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MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.	2803-64 (Ry)	Press
~~B.P. No.~~		~~Mis.~~
Dated	29-7-	1875

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
29th September 1875.*

No. 636. 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, 18th September 1875, No. 519:—

I HAVE the honor to submit letter No. 921, dated 2nd September 1875, with enclosure, from the Agent of the Madras Railway, and to request that the sanction of the Government of India may be obtained to the indent* for ten locomotive engines and tenders being forwarded to the Board of Directors for compliance, the estimated cost being Rupees 2,88,000.

* No. 178.

2. In letter dated 11th March 1872, No. 387 G. R., the Government of India expressed the opinion that, from the Proceedings of Government, dated 8th April 1872, No. 928. information then furnished, it did not appear that any addition was necessary to the stock of locomotives on the Madras Railway; but if it should be shown hereafter that the present number was insufficient for the proper working of the traffic, they considered that the surplus stock of other Railways should be utilized before any fresh purchases were made from England. No further information would appear to have been furnished as to the necessity for the engine asked for; but in May 1873 the Locomotive Superintendent proceeded to Calcutta to inspect the whole of the surplus stock of the different lines, with the result that two 17-inch cylinder six-wheel coupled engines were purchased from the East Indian Railway, and two engines of a lighter description from the Calcutta and South Eastern (State) Railway. Owing, however, to some difficulty in getting the East Indian engines run on to the Madras Railway, in consequence of the break at the Kistna river, the engagement fell through.

3. The two engines from the Calcutta and South Eastern were purchased for Rupees 16,798; and an estimate of Rupees 19,000 has been sanctioned for putting them in working order, thus bringing their value to Rupees 35,798, or about what it would cost to deliver one engine complete from England. The Acting Locomotive Superintendent states, however, that these engines are of a much lighter description than is now required, but it seems probable that the 17-inch cylinder engines of the East Indian Railway—should there still be any available—would be equal to the work required of them. A copy of Mr. Barton Wright's letter, No. 73, dated 19th February 1873, containing a report on these engines, is enclosed for the information of Government.

4. At present the Madras Railway Company possess 128 engines in all; and there appear to be two questions for consideration in connection with the indent now submitted:—(1) Is such a large number of engines as ten required? and (2), If required, should they be obtained from England, or from the surplus stock of the Companies?

*Proceedings of the Madras Government, Public Works Department,
29th September 1875.*

5. The following list has been prepared to show the average work performed by each engine on the principal guaranteed lines, the particulars being taken from the Revenue Analysis for the last two half-years to hand:—

	Average train miles per day for each Locomotive at work.	Average train miles per day for each Locomotive erected.	No. of Engines erected per open mile.	Percentage of Engines constantly under repair.
<i>Second-half of 1873.</i>				
East Indian Main	43	33	359	23
Do. Jubbulpore Branch	31	25	188	19
Eastern Bengal	54	25	275	35
Great Indian Peninsula	35	26	259	25
Bombay, Baroda and Central India	31	25	206	18
Madras	65	44	147	32
South Indian	39	35	150	12
<i>First-half of 1874.</i>				
East Indian Main	62	51	375	17
Do. Jubbulpore Branch	57	50	179	12
Eastern Bengal	58	35	272	40
Great Indian Peninsula	52	40	265	23
Bombay, Baroda and Central India	47	33	193	19
Madras	59	42	147	28
Great Southern	44	37	126	14

It will be seen that, during the half-year ended 31st December 1873, the average work performed by engines on the Madras Railway was larger than on any of the other lines; while in the following half-year it bears a fair comparison, notwithstanding the great influx of traffic on several of the lines in connection with the famine relief.

6. In January 1872, the number of engines required for working the ordinary traffic of the line was eighty-four, to which must be added those employed for engineering and locomotive purposes, in order to ascertain the total number required to be kept in working order. During the two half-years under review, the average number of engines available for work was eighty-six and ninety-one, and when the increase* in the train mileage is considered, it will be apparent that the margin allowed for a sudden influx of traffic is too small. I am therefore of opinion that the addition of ten locomotives to the present stock is necessary.

7. With reference to the second point, viz., the expediency or otherwise of procuring the engines from England, the objections urged by the Company against the surplus engines of other Companies are that they are not always fitted with the latest improvements, and that they cause a multiplication of the classes, which is considered undesirable. The argument in favour of obtaining them from other Companies is weakened in this particular case by the fact that duplicate parts, representing unremunerative capital to the value of Rupees 1,03,477, will be used up in the engines which it is now proposed to construct; and, considering the objections urged by the

*Proceedings of the Madras Government, Public Works Department,
29th September 1875.*

Company, it will probably be considered that the balance of advantage is in favour of obtaining from England new engines specially adapted to the requirements of the line.

