

Public Works (190¹⁸⁹⁶) Department.

RAILWAYS.

G.O., No. 645 R

DATED 29-7-190¹⁸⁹⁶.

Includes 757 R 27.12.11.1895

[Despatch Abstract.]

General Rules for working of new lines of Railways
in British India administered by the Govern-

ment - Communicating to Railways
Administrations Circular No. 535 R.T. dated
14th July 1896 making a modification of
Rule III, Appendix A to the re
explosives

Indexed

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
	675	R	27.10.95				

FURTHER PAPERS.

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(No. 1.)
No. 6580

MADRAS RAILWAY

AGENT AND MANAGERS OFFICE

Madras, 5. November 1895

From

The Agent and Manager

Madras Railway

To

The Consulting Engineer for Railways

Sir,

Madras

With reference to your endorsement N^o 2540 of the 7th August last on Government of India letter N^o 355 R. of the 17th July 1895, I have the honor to enclose a copy of the rules for the conveyance of explosives which have been issued for the guidance of this Company's staff. On pages 5 to 10 the various explosives have been grouped in accordance with Chapter III para 11 of the general rules for open lines and it will be observed that matches are included in group C.

On page 22 of the explosives rules, it is laid down that no inner case of articles marked to shall contain more than one pound and no box or package more

more than ten such cases. This is according to the ruling given in appendix A of the general rules for open lines, clause 7 (2.)

The effect of this rule, if it is insisted on, will be to stop the transport of matches by rail. At present matches are consigned by steamers to Madras and other ports in large wooden cases and they are so despatched by rail upcountry, but as these cases contain considerably more than 10 lbs., their carriage by rail is contrary to the rules issued by the Government.

I enclose a letter I have received from the Traffic Manager on the subject. In it allusion is made to the opinion of the Traffic Manager of the East Indian Railway as to what is intended by the wording of the rule - that it applies only to the ^{ignifying} materials used in the manufacture of matches. I am doubtful whether this is really the intention of the Government and shall be glad if you will inform me how the rule is to be applied. If it is the desire of the Government that matches shall not be carried by rail in packages containing

more

3.
 more than 10 lbs. the general public should
 be made aware of it, as importers of
 matches will be affected by the ruling,
 seeing that they will have to re-pack
 their consignments before despatching them
 by rail.

I have the honor to be,
 Sir,
 Your most obedt. Servant.
 H. S. M. A.
 Agent & Manager.

Enc/2
 Asks

The attention of P. of S.
 may be drawn to this
 for their order
 Free A 5/-

MADRAS RAILWAY.

The Agent and Manager.

The Consulting Engineer

for Railways.

Dated

188

Recd.

No.

4819
7/11/95

MADRAS RAILWAY.

Rules for the conveyance of Explosive, Dangerous and Offensive Articles in force from 1st October 1895 in supersession of all previous rules.

(Insert at page 145 of General Instructions and at page 29 of Goods Tariff, Part I.)

1. Section 59 of the Indian Railways Act of 1890 is given below and is operative on this Railway.

Section 59 of Indian Railways Act of 1890 in relation to dangerous and offensive goods.

59. (1). No person shall be entitled to take with him, or to require a Railway administration to carry, any dangerous or offensive goods upon a Railway.

(2). No person shall take any such goods with him upon a Railway without giving notice of their nature to the Station-Master or other Railway servant in charge of the place where he brings the goods upon the Railway, or shall tender or deliver any such goods for carriage upon a Railway without distinctly marking their nature on the outside of the package containing them, or otherwise giving notice in writing of their nature to the Railway servant to whom he tenders or delivers them.

(3). Any Railway servant may refuse to receive such goods for carriage and, when such goods have been so received without such notice as is mentioned in Sub-section (1) having to his knowledge been given, may refuse to carry them or may stop their transit.

(4). If any Railway servant has reason to believe any such goods to be contained in a package with respect to the contents whereof such notice as is mentioned in Sub-section (2) has not to his know-

62201
25492

Madras Railway Company
Traffic Manager's Office
Central Station, Madras 25 October 1895

The Agent and Manager
Rayapuram.

