

(1) Number of pages _____

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(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	2065	Press
B.P. No.		Mis.
Dated	21 - 7 - 195	C835

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
21st July 1875.*

No 500 Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Lieutenant-Colonel J. MULLINS, R.E., Officiating Secretary to Government, Public Works Department, dated Madras, 7th July 1875, No 380 —

WITH reference to my endorsement of this date, No 373, I have the honor to forward the accompanying letter* from the Agent, South Indian Railway, explaining

the reasons why the present speed of the mail trains between Trichinopoly and Negapatam cannot be maintained after the conversion of this section to the narrow gauge

2 The Locomotive Superintendent calculates that, for a through speed of 20 miles per hour, the average speed between stations is now 28 miles an hour, in order to provide for stoppages at every 7 miles. This average speed, however, is much below the maximum, as allowance has to be made for getting up speed and stopping and for ascending gradients, so that the maximum attained is from 35 to 40 miles per hour on favorable portions of the line.

3. In the new engines the driving wheels measure 3 feet in diameter; and in making the same number of revolutions per minute as would be done by a 5 feet wheel in an engine travelling at 40 miles per hour, the speed attained would be 24 miles per hour, and this agrees very nearly with the maximum speed of 25 miles per hour sanctioned by Government for the narrow gauge lines in this Presidency

4 A maximum speed of 24 miles per hour will probably give an average speed between stations of 20 miles per hour; and I understand the Agent's proposed limit to refer to the average speed between stations, and not to the maximum speed at which a train may at any time travel

5 In the time-table forwarded for the approval of Government, the time allowed for running the 80 miles between Negapatam and Trichinopoly is 4 hours 43 minutes, giving a through speed of 17 miles per hour. There are eleven intermediate stations, and, allowing 4 minutes for each (a moderate allowance), the time employed in running is 4 hours, or an average speed between stations of 20 miles per hour. It thus appears that with the type of engine now being sent out, a greater through speed than 17 miles per hour cannot well be attained. These engines have all three pairs of wheels (3 feet diameter) coupled, and are intended for drawing a maximum load at a moderate speed rather than for running fast. I observe in the type drawings of locomotives for State Railways that the diameter of some of the driving wheels is 3 feet 6 inches, and that two pairs of wheels only are coupled

From W. S. BETTS, Esq., Agent of the South Indian Railway, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Negapatam, 5th July 1875, No 710

THE Locomotive Superintendent writes to me on the subject of the mail service of our metre gauge engines between Negapatam and Trichinopoly, and I concur with him in thinking that a speed of 20 miles per hour should not be exceeded. I have the honor, therefore, to recommend, for the favorable consideration of Government, this proposal, and to request that I may be favored with the sanction of Government thereto at an early date. Mr. Sheward thus writes: "With the small diameter of wheel, the piston speed is so great at the mail train rate, that the

Proceedings of the Madras Government, Public Works Department,
21st July 1875.

engines vibrate to a very destructive extent, throwing out their slide-rod keys and loosing their frames on the line, cutting off cotters and pins, dropping bolts and tearing off the rivets of the frames to the boilers, and shaking their canopies loose each trip. The wear and tear under such circumstances will be very excessive. At a speed of 20 miles an hour I found that they perform steady and without vibration. I would recommend that the speed be fixed at 20 miles per hour. If Government require their mail service to continue at 23 miles per hour, I would suggest that the indent be sent home for a class of engines with larger driving wheels, say 4 feet, whose piston speed would then be such as to avoid the vibration I speak of."

No 501.

ORDER THEREON, 21st July 1875, No 2,065

RAILWAY, No 47

The Honorable the Governor in Council observes that the time-table for the narrow gauge section of the South Indian Railway submitted with the Consulting Engineer's letter, No 373,* dated 7th

* G O, No 2,062, dated 20th July 1875

July, and providing for an average speed of 20 miles an hour, has been approved for adoption. No further orders, therefore, seem necessary on these papers

(True Extract)

(Signed) J O HASTED, Major, R E.,

Officiating Joint Secretary to Government.

To the Consulting Engineer for Railways

Per Mr. Hasted

No. 710

South Indian
GREAT SOUTHERN OF INDIA RAILWAY.

AGENT'S OFFICE,

NEGAPATAM,

6th July

1875

From

THE AGENT,

South Indian
Great Southern of India Railway,

To

The Consulting Engineer
for Railways
Madras

SIR,

The Consulting Engineer writes to me on the subject of the time-table of our narrow gauge section between Negapatam & Machilipatnam, and I enclose with him in thinking that a speed of 20 miles per hour should not be exceeded. I have the honor therefore to recommend for the favorable consideration of Government this proposal and to request that I may be favored with the sanction of Government thereto at an early date. Mr. Hasted then writes "with the small diameter of which the piston speed is so great at the train frame rate, that the engine vibrates to a very destructive extent throwing out their slide-rod keys and loosing their frames on the line cutting off cotters and pins, dropping bolts and tearing off the rivets of the frames to the boilers, and shaking their canopies loose each trip. The wear and tear under such circumstances will be very excessive. At a speed of 20 miles an hour I found that they perform steady

and without vibration I should recommend
that the speed be increased to 20 miles per hour. If
Governments require their cars to continue
at 20 miles per hour I should suggest that the
weight be sent down for a class of engines with
larger driving wheels say 4 feet. whose piston speed
would then be such as to avoid the vibration I
speak of.