From W. B. WRIGHT, Esq., Locomotive Superintendent, to R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, dated Perambore Works, 19th February 1873, No. 73.

I HAVE received the tracings of the East Indian Railway Company's 17-inch cylinder six-wheel coupled engines and tenders, forwarded with your letter No. 585 of the 18th instant, and the engines appear to me to be well proportioned and designed and generally well adapted for our requirements. The crank axles appear to be somewhat light for the size of cylinder, and the pistons are peculiar in construction and in mode of attachment to their rods. Some alterations and additions will be necessary to adapt them to the circumstances of the portions of our line over which they will be required to work, but these can be executed in our shops.

2. I think that we shall require ten of these engines, but I would recommend that we purchase, in the first instance, two engines and tenders only, and after a month's trial of them make final arrangements regarding the purchase of the others.

3. I should be glad to know whether the East Indian Railway Company be willing to arrange to work the engines to Raichore, and, if so, at what price they will deliver.

4. This Company will undertake to send a competent man to pass each engine before leaving the East Indian Railway.

5. I may mention that the engines offered by the Calcutta and South Eastern State Railway are not suited to our wants.

Letter from Consulting Engineer to Government of India for Guaranteed Railways, to Consulting Engineer to Government of Madras, No. 1,991, dated 24th September 1872.

6. I will repack and return the East Indian Railway Company's tracings when done with.

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, 2nd September 1875, No. 921.

I HAVE the honor to forward you herewith an indent* on the Board of Directors for ten locomotive engines and tenders, estimated to cost Rupees 2,88,000, and I request that you

* No. 178 in duplicate.

will be so good as to communicate to me the authority of Government for the transmission of the indent to England for compliance.

2. I also enclose, for the information of Government, copies of two letters from the Acting Locomotive Superintendent, Nos. 329 and 367, dated respectively the 23rd July and 9th August 1875, in which explanation is afforded as to the necessity for increasing the locomotive stock of this Company.

3. With reference to the concluding paragraph of letter No. 367, and to the conversation which took place at the Stores Committee Meeting held on the 13th ultimo, I beg to state that the value of the duplicate parts of engines now in store, which it is proposed to make use of for the engines included in this indent, is Rupees 1,03,477-4; a large sum which it is undoubtedly most important should be utilized, and it is not probable that we shall ever be able to dispose of these duplicate parts to other Railway Companies.

4. A suggestion was also made at the Meeting of the Committee as to the engines which the South Indian Company has for disposal. It did not occur to me at the time, but I now beg to remind you that these engines have already been examined by the Acting Locomotive Superintendent and declared not to be sufficiently powerful to meet the requirements of our traffic, viz., my letter to you, No. 695 of the 5th of August 1874.

Inspection Report

Open line
Southern
Extension.

The new open line between Trichinopoly and Madura is improving fast as far as Ammandathanor. Thence to Madurai additional gangs and probably extra subordinate superintendence will be needed to bring the line up to the same standard as the parts more favoured as regards ballast and longer finished. I judge from my inspection that for the safety of passengers it would be well to increase the establishment along this portion.

Watering
arrangements.

The temporary watering arrangements for this portion of the line are sufficient, the permanent ones are in progress.

The position of the unopened line as regards completion at the time of my inspection was as follows:

Progress of
line South of
Madurai.

From the north the engine ran as far as the 14th mile, from the south on the 8th September the engine ran to the 15th mile from Trichinopoly.

The rate of laying the permanent way from each face is usually estimated at 1/2 mile per day; but any irregularity or insufficiency in the supply, such as finding more of one description of stones than another, or a disproportionate supply, or the state of the bank at formation

*Proceedings of the Madras Government, Public Works Department,
23rd September 1875.*

From E. C. BOODLE, Esq., Acting Locomotive Superintendent, to R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, dated Perambore Works, 23rd July 1875, No. 329.

I BEG to forward, herewith, five copies of an indent, in the usual form, on the Board of Directors for ten locomotive engines and tenders, required by this department.