Dear Sir,
Conveyance of Matches by Railway

I beg to call your attention to the revised issue of the Explosive Rules which have been issued to the staff in the accompanying pamphlet. Under these rules matches come under group 'C', and you will observe that under rule 13, at page 22, no case of articles under 'C' can contain more than one pound in weight, and no box or package can contain more than ten such cases to be conveyed by Railway.

2. The East-Indian Railway have issued a similar rule, and it is based on the new General Rules, - vide chapter 3, para 14, and clauses 1 and 2 of section 7, appendix A, - but they tell me that they do not look upon the rule as applicable to matches, and think it was intended to apply to the igniting material on the matches only. Whatever it may be intended to mean, it certainly, in

in the plainest ²English, states matches; and under these rules, in my opinion, no Railway is permitted to accept a larger package than ten pounds in weight, and each pound must be in a separate case, tin lined. Will you kindly obtain a ruling on the point, or favour me with your instructions how to act?

3. The rule seems to me to be quite unnecessary, and it may be the result of an error. In fact, if matches are only to be carried in ten pound packages, they will be too light for conveyance by goods train.

Yours faithfully
Geo H. W. Reed
Traffic Manager.

/ True copy /

Lewis S. M. V. S.

Agent and Manager

The Consulting Engineer for Railways
Madras.

B/-

No. 757. R. Laid 13.11.95

B no. 757 R a 12. 11.95

214/11 14/11

Extract from The Architect. Vol LV p 15 9/3/96
Compressed Gas Cylinders. 9(a)

A Parliamentary order contains the report of the Committee appointed to inquire into the causes of the explosion and the precautions required to insure the safety of cylinders of compressed gas. It commences by giving the following list of the explosions that have taken place:-

I.-Explosions due to pure carelessness or causes such that no special regulations would have prevented them.

Explosion of cylinder of mixed gases at Dublin, 1892. One person killed. Explosion of nitrous oxide cylinder at Liverpool, 1893. One person seriously injured. Explosion of an oxygen cylinder in a first-class train. Explosion of a cylinder of oxygen and hydrogen at the Boston Oxygen Company's Works, Glasgow. One person killed.

II.-Explosions of mixed gas or vapour due to improper arrangements.

Fenborough Street explosion, 1895. One person killed.

III.-Explosions specially due to bad cylinders.

Explosion of a carbonic acid cylinder in India, 1895. Explosion of a carbonic acid cylinder at Highland Chief, 1891. One person killed. Explosion of air-vessel of a steam locomotive by impact on rocks at Plymouth.

IV.-Explosions due to bad cylinders or to excessive pressure due to overpressure.

Explosion of carbonic acid cylinder at Rotterdam, 1895. One person killed. Explosion of carbonic acid cylinder at Antwerp, 1895. Explosion of carbonic acid cylinder in S.S. Highland Glen, 1894. One person killed.

V.-Explosions due to ignition of oil.

Frankland's explosion, 1834.

VI.-Explosions for which no specific cause has been assigned.

Inclusion of hydrogen cylinders for carbon purposes at

Nov. 1906.

VII.-Explosions of pressure gauges or reducing valves attached to

cylinders due to mechanical weakness or to

causes not understood.

After going at great length into the ^{extent of the} details of the cylinders and the workings of them, the report concludes with the following summary of regulations:-

I.-Cylinders of compressed Gas (Oxygen, Hydrogen or Coal Gas).

(a) Lap-welded wrought iron.-Greatest working pressure, 120 atmospheres, or 1,800 lbs. per square inch. Stress due to working pressure not to exceed 3½ tons per square inch. Proof pressure in hydraulic test, after annealing, 224 atmospheres, or 3,360 lbs. per square inch. Permanent stretch in hydraulic test not to exceed 10 per cent. of the elastic stretch. One cylinder in 50 to be subjected to a statical bending test, and to stand crushing nearly flat between two rounded knife-edges without cracking.

(b) Lap-welded or Seamless Steel.-Greatest working pressure, 120 atmospheres, or 1,800 lbs. per square inch. Stress due to working pressure not to exceed 7½ tons per square inch in lap-welded or 9 tons per square inch in seamless cylinders. Carbon in steel not to exceed 0.25 per cent., or iron not to be less than 99 per cent. Tenacity of steel not to be less than 25 or more than 28 tons per square inch. Ultimate elongation not less than 1.4 inches in 2 inches. Test bar to be cut from finished annealed cylinder. Proof pressure in hydraulic test, after annealing, 224 atmospheres, or 3,360 lbs. per square inch. Permanent stretch shown by water jacket not to exceed 10 per

cent. of elastic stretch. One cylinder in 50 to be subjected to a statical bending test, and to stand crushing nearly flat between rounded knife-edges without cracking.

