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MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

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Dated	29 7	1873.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
29th July 1873.*

No 458 Read the following Proceedings of the Government of India in the Public Works Department, (State Railways,) dated Simla, 25th June 1873, Nos 851—74S.R. —

*Provision of fencing in connection with the speed at which trains may be run on the
Agra and Delhi Districts of the Rajpootana (State) Railway.*

Read again—

Public Works Department Resolution Nos 1,942—53 S —R, dated the 5th October 1871

Read also—

Letter from the Government of the North-Western Provinces, No 43 R —C, dated the 12th February 1873

Letter from the Superintending Engineer of the Agra District, Rajpootana (State) Railway, No 52-W, dated the 11th March 1873

Letter from the Superintending Engineer of the Delhi District of the Rajpootana (State) Railway, No 261-W, dated the 17th March 1873

Memorandum by the Consulting Engineer to the Government of India for State Railways, dated the 9th May 1873

OBSERVATIONS —In Public Works Department Resolution Nos 1,942—53 R, dated the 5th October 1871, it was ruled by the Government of India that boundary marks should be provided for all Railways in some suitable and permanent manner, and that fences, suitable for the exclusion of cattle, should also be provided throughout all lines in which trains or engines move at a speed exceeding 15 miles an hour, but that on Railways where this speed is not practised, it will be sufficient to provide such fences only in the neighbourhood of stations or populous places

2 In determining, therefore, the description of fencing most effectual for the exclusion of cattle on the different localities, through which the several State lines run, the circumstances of each locality have had to be considered by the respective Engineers in charge of those lines. On the Agra District of the Rajpootana (State) Railway provision has been made for a wire-fencing through the suburbs of Agra, where only sufficient land was taken up to provide for the necessary slopes of banks and cuttings, and in the Delhi District of the Rajpootana (State) Railway the line for the first two miles out of Delhi has been fenced with a dry stone wall, and in other places with a simple mound and ditch. On both these lines, also, the fencing has been restricted to the vicinity of towns and villages and frequented crossings actually requiring it, and virtually the Government of India have held their Engineers in charge of State lines responsible for indicating those portions of a line where fencing is not necessary.

3. His Honour the Lieutenant Governor of the North-Western Provinces has recently had the opportunity of judging of the fencing provided on these lines. The conclusion at which His Honour has arrived is that a line partially fenced is more dangerous than an unfenced one, and that, in the country districts particularly, partial fencing is objectionable, as cattle, once within the fences, are precluded from getting out, and are, therefore, almost sure of being run down by the trains. In the neighbourhood of the city of Agra there are sharp curves in the line which very much increase the risk of life also, and it has

therefore been found necessary to adopt special precautions, before trains are permitted to run, at all dangerous crossings both in the country and the city, pending a decision on the question of ultimately fencing the line throughout, which His Honour has urged on the consideration of the Government of India. Mr Furnivall, the Superintending Engineer of the Agra District, and Major Stanton, the Superintending Engineer of the Delhi District, of the Rajpootana (State) Railway, believe that continuous fencing should be adopted throughout the lines under their charge.

4 The subject of fencing railways, in connection with the speed at which trains may be safely run, is one of such general importance that the Government of India have called for the opinion of their Consulting Engineer for State Railways on the subject, and his views may be summarized as below—