2. In this office letter to your address, No. 7 of the 7th January 1872, Mr. Wright has fully stated the reasons that, in his opinion, rendered it desirable that our locomotive stock should be increased at that time, and I scarcely think therefore that it is necessary for me to say anything further upon this point.

3. A large increase in the mileage has been experienced since Mr. Wright's recommendation was made, and his conclusions as to the heavy repairs which might be looked for have been fully borne out. We are frequently much pressed to provide sufficient power to meet the requirements of the traffic, and owing to our inability to carry out the heavy repairs required by many of our engines, as rapidly as they become necessary, we are often obliged to keep engines out, and at work, for periods far in excess of what we should otherwise do were our locomotive stock larger.

4. A considerable increase in our mileage may also, I presume, be anticipated during the construction of the Madras Harbour, which will, I fear, put us to still further inconvenience; and under the circumstances stated, I trust that you will kindly ask the Consulting Engineer to be good enough to request that the necessary sanction may be accorded to the indent now forwarded with as little delay as possible.

5. On reference to the indent it will be observed, that a remark has been made in the case of each of the classes of engines, that certain portion of the gearing, &c., are to be "excepted." These are articles which will not be required, as, when the engines were originally supplied, several sets of duplicate parts were also sent out, and as we are now able to manufacture or repair, in our shops here, such of these parts as may from time to time be required, I do not think that it is necessary to keep such a large stock of duplicate parts in store. In the event, therefore, of the indent receiving the sanction of Government, the engines should be supplied, identical with the original ones, and finished and complete in every respect, with the exception only of the several parts mentioned under each of the respective classes of engines.

6. A request has been made in the case of the four-wheel coupled (driving and trailing) Sharp's passenger engines, that the "driving and trailing springs should be coupled with compensating beams, each end of which should be of equal length." These engines, when originally supplied, had their driving and trailing springs coupled by beams, one end of which was 7 inches longer than the other. This threw a greater weight upon the driving wheels, and caused the engines to ride very roughly. The beams have since been altered in the manner stated, and the effect has been to distribute the weight more evenly, and to make the engines run much more steadily.

7. With reference to the four-wheel coupled Beyer's goods engines, I have asked for them to be fitted with cylinders of the same dimensions as those originally supplied, viz., 16" x 22", but as it would be a very great advantage to increase the heating powers of this class of engine, I would beg to suggest that the engines now indented for should be provided with cylinders 17" x 22". The sets of duplicate gearing we have in stock, the wheels, crank axles, &c., are all, I think, quite strong enough to stand the strain due to the increased inch in cylinder diameter, and they will all, with the exception of the valve spindles, and valve spindle crossheads which we can arrange to alter here, suit an engine with cylinders of this diameter equally well with one, the cylinders of which are of the original dimensions, viz., 16" x 22".

8. There is a difference of about 100 square feet between the heating surface of these engines and that of our large 17-inch cylinder goods engines, but, as the stroke of the latter engines is 24

*Proceedings of the Madras Government, Public Works Department,
29th September 1875.*

inches, which it is not proposed to make any alteration in this dimension in the engines now asked for, and, as several of the latter are at present running with as many as 15 and 20 tubes

(17-inch cylinders)

stopped up, I scarcely think that this difference in the heating surface would materially affect the steaming powers, or that it would be necessary to deviate in the dimensions of the new boiler from those of the boilers of the original engines; should, however, the suggestion I have made meet with Sir John Hawkshaw's approval, it would perhaps be well to refer this point to him for his opinion before actually ordering the engines.

9. It has been found that the tyres of the last lot of engines supplied by Messrs. Sharp Stewart and Co. in 1869, which were fastened to the skeletons by set screws screwed into the flanges of the tyres from the inside of the wheels, have worn much better than those of previous engines, which were simply bolted on with conical bolts, I have therefore specified that all tyres of the engines now indented for should be fastened in the same manner.

10. Particular attention is also drawn to the necessity of having the copper fireboxes rivetted throughout with copper, instead of iron rivets, as in all cases where the latter have been used it has been necessary to replace them with copper studs within a very short period; this being a most laborious and expensive operation.

11. I forward with this letter a tracing showing an arrangement we have adapted to the leading wheels of Sharp's passenger engines and of the larger 17-inch cylinder goods engines, and to the leading and trailing wheels of Beyer's 16-inch cylinder goods engines, and of Sharp's 16-inch cylinder four-wheel coupled mixed engines (last lot), and, I think, it would be advisable to adapt it also in the same manner to the engines now ordered.

