

I/3102221/2024

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

No.2023/19/CE-III/BR/RDSO/1(E-3423738)

New Delhi, Dated: 06.08.2024

Principal Chief Engineers,
All Zonal Railways

- Sub:** Strengthening of Design cells & Bridge Line units
Ref: (i) Review meeting on 19.07.2024 at Mumbai.
(ii) Rly Bd. L. No. 2016/52/CE-III/BR/Safety dated 05-08-2024.
(iv) Rly Bd L. No. 2017/50/CE-III/BR/FOB dated 26.04.2024
(v) Rly Bd L. No. 2017/Trans/01/policy dated 27-11-2017.
(vi) 2024/10/CE-III/BR/Prof of Practice(E-3454464) dated 05-03-2024

Bridges are important structures related to public safety. Design and maintenance of these structures require careful consideration of actual needs of the user, material strength and it's deterioration with age & fatigue effects on structure under sustained dynamic loads etc. The FOB/ROBs are generally constructed in steel and adequate safety margins are to be kept in design for material degradation and future increase in loading. With faster pace of development, the population of bridges is constantly on increase. New types of designs are being adopted increasingly.

2.0 In order to maintain the bridges, the professional capabilities of maintenance units and design cells are to be improved. Some of steps which can be taken early are as under :-

(A) PLANNING & UP GRADATION OF FACILITIES:

- (i) Strengthening of **Design cells & Bridge line units** by filling up vacant posts of SSE/JEs.
- (ii) Creating **additional posts of Dy. CE/Br-Line, SSEs/JEs** in bridge line units & design cells to deal with the work of planning & design of bridges effectively. The posts rendered surplus in other categories may be got re-designated for the purpose.
- (iii) **New Software for RSI analysis and design of bridge structures** etc. shall be procured.

(B) KNOWLEDGE SHARING & TRAINING:

- (i) The **training facilities** for supervisors and artisans at **ZBTIs** shall be reviewed and deficiencies shall be made good. Additional works shall be got sanctioned for procurement of **computers, teaching aids, up-gradation of hostels** & other civil amenities.
- (ii) Training needs of **Design & Drawing cadre** to be identified & special courses to be get conducted at ZBTI or IRICEN.
- (iii) Nominating Bridge Engineers & SSEs in **technical seminars** organised by various bridge forums.
- (iv) **In-house training/seminars** on issues of correct preparation of GADs, maintenance of ROB/FOBs, inspection of bridge, case studies on failures etc. should be organised periodically in Divisions/ HQs. for knowledge sharing.

I/3102221/2024

(C) QUALITY CONTROL :

- (i) **Bridge Work Shop & ZBTI** shall be under the administrative control of **CBEs**.
- (ii) **List of working consultants** shall be maintained with their core competence in specific fields of design such as Steel FOBs, RCC Structures & ROB, preparation of General arrangement Drawings and TADs, waterway calculation for bridges, RSI studies, third party auditing etc.
- (iii) **All new construction** should be maintenance friendly with control on quality of work. CBE shall have **check list** to scrutinise the GADs & quality of fabrication should be ensured through **third party inspection**.
- (iv) The **professional competence** of the engineers involved in the fabrication inspection to be reviewed & got certified.

(D) REVIEW & MONITORING:

- (i) One Sr. DEN/ DEN shall be made in-charge of bridge matters in divisions.
- (ii) Adequate no. of SSE/JEs shall be posted in **Divisional Bridge Cell**. There should be centralised control of various correction slips issued to codes & manual and technical instructions issued by RDSO, railway Board etc. for effective implementation and regular updation on **Bridge Management System**. Adequate number of Data Entry Operator should be made available to Divisional Bridge Cell for updation of above.
- (iii) Sr. DEN/Co shall have **weekly meeting** to review the position of Bridge rehabilitation works and matters pertaining to inspection of bridges. Concept of predictive maintenance shall be followed.

(E) OTHERS:

- (i) **Third party audits** shall be got conducted for **old & vulnerable ROB/FOBs** and other bridges as per Railway Board instruction already issued.
- (ii) Assistance of **RITES/IRCON/DMRC/IITs /NIITs/ VJTI, Mumbai /CRRI/ SERC /IISc, Bangalore /CWPRS, Pune/ NIH, Roorkee /CSIR labs/PSUs** and other institutions of repute shall be taken in specific cases of planning, design, peer review of Designs & DPRs and structural audits etc. as per Rly. board instructions issued vide **ref- (iv)** above.
- (iii) **DPR for works** related with **improving the mobility** may be got sanctioned under **PH-32** to improve speed potential or to relax existing speed restrictions on bridges.

DA : As Above

(Ravindra Kumar Goel)
Principal Executive Director (Bridge)
Railway Board

Copy to:**GMs All zonal railways** - for information.**DG/IRICEN** – for information pl.