Regulations applicable to all Cylinders.

Cylinders to be marked with a rotation number, a manufacturer's or owner's mark, an annealing mark with date, a test mark with date. Marks to be permanent and easily visible. Testing to be repeated at least every two years, and annealing at least every four years. A record to be kept of all tests. Cylinders which fail in testing to be destroyed or rendered useless. Hydrogen and coal-gas cylinders to have left-handed threads for attaching connections, and to be painted red. The compressing apparatus to have two pressure gauges and an automatic arrangement for preventing overpressure. The compressing apparatus for oxygen to be wholly distinct and unconnected with the compressing apparatus for hydrogen and coal gas. Cylinders not to be refilled till they have been emptied. If cylinders are sent out uncapped, the valve fittings should be protected by a steel cap. A minimum weight to be fixed for each size of cylinder in accordance with its required thickness. Cylinders of less weight to be rejected.

II.-Cylinders for Carbonic Acid.

Greatest working pressure to be reckoned as 120 atmospheres. Cylinders to be of lap-welded wrought-iron, lap-welded steel or seamless steel. Stresses, tests and conditions as to repetition of tests to be the same as for oxygen cylinders. The marking to be the same with the addition of the weight of the cylinder empty, and the greatest permissible weight of carbonic acid it may contain. No cylinder to contain more than 1 lb. of carbonic acid per pound of water capacity if for this use.

not more than 5 lb. per cubic foot of water capacity if for the trades. If cylinders are sent out unpacked the valve fittings should be protected by a steel cap. A notice should be affixed to the cylinder that it contains carbonic acid, and that it should be kept cool and not exposed to the sun or the heat of a stove.

III.-Cylinders for Ammonia.

Greatest working pressure to be reckoned as 1,000 lbs per square inch. Hydraulic test pressure 1,500 lbs. per square inch. Greatest working stress 7 tons per square inch for steel, and 3 tons per square inch for wrought iron. In other respects the material, tests and rule for recertification of tests to be the same as for oxygen cylinders but the weight of cylinder to be that for oxygen cylinders. The marking to be similar to that for oxygen cylinders. Greatest permissible weight of ammonia it may contain to be added. Ammonia cylinders should not contain more than 0.5 lb. per cubic foot of water capacity. If cylinders are sent out unpacked the valve fittings should be protected by a steel cap. A notice should be affixed to the cylinder that it contains ammonia, and that it should be kept cool and not exposed to the sun or the heat of a stove.

IV.-Cylinder Fittings.

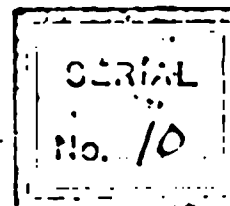
3. No oil or similar lubricant is to be used for cylinder valves, pressure gauges, regulators, or other fittings. Pressure gauges to have a check to prevent a sudden rush of gas. Pressure gauges for hydrogen and coal gas to have left-handed screws, and to be painted red.

V.-Railway Regulations.

Subject to a reasonable guarantee being obtained that the conditions stated above were complied with, the committee would be prepared to recommend that cylinders should be distributed by road or rail unpacked.

The report is signed by Professor H.C. Martin, F.R.S., professor of Engi-

Engineering, Central Technical College of the City and Guilds of London.
Institute: Professor C.J. Boys, F.R.S., Royal College of Science, London.
Washington, Assistant Professor of Physics at the Royal College of Science, London: Professor E. B. Wilson, F.R.S., Professor of Chemistry, The Queen's College, Manchester: Dr. J. D. Smith, F.R.S., Medical School, 11, Street, Westminster, S.W.: the Rev. T. J. Smith, F.R.S., University Lecturer on Mechanics, Oxford.



No. 535 R. T.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

RAILWAY TRAFFIC.

Simla, the 14th July 1896.

General rules of 1895 for working open lines of railway in British India administered by the Government.

Modification of Rule III, Appendix A.