12. I would also suggest that all axle box brasses, and connecting rod large end brasses, should be cored out and filled in with Babbett's patent metal, which we find gives very little or no trouble in work.

From E. C. BOODLE, Esq., Acting Locomotive Superintendent, to R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, dated Perambore Works, 9th August 1875, No. 367.

With reference to your letter No. 2,625, of the 28th ultimo, I beg to inform you that, so far as I am aware, the only spare engines offered for sale by other Railway Companies are those in possession of the East Indian, Scinde, Punjab and Delhi, and Calcutta and South Eastern State Railways.

2. Mr. Wright has already reported fully upon the first of these, viz., the engines belonging to the East Indian Railway, in his letter to your address, No. 73, dated 19th February 1873, and although upon his subsequently examining them, when in Bengal, he did not, I believe, very much approve of their general make and finish, it would, I dare say, be possible, with some alterations, to adapt them to our requirements.

3. Some correspondence, I believe, took place between Mr. Wright and the Agency of the East Indian Railway Company regarding the purchase of two of these engines, and, so far as I remember, there was some difficulty regarding the terms.

4. The Scinde, Punjab and Delhi Railway had, I am informed, five engines of a class that would suit us, but I think that although in this case also Mr. Wright made an offer for them, the terms upon which they were tendered rendered it inadvisable to purchase them.

5. With regard to the engines offered for sale by the Calcutta and South Eastern Lines, I fear that the condition in which we have found the two engines which have already been purchased from that Company, and the repairs which we have been compelled to execute to them, are such that it would not be worth this Company's while to take any more of them, particularly as they are of a much lighter description than we require.

*Proceedings of the Madras Government, Public Works Department,
29th September 1875.*

Taking into consideration, however, the fact that it is proposed, in constructing the engines for which I have now indented, to utilize the large stock of duplicate parts which we have in store, and of which we are unable at present to make any use, and that by so doing we should not be increasing the numbers of the classes of engines that we now have, I trust that the Government may be pleased to accord early sanction to the indent I have forwarded.

Nos. 637 & 638. ORDER THEREON, 29th September 1875, No. 2,803.

RAILWAY, No. 50-A.

His Excellency the Governor in Council is of opinion that, looking to the work performed by the engines of the Madras Railway as compared with those of other Indian Railways, and to the fact that the conveyance of material for the Madras Harbour Works will still further increase the amount of work to be done, an increase in the locomotive stock is absolutely necessary, and that the ten engines indented for are no more than are required. There still remains the question as to whether these engines shall be obtained from home or from the surplus stock of other Guaranteed Companies; and this point must be left for the decision of the Government of India. Special attention will, however, be invited to the objections raised by the officers of the Company to the engines obtainable in India; and to the fact that by indenting on the Board of Directors, the Company will be enabled to utilize duplicate stock to the value of upwards of one lakh of Rupees which must otherwise remain unremunerative.

(Here enter No. 2,804, dated 29th September 1875.)

(True Extract.)

Major-General, R.E.,
Secretary to Government.

To the Consulting Engineer for Railways.

Exd. S. T. Austin.
Spare Copies

PUBLIC WORKS DEPARTMENT,
OOTACAMUND, 29th September 1875.

No. 639.

No. 2,804.

FROM

MAJOR-GENERAL G. W. WALKER, R.E.,
*Secretary to the Government of Madras,
Public Works Department,*

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

RAILWAY, No. 50-B.

SIR,—I am directed to forward herewith an indent on the Board of Directors of the Madras Railway for ten engines and tenders, the approximate cost being Rupees 2,88,000; and I am to invite the attention of the Government of India to the correspondence by which it is accompanied and the Proceedings of Government thereon.

I have the honor to be,

Sir,

Your most obedient servant,

Major-General, R.E.,
Secretary to Government.

Exd. S. T. Austin.
Spare Copies

Railway Department.

CONSULTING ENGINEER'S OFFICE.

No. 516 Madras 18 Sept 1875

From

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

Consulting Engineer for Railways,

To

Major Genl.
COLONEL G. W. WALKER, R.E.,

Secretary to Government,

Public Works Department,

Fort Saint George.

SIR,

I have the honour to submit letter No. 921, dated 2^d Sept. 1875, with enclosure from the Agent of the Madras Railway and to request that the sanction of the Government of India may be obtained to the indent for ten locomotive engines and tenders being forwarded to the Board of Directors for compliance, the estimated cost being Rs 2,88,000.