I have the honor to be

Sir

Your most obedient servant

William D. H.
Agent

282
 From
 The Agent
 of
 the Consulting Eng.
 for Railways
 Dated 5th July 75
 No. 710
 To the mail
 Mr. of the gauge
 Engineer of the
 Negotiation Office

98-21 July 75
 5/15/75

GRAND SOUTHERN OF INDIA RAILWAY
 AGENTS OFFICE,
 NEGAPATTAM,
 THE AGENT,
 Great Southern of India Railway,
 18

Railway Department.

CONSULTING ENGINEER'S OFFICE.

No. 380 Madras, 7th July 1875.

From
 LIEUT. COLONEL J. H. M. SHAW STEWART, R.E.,
 Consulting Engineer for Railways,

To
 COLONEL G. W. WALKER, R.E.,
 Secretary to Government,
 Public Works Department,
 Fort Saint George.

Sir,

*N: 710, dated
 5th July 1875.

With reference to my
 enclosement of this date N: 373,
 I have the honour to forward the
 accompanying letter* from the
 Agent, South Indian Railway,
 explaining the reasons why the
 present speed of the mail trains
 between Trichinopoly and Nei-
 -gapatam cannot be maintained
 after the conversion of this sec-
 -tion to the narrow gauge.

2. The Locomotive Super-
 -intendent

-intendent calculates that, for a through speed of 30 miles per hour, the average speed between stations is now 28 miles an hour, in order to provide for stoppages at every 7 miles. This average speed however is much below the maximum, as allowance has to be made for getting up speed and stopping and for ascending gradients, so that the maximum attained is from 35 to 40 miles per hour on favourable portions of the line.

3. In the new engines the driving wheels measure 3 feet in diameter; and in making the same number of revolutions per minute as would be done by a 5 feet wheel in an engine travelling

travelling at 40 miles per hour, the speed attained would be 24 miles per hour; and this agrees very nearly with the maximum speed of 25 miles per hour sanctioned by Government for the narrow gauge lines in this Presidency.

A maximum speed of 40 miles per hour will probably give an average speed between stations of 20 miles per hour; and I understand the Agents proposed limit to refer to the average speed between stations, and not to the maximum speed at which a train may at any time travel.

5. In the time-table forwarded for the approval of Government the time allowed for running the 80 miles between Negapatam

Negapatam and Trichinopoly is 4 hours 43 minutes, giving a through speed of 17 miles per hour. There are 11 intermediate stations, and allowing 4 minutes for each / a moderate allowance / the time employed in running is 4 hours, or an average speed between stations of 20 miles per hour. It thus appears that, with the type of engine now being sent out, a greater through speed than 17 miles per hour cannot well be attained. These engines have all three pairs of wheels / 3 feet diameter / coupled, and are intended for drawing a maximum load at a moderate speed rather than for running fast. I observe in

the

11
the type drawings of Locomotives for State Railways that the diameter of some of the driving wheels is 3 feet 6 inches, and that two pairs of wheels only are coupled.

I have the honour to be
Sir
your most obedient servant
Maurice Lintell, Esq.,
Loco. Engineer for Railways

Public Works Dept.
13

Proceedings of the Madras Government
Under state the
Read the following

The Comp. Eng. for } No. 380 of 7th July 1875
Railways
To the Secy to Govt. of 21st July 1875

The Honble the
Governor in Council
observes that the Time
Table for the narrow
Ganga section of the South
Indian Railway sub-
mitted with the Con-
sulting Engineers letter
No. 373 dated 7th July
and providing for an
average speed of 20
miles an hour has been
approved

Pass 37.

P. W. 1875 2041

RAILWAY DEPARTMENT.

From

The Consulting Engineer,

for Railways,

To

The Secretary to Government,

P. W. Department,

Fort Saint George

Dated

7th July 1875

1875

Recd

No. 2045 of 9.9.75
No. 380

Enclosure 1.

Forwarded a

letter from the

Asst. Secy. of

explaining the

necessity for the

present speed of

the mail train

between Secunderabad

and Rajahmundry cannot

be made lower after

the conversion to the

narrow gauge.

MA 1875

14570

Enc. 13.7.75 (No. 1043/75)
No. 1043/75 (11. 7)

Approved for adoption.

No further orders there-
fore seem necessary on
these papers.

John

2 Port Huron Journal
12 Cong Engrs for Railways

K 500-501

50 Sept - $\frac{36}{2}$
5-8-75

1875
 Govt. of Madras
 PUBLIC WORKS.

To

Cum gratia

Date

Is at

Read

21 July 1875
 No. 100 (2)

The Public Works Department
 has the honor to inform
 that the — submitted in
 the letter No. 13 of 7 July
 providing for an average
 speed of 20 miles an hour
 has been approved for
 adoption and the necessary
 orders therefor are issued.