instance of Mr. Inland Revenue, Comr. Director of Indian Guaranteed P.W.D. for the purpose of taking into consideration the question of the