2. In letter dated 11th
March 1872, No 387-G-R, the
Government of India expressed the
opinion that, from the informa-
tion then furnished, it did not
appear that any addition was
necessary to the stock of locomo-
tives on the Madras Railway;
but, if it should be shown here-
after that the present number
was insufficient for the proper
working of the traffic, they con-
sidered that the surplus stock of
other Railways should be utilised
before any fresh purchases were
made from England. No further
information would appear to have
been

Pro. of Govt. of
8th April 1872
No 928.

Vide Pro. of Govt.
dated 19 May 1873
No 1591 and 26
August 1873
No 2134.

2
110
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but, in May 1873, the Locomotive
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six-wheel-coupled engines were
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and two engines of a lighter
description from the Calcutta and
South Eastern (State) Railway.
Owing, however, to some difficulty
in getting the East Indian
Engines run on to the Madras
Railway, in consequence of the
break at the Krishna river, the
engagement fell through.

3. The two engines from the Calcutta and South Eastern were purchased for Rupees 16,798; and an estimate of Rs 19,000 has been sanctioned for putting them in working order, thus bringing their value to Rs 35,798, or is about what it would cost to deliver one engine complete from England. The Acting Locomotive Superintendent states however that these engines are of a much lighter description than is now required, but it seems probable that the 17 cylinders of the East Indian Railway - should there still be any available - would be equal to

38
to the work required of them. A copy of Mr Barton Wrights letter N^o 73 dated 19 February 1873, containing a report on these engines, is enclosed for the information of Government. 4. At present the Madras Railway Company possess 128 engines in all; and there appear to be two questions for consideration in connection with the report now submitted, (1), Is such a large number of engines as is required? and (2), If required, should they be obtained from England, or from the surplus stock of Companies?

5. The following list has been prepared to show the average work performed by each engine on the principal Guaranteed lines, the particulars being taken from the Revenue Analysis for the last two half-years to hand:

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<u>2nd half of 1873.</u>				
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do. Jubbulpore branch	31	25	188	19
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It will be seen that, during the half-year ended 31st December 1873, the average work performed by engines on the Madras Railway was larger than on any of the other lines; while in the following half-year it bears a fair comparison, notwithstanding the great influx of traffic on several of the lines in connection with the famine relief.

6. In January 1872, the number of engines required for working the ordinary traffic of the line was 84, to which must be added those employed for engineering.

Engineering and locomotive purposes
in order to ascertain the total
number required to be kept in
working order. During the two
half-years under review the average
number of engines available for
work was 86 and 91; and, when

the increase in the train
mileage is considered, it
will be apparent that the
margin allowed for a
sudden influx of traffic
is too small.

I am therefore of
opinion that the addition of new
locomotives to the present stock
is necessary.

With reference to the
second

Half year	Train miles
$\frac{1}{72}$	853,544
$\frac{2}{72}$	885,226
$\frac{1}{73}$	1,040,031
$\frac{2}{73}$	974,845
$\frac{1}{74}$	967,850
$\frac{2}{74}$	957,623

second point, viz, the expediency or
otherwise of procuring the engines
from England, the objections
urged by the Company against
the surplus engines of other
Companies are that they are
not always fitted with the
latest improvements, and that
they cause a multiplication of
the classes which is considered
undesirable. The argument
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from other Companies is
weakened in this particular
case by the fact that dupli-
cate parts, representing unre-
numerative capital to the
value of Rupees 1,03,477, will

will be used up in the engines
which it is now proposed to con-
struct; and, considering the
objections urged by the Company,
it will probably be considered
that the balance of advantage
is in favour of obtaining from
England new engines specially
adapted to the requirements of
the line.

I have the honour to be,
Sir,

Your Most Obedt Servant,

Wm. T. H. H. E.

Genl. Engrs. Railway

Madras Railway

Locomotive Superintendents Office

Preamble Works

19th February 1873

No. 73

To The Agent and Manager

Dear Sir,

I have received the Drawings of the East Indian Railway Company's 17 inch cylinder beam coupled engines and two sets forwarded with your letter No. 585 of the 18th instant, and the engines appear to me to be well proportioned and designed and generally well adapted for our requirements. The crank axle appears to be somewhat light for the size of cylinder, and the pistons are peculiar in construction and in mode of attachment to their rods. Some alterations and additions will be necessary to adapt them to the circumstances of the service of our line over which they will be required to work, but these can be executed in our shops.

