# Public Works (1990) Department.

RAILWAYS.

G.O., No. 1565-R

DATED 21.10.1990

[Despatch Abstract.]

Appendices IV + V of the half yearly analysis of working
Letter from the G of I revising ——,
Comtd to the Consq: Engr. for Rys

## BACK PAPERS.

| G.O. | No. | Department. | Date. | G.O | No. | Department. | Date. |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## FURTHER PAPERS.

| G.O. | No. | Department | Date. | G.O. | No. | Department. | Date |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

[ *Heads of Departments.* ]

Circular No. XVIII Railway.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

RAILWAY TRAFFIC.

To

THE GOVERNMENTS OF MADRAS, BOMBAY, BENGAL AND THE NORTH-WESTERN PROVINCES AND OUDH.

THE CHIEF COMMISSIONERS OF THE CENTRAL PROVINCES, BURMA AND ASSAM.

THE RESIDENT AT HYDERABAD.

THE AGENT TO THE GOVERNOR GENERAL FOR RAJPUTANA.

THE DIRECTOR GENERAL OF RAILWAYS.

THE CONSULTING ENGINEERS TO THE GOVERNMENT OF INDIA FOR RAILWAYS, CALCUTTA, CENTRAL DIVISION AND LUCKNOW.

THE ACCOUNTANT GENERAL, PUBLIC WORKS DEPARTMENT.

**Revision of Appendices IV and V of the half-yearly Analysis of working.**

Simla, the 8th September 1890.

SIR,

With reference to Public Works Department Circular No. V Railway, dated the 26th August 1887, forwarding the last revised standard form of the half-yearly Analysis of Working of Indian Railways, and in continuation of Public Works Department Circular No. XVII Railway, dated the 2nd September 1890, I am directed to request that the following additions and alterations may be made in Appendix IV of that Return :—

(*a*) Item No. 3 should be altered from "*Rails renewed*" to "*Rails removed.*"

(*b*) Another item, No. 3 A. "*Rails laid,*" should be added.

(*c*) Item No. 4 should be altered from "*Proportion renewed per mile of rail (1)*" to "*Proportion removed per mile of rail (1).*"

(*d*) The following should be added as a foot-note :—

"*In the event of any discrepancy between the mileage of rails removed and the mileage laid (items 3 and 3A), a foot-note should be added explaining the cause of the discrepancy.*"

2. I am also to request with reference to item 2 of Appendices IV and V, that the words "*At the end of the half-year*" may be substituted for "*At the middle of the half-year*" and that the words "*Since laid in the road*" in the foot-note to item No. 2, Appendix V, may be expunged.

3. Revised forms of Appendices IV and V are forwarded herewith.

I have the honour to be,

SIR;

Your most obedient Servant,

F. B. Nebbut

Officiating Under Secretary.

*Documents accompanying.*

No. 1.—Revised Appendix IV.

No. 2.—Revised Appendix V.

To The Secretary to the Government of India, Public Works Department (Rly. Bra

Enclosure No. 1 to Public Works Department Circular No. XVIII Railway dated the 8th September 1890.

_____ RAILWAY.

**Appendices to Analysis of working**—contd.

*Half-year ended* _____ *189* .

APPENDIX IV.

MAINTENANCE OF WAY.

*Rails.*

| | Details. | Iron. | | | | | Steel. | | | Total iron and steel. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Double-headed, weighing 82 lbs. per yard. | Double-headed, weighing 74 lbs. per yard. | Bridge, weighing 80 lbs. per yard. | Others. | Total. | Steel, weighing —lbs. per yard. | Steel, weighing —lbs. per yard. | Total. | |
| 1 | Miles of rail in way, including sidings* .. ... | 2,595·78 | 1,854·98 | 10·98 | 1·50 | 446·324 | ... | ... | ... | 446·324 |
| 2 | Average age of rails in way at the end of the half-year *Years.* | 15·00 | 12·60 | 14·50 | ... | 14·00 | ... | ... | ... | 14·00 |
| 3 | Rails removed *Miles.** | 18·24 | 20·28 | 0·07 | 1·58 | 40·17 | ... | ... | ... | 40·17 |
| 3*a* | Rails laid* ... ... | 18·24 | 20·28 | 0·07 | 1·58 | 40·17 | ... | ... | ... | 40·17 |
| 4 | Proportion removed per mile of rail (1) ... ... | 0·007 | 0·01 | 0·006 | 1·053 | 0·009 | ... | ... | ... | 0·009 |
| 5 | Average number of tons hauled over each kind of rail in the half-year ... ... | 401,760 | 398,600 | 390,500 | ... | *Nil.* | ... | ... | ... | *Nil.* |
| 6 | Thousands of tons hauled on an average over each kind of rail during the average age of rail in way (2) ... | 4,521,000 | 3,602,000 | 3,827,000 | ... | *Nil.* | ... | ... | ... | *Nil.* |

(1) This statement should embrace the entire open line, and not only the portion maintained by revenue. Under the heading "miles of rails in way" should be shown double the length of single track including sidings.

