Issued by Email on 25.10.23

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
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No. 2017/10/CE-III/BR/PSC Slabs **New Delhi, Dt. 19.10.2023**

Chief Bridge Engineers,
All Zonal Railways

Sub: Proposals of Works of replacement/regirdering of Steel Girders Bridge.
Ref: Provision of Para 630 of IRPWM, 2020.

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It is noted that proposals of re-girdering of steel girders of span 9.15 m & 12.2 m are being sent by zonal railways. Replacing of steel girders with PSC slabs is having the following advantages:-

(i) Reduction of track maintenance over the bridge as normal PSC Sleeper with ballast is provided.
(ii) Reduction in workload of inspection & maintenance of Steel Girder & bearings.
(iii) LWR can be continued over the bridge, eliminating the need of SEJ on approaches for isolation of bridge.
(iv) Running over the bridge is improved.

2. The speed potential of the section can be improved with the above advantages. RDSO has already issued drawings for PSC slabs up to 12.2 m spans (Pre-tensioned & post tensioned types both). For 18.3 m span also standard design drawings of U-Shape Girder are available which offer advantage of ballasted deck and continuation of LWR with RSI studies. Therefore, it is desirable that all the Steel Girders upto **12.2 m** span are replaced with standard PSC Slabs on age cum condition basis systematically with priority to single/ shorter span bridges.

3. While making the proposals for replacement of Steel Girder with PSC Slabs, following should also be kept in view:-

(i) The Track is approach is to be maintained as per Para 630 of IRPWM and adequate cess width (Minimum 900 mm) is to be provided clear of full ballast section as per standard LWR profile. The existing arrangement of old abutments and wing walls can not accommodate this additional width. Therefore, extension of abutments & construction of new wing walls/return walls is essentially required which should be the part of the rehabilitation proposal.

(ii) Replacement of Steel Girders with PSC slabs usually require strengthening of Piers & abutments by jacketing to make them suitable for new loading standard (25 T loading/ 32.5 T loading). Standard type plan of jacketing with dowelling arrangement are followed for the purpose. Review of these type plans may be done with innovative ideas for technical improvement and reduction of cost.

4. In view of above, it is advised that careful scrutiny of proposals is done and in future comprehensive proposals for rehabilitation of Steel Girder Bridges duly examined at your level are submitted for sanction.

(Niraj Kumar)
Executive Director, Civil Engg. (B&S)
Railway Board

Copy to: ED(B&S), RDSO, Lucknow for information.