I think that we shall require (10) ten of these Engines, but I would recommend that we purchase in the first instance two (2) Engines and Tenders only and after a month's trial of them make

final

24. May 173 No 332 V 333
 15. Oct 173 No 207 6209
 26. Oct 173 No 138 94139
 19. May 173 No 295 6229
 11. Oct 172 No 176 9174
 30. Oct 172 No 225 226524
 8. Oct 172 No 123 4124
 9. Oct 172 No 166 67168

RAILWAY DEPARTMENT
 From No. 6014

To The Consulting Engineer,
 for Railways,

The Secretary to Government,
 P. W. Department,

Fort Saint George,

Dated 18th Sept 1873

Recd. 20th Sept 1873

E. S. L. No. 519

16. 2823. 29-9-75.

Subscribed for
 The construction of the Madras
 No. 178. per 10. Dec.
 Engineers and Locomotives
 Required for the Madras

No. 636

24-9-75 No 299
 21-9-75 No 299

final arrangements regarding the purchase of the others.

3. I should be glad to know whether the East Indian Railway Company be willing to arrange to work the Engines to Panchoor, and if so at what price they will deliver.

4. The Company will undertake to send a competent man to safe each Engine before leaving the East Indian Railway.

5. I may mention that the Engines offered by the Calcutta Letter from Genl. Engineer to Govt. of and South Eastern India for guaranteed Railways State Railway are not to Genl. Engineer to Govt. of Madras suited to our wants. N^o 1991, dated 25th September 1872.

6. I will repack and return the East Indian Railway Company's tracings when done with.

Yours faithfully

per Wm. Barton Wright

Loco. Superintendent

1 True Copy

per Robert B. Elwin

Agent and Manager

1 True Copy

Wm. Barton Wright

Consulting Engineer for R. & C.

No. 921

MADRAS RAILWAY.

AGENT AND MANAGERS' OFFICE.

Madras, 2nd September 1876.

From

R. B. Elwin Esq.
Agent and Manager. R. & C.

To

Mr Col J. H. Shaw Stewart, R.E.
Consulting Engineer for Railways.

Sir,

78

notes

I have the honour to forward you herewith an Indent on the Board of Directors for 10 Locomotive Engines and Tenders, estimated to cost Rs. 2,80,000, and I request that you will be so good as to communicate to the authority of Government for the transmission of the Indent to England for compliance.

I also enclose for the information of Government copies of two letters from the Acting Locomotive Superintendent - Nos 329 and 367 dated respectively the 23rd July and 9th August 1875, in which explanation is afforded as to the measure for increasing the Locomotive stock of this Company.

With reference to the enclosed paragraph of letter No 367, and to the conversation which took place at the Stores Committee meeting held on the

1/10/76

25.8/18
18th ultimo. I beg to state that the value
of the duplicate parts of Engines now in
store, which it is proposed to make use of
for the Engines included in this Indent,
is Rupees 103,477-7-4, a large sum which
it is undoubtedly most important should
be utilised, and it is not probable that
we shall ever be able to dispose of these
duplicate parts to other Railway companies.

4. A suggestion was also made
at the meeting of the Committee as to the
Engines which the South Indian Company
have for disposal. It did not occur to
me at the time, but I now beg to remind
you that these Engines have already
been examined by the Acting Provincial
Superintendents and declared not to be
sufficiently powerful to meet the re-
quirements of our traffic, vide my letter
to you at B. 695 of the 5th of August 1871.

I have the honour to be,
Sir,

Your most obedient servant

W. J. P. W. W.

Agent & others

Copy

N^o 329

Madras Railway
Locomotive Superintendent's Office
Perrambore Works
23rd July 1875.

The Agent and Manager

Dear Sir,

I beg to forward herewith five copies of an Indent, in the usual form, on the Board of Directors for 10 Locomotive Engines and Tenders, required by this Department.

2. In this office letter to your address N^o 7 of the 7th January 1875, Mr. Wright has fully stated the reasons that, in his opinion, rendered it desirable that our Locomotive stock should be increased at that time, and I scarcely think therefore that it is necessary for me to say anything further upon this point.

3. A large increase in the mileage has been experienced since Mr. Wright's recommendation was made, and his conclusions as to the heavy repairs which might be looked for, have been fully borne out. We are frequently much pressed to provide sufficient power to meet the requirements of the Traffic, and owing to our inability to carry out the heavy repairs required by many of our Engines, as rapidly as they become necessary, we are often obliged to keep Engines out, and at work, for periods, given excess of what we should otherwise have our Locomotive stock larger.