- (1)—That much danger is not to be anticipated from want of fencing so long as the trains run *by day*, and their speed is restricted to 15 miles per hour; but that *at night* there is undoubtedly some risk if the cattle sleep on the line, and the driver is unable to see them in time to stop the train. If the illuminating power of the head-lamps to the engines is great then that danger will be lessened.
- (2)—That the maximum speed on all metre gauge State Railways should be limited to 15 miles an hour.
- (3)—That at low speed the probabilities of running over cattle are less than at high speed.
- (4)—That if the engine comes in contact with cattle, the probabilities of derailment are greater on the narrow than the broad gauge.
- (5)—That the consequences of derailment will probably be less serious on the narrow than on the broad gauge.
- (6)—That all fenced portions should be protected, at both ends, by cattle-guards, sunk on either side of the level-crossings.
- (7)—That fencing should be adopted, on all sharp curves or other places, when the driver's view is obstructed.
- (8)—That fencing should be adopted in grazing country liable to inundation, when the railway embankment forms the highest ground.
- (9)—That cow-catchers should be added to the back of all engines which from want of turn-tables are forced to run backwards.
- (10)—That experiments should be made in the defining power of the head-lamps by night, and on the distance at which trains can be brought to a stand at a speed of 15 miles per hour on a descending gradient.
- (11)—That the extent of cattle trespass on the different lines of railway should be reported from time to time by the Engineers, so that the Government of India may be enabled to judge whether fencing throughout is necessary.

5 In Public Works Department Resolution Nos 1,942—53 R, dated 11th October 1871, it was not intended to be ruled absolutely that a railway, if the speed did not exceed 15 miles an hour, should remain unfenced, but rather that only such portions of the line may be unguarded by a fence as could fairly be left exposed without risk.

6 Looking to all the circumstances of the nature of the country traversed by the Delhi and Agra Districts of the Rajpootana (State) Railway, which though not populous is inhabited throughout, and is *de facto* a cattle-raising country, the questions to consider are, (1) whether it is safe and prudent to run trains, on the two lines in question, at an actual greatest speed of 15 miles an hour, at all places excepting the neighbourhood of stations or populous places, without fencing the line throughout; and (2) if not safe, what limit of speed may be adopted on railways left unfenced in a country like Rajpootana, or whether it will be proper to fence as a rule, and omit fencing only in wide unoccupied plains, and parts where there is obviously little danger.

7 Before any definite decision is arrived at in this matter, His Excellency the Governor-General in Council would be glad to receive a full expression of the views of the Local Governments and Administrations on this question, and to have light thrown on the subject generally

ORDER—Ordered that a copy of this Resolution, together with a copy of the Memorandum by the Consulting Engineer to the Government of India for State Railways therein read, be forwarded to the Governments of Bombay and the Punjab, to the Chief Commissioner of the Central Provinces, and to the Agents to the Governor-General for Rajpootana and Central India, for information and report

2 Also to the Governments of Madras, Bengal, and the North-Western Provinces, the Chief Commissioners of Oudh, Mysore, and British Burmah, the Resident at Hyderabad; the Consulting Engineers to the Government of India for Guaranteed Railways at Calcutta, Lahore, and Lucknow; the Chief Engineer Punjab Northern (State) Railway; the Engineer-in-Chief of the Indus Valley (State) Railway; and the Superintending Engineers, Agra and Delhi Districts of the Rajpootana (State) Railway, Holkar, Neemuch, Northern Bengal, West Rajpootana, and Agra to Gwalior (State) Railways, for information

(Signed) A H VAUX,
for Officiating Deputy Secretary

No 459. ORDER THEREON, 29th July 1873, No 1,905

RAILWAY, No 52

COMMUNICATED to the Consulting Engineer for Railways for information

(True Extract)

Colonel, R E,
Secretary to Government.

To the Consulting Engineer for Railways

Exd S T Austin

Spare copies

No 5892.

GOVERNMENT OF INDIA
PUBLIC WORKS DEPARTMENT.
STATE RAILWAYS

To

Nos 851-74S-R

Dated June 25, 1873

Received 10th Decr 1873.

Encl.

Regarding the requisite provision of
fencing when the speed at which trains may
be run on the Agra and Delhi Districts
of the Rajpootana (State) Railway is also
considered

3
No 1905
Communicated to the Secretary
Enquire for Blackmore for information.

1873

No 458-59

C. E. for Dept. -
Recd 6/8/73 and 18.11.73 1/10 of the Encl.

of the Govt of India per-
marding copy of Reso-
lution regarding the
provision of fencing
of Railways, Canals
& other lines.