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भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

No. 2023/48/CE-III/BR/3000 MT (e-Office No. 3448988) New Delhi. Dated 05.05.2025

The General Managers,
All Zonal Railways.

Sub:- Assessment of Residual Fatigue Life of Steel Girder Bridges as on 21.03.2025.

Ref:- (i) Railway Board letter No.2023/48/CE-III/BR/3000 MT (e-office No.3448988)
dated 04.10.2024.

(ii) ACS No. 42 dated 22.07.2024 of IRBM.

Attention is invited to Board's above referred letters on the captioned subject. All Zonal Railways had been provided with requisite training to carry out residual fatigue life analysis of bridges. A special course on design, fabrication, quality control, inspection & maintenance aspects of steel girder bridges was also organized at Gati Shakti Vishwavidyalaya in Nov-Dec, 2024 where fatigue phenomenon & codal provisions were specially discussed. Accordingly residual fatigue life analysis of steel girder bridges more than 50 years old on high GMT routes (> 40 GMT) has been done by the zonal railways. The position has been scrutinized and the status of bridges, having insufficient residual fatigue life, is indicated in **Annexure-I** attached.

2.0 The identified bridges needs to be sanctioned on priority for regirdering/ replacement with PSC slabs. Six railways (CR, ER, ECoR, SER, SECR, WR) have already been authorized to adopt Alternate Current Field Measurement (ACFM) technology to detect imminent fatigue cracks on trial basis. Till such time extensive monitoring of identified bridges shall be done as per para 212A of IRBM.

3.0 The matter may kindly be examined further and suitable regulations of freight traffic be ensured for extending the service life of old steel girders till the replacement/ rebuilding is completed.

DA: Annexure -I


(R.K. Goel)

Principal Executive Director/Bridge
Railway Board

Copy to:

- (i) PCE/All zonal Railways for information and necessary action.
- (ii) PED/Infra-II/RDSO, for information, guide & assist ZRs to expedite trial.
- (iii) DG/IRICEN & DG/RDSO for information please.
- (iv) ED/Training, Railway Board for information & arranging a fresh short course on "Design, Fabrication & Maintenance of steel Girder Bridges" at GSV.

Residual Fatigue Life Assessment (RFLA) of bridges as on 21.03.2025

{Ref: Letter No. 2023/48/CE-III/BR/3000 MT (e-Office No. 3448988) dated 05.05.2025}

Rly	Scope	No. of Bridges Assessment done	No. of Bridges With insufficient Residual Fatigue Life				Remarks
			Phase -I Assessment	Phase-II Assessment	Sanctioned	Balance to be sanctioned	
CR	54	54	32	3	1	2	Balance 2 nos. of Br. are under sanction. Other bridges are under monitoring.
ER	0	0	0	0	0	0	-
ECR	43	43	36	29	0	29	Sanction to be expedited.
ECOR	104	104	104	4	97	7	Only 4 bridges Phase -II assessment done. Balance 7 Bridges are under sanction.
NR	129	115	115	1	0	115	Phase -I assessment For 14 bridges is yet to be done. These bridges shall also be sanctioned if RFL is found short.
NCR	70	66	66	56	0	56	15 nos. bridges will be proposed for instrumentation for detailed assessment.
NER	0	0	0	0	0	0	-
NFR	22	22	22	22	1	21	9 nos. bridges will be proposed for instrumentation for detailed assessment.
NWR	0	0	0	0	0	0	-
SR	0	0	0	0	0	0	-
SCR	108	103	100	100	56	44	Assessment of remaining 5 nos. bridges is yet to be done.
SER	91	91	91	91	70	21	Bridges are under monitoring.
SECR	189	189	120	120	0	116	4 nos. bridges rehabilitated. Sanction to be expedited.
SWR	0	0	0	0	0	0	-
WR	104	93	43	43	0	43	3 nos. bridges will be proposed for instrumentation for detailed assessment.
WCR	68	68	68	2	0	68	33 nos. bridges will be proposed for instrumentation for detailed assessment.
Total	982	948	797	471	225	522	

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05/05/2025
PEB/B