4. A considerable increase in our mileage may

MADRAS RAILWAY.

From,

The Agent and Manager.

To

The Consulting Engineer

for Railways.

Recd 2nd September 1875
N^o 3.
N^o 6921.

Resolving for the
the Agent in the
Board of Directors
for 10 Loco: Engines

W. C. 14/25

may also, I presume, be anticipated during the construction of the Madras Harbour, which will, I fear, put us to still further inconvenience, and under the circumstances stated, I trust that you will kindly ask the Consulting Engineer to be good enough to request that the necessary sanction may be accorded to the Indent now forwarded with as little delay as possible.

5. On reference to the Indent it will be observed that a remark has been made in the case of each of the classes of Engines, that certain portions of the gearing &c. are to be "excepted". These are articles which will not be required, as when the Engines were originally supplied, several sets of duplicate parts were also sent out, and as we are now able to manufacture or repair, in our shops here, such of these parts as may from time to time be required, I do not think that it is necessary to keep such a large stock of Duplicate parts in store. In the event, therefore, of the Indent receiving the sanction of Government, the Engines should be supplied, identical with the original ones, and finished and complete in every respect, with the exception only of the several parts mentioned under each of the respective classes of Engines.

6. A request has been made in the case of the four-wheels coupled (Driving and Trailing) Sharp's Passenger Engines that the "Driving and Trailing Springs should be coupled with compensating Beams, each end of which should be of equal length." These Engines

when

298/
when originally supplied, had their Driving and Trailing springs coupled by Beams, one end of which was 7" longer than the other. This threw a greater weight upon the Driving Wheels, and caused the Engines to ride very roughly. The Beams have since been altered in the manner stated, and the effect has been to distribute the weight more evenly, and to make the Engines run much more steadily.

7. With reference to the four wheels coupled Beyer's Goods Engines, I have asked for them to be fitted with Cylinders of the same dimensions as those originally supplied, viz. 16" x 22", but as it would be a very great advantage to increase the hauling powers of this class of Engine, I would beg to suggest that the Engines now indented for, should be provided with Cylinders 17" x 22". The sets of Duplicate gearing we have in stock, the wheels, Crank axles &c. are all, I think, quite strong enough to stand the strain due to the increased inch in Cylinder diameter, and they will all, with the exception of the valve spindles and Valve Spindle crossheads, which we can arrange to alter here, suit an Engine with Cylinders of this diameter equally well with one, the Cylinders of which are of the original dimensions, viz. 16" x 22".

8. There is a difference of about 100 square feet between the heating surface of these Engines, and that of our large 17" Cylinder Goods Engines, but as the stroke of the latter Engines is 24", which it is not proposed to make any

any alteration in this dimension in the Engines (17 Cylinders)
asked for, and, as several of the latter are
present running with as many as 15 and 20
tubes stopped up, I scarcely think that, this
difference in the heating surface would
materially affect the steaming powers, or that
it would be necessary to deviate in the dimen-
sions of the new Boilers from those of the
Boilers of the original Engines, should.

However the suggestion I have made meet
with Sir John Hawkshaw's approval, it would
perhaps be well to refer this point to him for
his opinion before actually ordering the Engines.

It has been found that the Tyres
of the last lot of Engines supplied by Messrs
Sharp, Stewart and Co. in 1869, which were
fastened to the skeletons, by set screws screwed
into the flanges of the Tyres from the inside
of the wheels, have worn much better than
those of previous Engines, which were simply
bolted on with conical bolts. I have therefore
specified that all Tyres of the Engines now
indented for, should be fastened in the same
manner.

Particular attention is also drawn
to the necessity of having the Copper Fireboxes
rivetted throughout with copper, instead of
iron rivets, as in all cases where the latter
have been used, it has been necessary to replace
them with copper studs within a very short
period, this being a most laborious and ex-
pensive operation.

I forward with this letter a

tracing

318/2
tracing shewing an arrangement we have adapted
to the Leading wheels of Sharp's Passenger Engines
and of the larger 17 Cylinders Goods Engines,
and to the Leading, and trailing wheels, of
Beyer's 16 Cylinders Goods Engines, and of Sharp's
16 Cylinders, four wheels coupled mixed Engines
(last lot,) and I think it would be advisable
to adopt it also in the same manner to the
Engines now ordered.

