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भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226 011
Government of India-Ministry of Railways
Research Designs & Standards Organisation
LUCKNOW - 226 011

TECHNICAL CIRCULAR NO. 22

No. No. EI/3.1.39 / 1

Dated 01.06.1998

CHIEF ELECTRICAL ENGINEER,

- Central Railway, Mumbai CST-400 001
- Eastern Railway, Fairlie Place, Calcutta-700 001
- Northern Railway, Baroda House, New Delhi-110 001
- Southern Railway, Park Town, Chennai-600 003
- South-Eastern Railway, Garden Reach, Calcutta-43
- South-Central Railway, Rail Nilayam, Secund-rabad-71
- Western Railway, Churchgate, Mumbai-400 020
- Chittaranjan Locomotive Works, Chittaranjan-713 331 (WB)

Director, IRIEEN, Post Box No.233, Nasik Road, Nasik – 422 101

Sub: Haulage capacity of WAG7 Locomotive with 16:65 Gear Ratio in Run through conditions on different gradients.

WAG7 locomotive with 16:65 gear ratio has already been cleared by RDSO for starting and hauling 4700 tonnes load on 1 in 200 up gradient vide RDSO letter No. No. EI/3.1.38 dated 24.3.98. (Technical Circular No. 17). 4700 t loads can not be started by single WAG7 loco on either 1:150 up gradient or 1:100 up gradient. However, such stretches can be negotiated in Run Through conditions. To arrive at the lengths of such stretches at various attacking speeds, computer simulation studies have been done and the results are given below for your guidance:-

Table-1
Haulage Capacity on 1:150 Compensated
up gradient in Run Through Conditions

Attacking Speed (KMPH)	Max. length of 1:150 section which can be negotiated (Km.)	Exit Speed (KMPH)
Less than 30	3.25	-
30	3.50	9
40	5.00	9.5
50	6.50	9.6
60	8.00	14.00
70	8.00	24.00

Table-1I
Haulage Capacity on 1:100 Compensated
up gradient in Run Through Conditions

Attacking Speed (KMPH)	Max. length of 1:100 section which can be negotiated (Km.)	Exit Speed (KMPH)
Upto 20	Not recommended	-
30	0.4	22
40	1.0	23
50	1.0	36
60	2.0	31
70	2.0	43

2. Railways are requested to conduct field trials on the above guidelines in different sections. Based on such trials, you may issue guidelines to Drivers to enable them negotiate such stretches successfully without causing stalling and overloading of electrical equipments. RDSO may be kept apprised of the developments.

Encl.: Nil.

Ramesh Chandra

(Ramesh Chandra)
for Director General/Electrical

Copy to:

1. Secretary (Elect. Traction) Railway Board, Rail Bhawan, New Delhi-110001

2. Sr. Divl. Electrical Engineer (Operation)

- Central Railway, DRM office , Mumbai CST-400 001
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- South Central Railway, DRM office, Secunderabad
- South Eastern Railway, DRM office, Kharagpur
- South Eastern Railway, DRM office, Chakradharpur
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- South Eastern Railway, DRM office, Nagpur

- Western Railway, DRM office, Vadodara
- Western Railway, DRM office, Kota.

- Western Railway, DRM office, Ratlam
- Western Railway, DRM office, Mumbai Central.

Ramesh Chandra

Encl.: As above

(Ramesh Chandra)
for Director General/Elect.