(2) The headings of the columns should not be rigidly followed: they should vary with the description of rails actually used, care being taken to keep steel and iron rails separate.

(3) The average age of rails may be given in terms of the nearest half-year.

(4) The average age of the rails in the way (2) must be, in the first instance, calculated by noting the dates on which the different lengths of line were opened, and the subsequent renewals of each kind of rail in each half-year, supposing the latter to have taken place in the middle of each half-year. After this has once been ascertained, the entries for future periods can be easily calculated. The average age should be calculated according to the following formula:—

Where A = Average age of rails in way at the end of the half-year.

N = Miles of rail in way at the beginning of the half-year.

A′ = Average age in years of rails in way at the beginning of the half-year.

R = Miles of rail removed during the half-year.

L = Miles of rail laid during the half-year.

0·5 = Half-year.

0·25 = Quarter of a year.

$$A = \frac{(N - R)\ (A' + 0{\cdot}5) + (L \times 0{\cdot}25).}{N - R + L.}$$

(5) In the event of any discrepancy between the mileage of rails removed and the mileage laid (items 3 and 3 A), a foot-note should be added explaining the cause of the discrepancy.

(6) The entries for the different kinds of rails against (5) will agree or vary according as the train service over the line is uniform or not.

(7) The figures for items 5 and 6 should be computed from the best available *data*, which will probably be based on the number of trains passing over each section of line.

* Expressed in miles and decimals of a mile.

*N.B.*—**The foot-notes are not to be reproduced.**

Enclosure No. 2 to Public Works Department Circular No. XVIII Railway, dated the 8th September 1890.

---

_____ RAILWAY.

**Appendices to Analysis of working**—concld.

*Half-year ended* _____ *189* .

APPENDIX V.

MAINTENANCE OF WAY.

*Sleepers.*

| | Details. | WOOD. | | | | | | | IRON. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transverse. | | | | | | Longitudinal sal sleeper, 10″ × 5″. | Bowl sleepers weighing the complete sleeper——lbs. | —— | Total. | Wrought-iron sub-way. |
| | | Fir 10′ × 10″ × 5″. | Sal 10′ × 10″ × 5″. | Jungle 10′ × 9″ × 5″. | Iron wood 10′ × 10″ × 5″. | Others. | Total. | | | | | |
| | | No. | No. | No. | No. | No. | No. | Linl. yds. | No.* | No. | No. | Linl. yds. |
| 1 | Number of sleepers in way including sidings, at the commencement of the half-year ... | 1,329,586 | 1,702,875 | ... | ... | 696,973 | 3,729,434 | ... | 136,572 | ... | 136,572 | 3,953 |
| 2 | Average age of sleepers in way at the end of the half-year *Years*... | 6·50 | 15·50 | ... | ... | 10·00 | 11·00 | ... | ... | ... | ... | ... |
| 3 | Number removed ... | 72,187 | 91,151 | ... | ... | 11,184 | 174,522 | ... | 269 | ... | 269 | ... |
| 4 | Number laid ... | 74,481 | 46,325 | ... | ... | 34,419 | 155,225 | ... | 28,866 | ... | 28,866 | ... |
| 5 | Percentage of removals on total of each class (1) ... ... | 5·43 | 5·35 | ... | ... | 1·60 | 4·68 | ... | 0·19 | ... | 0·19 | ... |
| | Number of sleepers in way including sidings at the end of the half-year ... ... | 1,331,880 | 1,658,049 | ... | ... | 720,208 | 3,710,137 | ... | 165,169 | ... | 165,169 | 3,953 |

(1) This statement also should be for the entire open line. The average age should be given in terms of the nearest half-year, and the headings of the columns altered to suit the facts in each case.

(2) For the purpose of calculating the average age, the following formula should be adopted, it being assumed that sleepers are laid and removals effected at the middle of each half-year.

Where A = Average age of sleepers in way at the end of the half-year.

N = Number of sleepers in line at the beginning of the half-year.

A′ = Average age in years of sleepers in the line at the beginning of the half-year.

R = Number of sleepers removed during the half-year.

L = Number of sleepers laid during the half-year.

0·5 = Half-year.

0·25 = Quarter of a year.

$$A = \frac{(N - R)(A' + 0{\cdot}5) + (L \times 0{\cdot}25)}{N - R + L}.$$

(3) In the event of any discrepancy between the number of sleepers removed and the number laid (items 3 and 4) a foot-note should be added explaining the cause of the discrepancy.

* Whether round or oval, should be stated at head, and the number should be the number of complete sleepers.

*N.B.*—The foot-notes are not to be reproduced.

Pw Fuel
₹350/90