12. I would also suggest that all
axle box brasses, and connecting rod large
end brasses, should be cored out and filled
in with Babbett's Patent metal which we
find gives very little or no trouble in work.

Yours faithfully
W. E. Boodle
Ag. Loco. Supt.

(True copy)

W. E. Boodle
Agent and Manager

Wm

Mr. 14/75

Sept 29 September 75
in B. No. 636

1367

Mumbai Railway
Locomotive Superintendent's Office
Perrambore Works
9th August 1875

The Agent and Manager
Dear Sir,

With reference to your letter of 26th of the 28th ultimo, I beg to inform you that so far as I am aware, the only spare Engines offered for sale by other Railway Companies are those in possession of the East Indian, Scinde, Punjab and Delhi, and Calcutta and South Eastern State Railways.

2. Mr. Wright has already reported fully upon the first of these, namely, the Engines belonging to the E. I. Railway in his letter to your Address of 7th 3, dated 19th February 1873, and although upon his subsequently examining them when in Bengal, he did not, I believe, very much approve of their general make and finish, it would, I dare say, be possible with some alterations, to adapt them to our requirements.

3. Some correspondence, I believe, took place between Mr. Wright and the Agency of the E. I. R. Company regarding the purchase of two of these Engines, and so far as I remember, there was some difficulty regarding the terms.

4. The E. I. and S. Railway had I am informed, five Engines of a class that would suit us but I think that although in this case also Mr. Wright made an offer for them, the terms upon which they were tendered

tendered, rendered it unadvisable to purchase them.

With regard to the Engines offered for sale by the Calcutta and S. C. Line, I fear that the condition in which we have found the two Engines which have already been purchased from that company, and the repairs, which we have been compelled to execute to them are such that it would not be worth this Company's while to take any more of them, particularly as they are of a much lighter description than we require.

Taking into consideration however, the fact that it is proposed in constructing the Engines for which I have now Indented, to utilize the large stock of Duplicate parts which we have in store, and of which we are unable at present to make any use, and that by so doing we should not be increasing the numbers of the classes of Engines that we now have, I trust that the Government may be pleased to accord early sanction to the Indent I have forwarded.

Yours faithfully,
Edw. C. Boodler
Ag. Loco. Supt.

1 True copy

9029 September 75
in B. N. 636-

W. F. Turner
Agent and Manager

(Wm)

No 2803

Public Works Dept
Proceedings of the Madras Government
Under date the 29 Sept 1875
Read the following

From

The Comr. Engrs for
Railways

Obt. N. 574 of 18 Sept 1875
For the Govt.

His Excellency
the Governor in Council
is of opinion that, looking
to the work performed
by the Engines of the
Madras Railway as
compared with those
of other Indian Railways
and to the fact that
the consequence of ma-
terial for the Madras
Railway

Wm
25/9

Harbour works will still further increase the amount of work to be done, an increase in the locomotive stock is absolutely necessary, and that the 10 Engines indicated for are no more than are required. There still remains the question as to whether these Engines shall be obtained from home or from the surplus stock of other guaranteed Companies; and this point must be left for the decision of the Govt. of India. Special attention will however be invited to the objections raised by the Officers of the

218/5
the Company to the Engines obtainable in India; and to the fact that by indenting on the Board of Directors, the Company will be enabled to utilize duplicate stock to the value of upwards of one lakh of Rupees which must otherwise remain unremunerative.

(C.C. No. 2804 of 29 Sept 05)

No 2804

To
The Secy. to the Govt. of India
Public Works Dept.

Sir,

I am directed to forward herewith an

Indent

Ministry No. 57
- 01 - 11 - 1905

1 June 1906

- 41 - 1000

Office 17

Engs for P.W. 12

3-11-1905

Incident on the Board
of Directors of the
Madras Railway for
10 Engines and Tenders,
the approximate cost
being Rs 288,000, and
I am to invite the at-
tention of the Govt. of
India to the correspon-
dence by which it is
accompanied and the
Proceedings of Govt.
thereon.

SWN

24
3

SC with previous No
OSP - 14 - 10 - 75

Incident sent to
Simla - 14 - 10 - 75

12.636/39

6014

From the Board

GOVT. OF 18751
PUBLIC WORKS

C. S. G. P. S.
S. H. India

20/10/1875
20/10/1875

133-133
133

Indent for 10 Engines
& Tenders required for
the M. P. - Passing
orders on letter of the
Consulting Engineer for
Rys. submitting for
an