READ—

Section 47 of the Indian Railways Act, IX of 1890.

Government of India Circular No. 6 Ry., dated 12th March 1895, promulgating general rules for working open lines of railway in British India administered by the Government.

Public Works Department Notification No. 118, dated 21st March 1895, publishing in the *Gazette of India* of the 23rd March 1895 the Circular and the general rules read above.

Government of India Circular No. 3 Ry., dated 22nd May 1896, promulgating certain modifications of the general rules referred to above.

Public Works Department Notification No. 257, dated 28th May 1896, publishing in the *Gazette of India* of the 30th May 1896, the Circular and modifications read above.

Read also—

Letter from the Joint Secretary to the Government of Madras, Public Works Department, Railway Branch, No. 757 R., dated 12th November 1895.

Letter from the Consulting Engineer to the Government of India for Railways, Calcutta, No. 350, dated 9th January 1896.

Memorandum from the Director General of Railways, No. 53 T., dated 30th January 1896.

Letter from the Chief Commissioner, Burma, No. 3470—39 T. R., dated 28th March 1896.

Letter from the Director General of Railways, No. 318 T., dated 25th June 1896.

OBSERVATIONS.—In rules III (7) (1) and (2) of Appendix A to the open line general rules of 1895, read above, regarding the carriage of dangerous goods other than explosives, it was laid down that goods marked C in rule 14, Part II, which are not explosives to which the rules for the time being in force under the Indian Explosives Act, 1884, apply, must be packed in strong dust-tight wooden cases having a metal lining; and that no such case shall contain more than one pound, and no box or package shall contain more than ten such cases.

It has, however, been represented that the application of these rules to consignments of matches would greatly hamper the trade and prevent the carriage of matches by rail.

RESOLUTION.—The Governor General in Council is accordingly pleased, under section 47 of the Indian Railways Act, IX of 1890, to sanction the follow-

ing modifications of the open line general rules of 1895, read above, being applied to the open lines of all State railways administered directly by the Government :—

Appendix A, Rule III (7) (r).—After the word "lining" add "the contents being branded, painted or labelled on the outside in legibly written or printed characters."

Appendix A, Rule III (7) (2).—Add a note "this restriction will not apply to matches (lucifer or vesuvian)."

Appendix A, Rule III.—Add the following as (7) (3):—

"The outer wooden cases used for the carriage of matches (lucifer and vesuvian) shall be of the following thickness of wood—gross weight of case with contents not exceeding $2\frac{1}{2}$ maunds; top, bottom and sides $\frac{1}{2}$ inch thick, and ends $\frac{3}{4}$ inch thick with two battens $2\frac{1}{2}$ inch wide by $\frac{1}{2}$ inch thick nailed to the sides, or $\frac{3}{4}$ inch thick throughout; gross weight of case with contents exceeding $2\frac{1}{2}$ maunds, 1 inch thick throughout."

ORDER.—Ordered that the general rules which have already been published in the *Gazettes of India* of the 23rd March 1895 and 30th May 1896, be further notified to the railway servants and to the public by a copy thereof, as herein modified, being kept open to inspection free of any charge at the stations on the several railways concerned.

Ordered also that a copy of this Resolution be communicated to the Chief Commissioners of Burma and Assam and to the Director General of Railways for information and guidance; also to the Government of Madras and the Consulting Engineer to the Government of India for Railways, Calcutta, for information; and that it be published under a notification in Part I of the *Gazette of India*.

Offg. Under Secretary.

Documents accompanying.

N1.

The Joint Secretary to the Government of Madras,
Public Works Department, Railway Branch

G. C. Press, Simla -- No. 690 P. W. D. -- 15-7-96. -- 3rd.

(R.) Form No. 8.

17 PUBLIC WORKS DEPARTMENT,
RAILWAY BRANCH.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following

Circular from the Port of India
P.O. } H.E. 535 RT 7 14 July 1976

Communicated to the Railway
Administration for information
and guidance.

CM $\frac{25}{7}$

DIR
25-7-76

- 2. The Agent & Messengers M.R. ✓
- ~~under the same title~~ ✓
- Agent S. & R.
- " " Messengers G. & H. ✓
- " " Chief Native R.
- " Examiners G. R. & assistants ✓
- " Judicial Dept. ✓

10/20/71

BP

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