

NE Rly HQ
Gorakhpur.
W/29/O/A/
Pt. I/1
Feb 07, 1989.

Bridge Circular No. 4 of 1989.

- The Divl Railway Manager(Engg.),
SPJ, SEE, BSB, LUN, IZN.
- The Chief Workshop Manager(Bridges),
Gorakhpur Cantt.

Sub : Bridge Inspection Schedule.

Consequent to the acceptance of recommendations of the Bridge Sub-committee by the Board, there will be four types of inspection schedule for bridges as mentioned below:

1. Routine Observation:

Permanent Way staff on their normal schedule of inspections of track will inspect track over bridges alongwith cursory inspection of bridge structure. This will be called 'routine inspection'.

2. Normal Inspection:

1. Aim of the normal inspection will be to bring to the notice, deterioration in condition or development of defects, such as, new cracks or worsening of old cracks; falling or displaced masonry; girders displaced from bearing; walls out of plumb or any other defect which might cause risk to the safety of the bridges.

2. Periodicity of such inspection will be as laid down in para 1001 to 1004 of IRW&W Manual as under:

...2.

Inspecting official.	Type of bridge	Frequency of Inspection.
PWI	Bridges carrying track.	Once in a year before monsoon
IOW	Road and foot-over-bridges.	-do-
BRI	(a) Steel work of all girder spans in track above 12.2m including road and foot-over-bridges. (b) Overstressed bridges.	Once in 5 years by rotation. At least once in a year.
AEN	All the bridges.	Once in a year after monsoon.
DEN	All the Important bridges and bridges referred by AEN.	Once in a year.

3. Detailed inspection of old bridges:

- .1 This inspection will be done by XEN/Br./OL under CWM/Br./OL, in addition to present insp. schedule.
- .2 This will include detailed examination of the structure, taking into account the special features. An assessment of the defects will be made & backed up by dated photographs where necessary. Interval of such inspection is as indicated below:

Periodicity of Inspection of old bridges.

Code	Type of bridges	Schedule of detailed inspection.
01	Open web early steel/ wrought iron girders. • Floor system. —————→ • Other members. —————→	Once in a year. Once in 4 years by rotation covering 25% each year.
02	C.I.screw piles	"
03	Arch bridges.	"
04	Bridge structures constructed prior to 1925 particularly with tall piers, i.e. more than 6.00m in height.	"
05	Corrugated steel pipes/ arches like ARMCO pipes.	Once in 3 years.

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4. Inspection of distressed bridges:

- .1 Distressed bridges are classified in two categories as per Circular No. 2 dt. 15 Sep 88.

Code Category : Those requiring rehabilitation immediately, say within a year's time.

D1

No.1

D2

No.1

: Those required to be kept under observation and to be rehabilitated on a programmed basis.

- .2 Level and periodicity of such inspection will be as below:

Code	Category	Inspection	
		Level	Frequency.
D1	I	DENS/Sr.DENS	Once in 3 months.
D2	II	Territorial CEs or CBE if referred to by Territorial CEs. (Territorial CEs will ask for specific guidance)	Once in a year.

- .3 CBE will also inspect 20% of D2 category bridges every year, specially those to be included in FWP.
- .4 Where distress is in steel girders, inspection shall be done by XEN/Bridges/Gorakhpur.
- .5 Cases referred by Sr.DENS/DENS shall also be inspected by Territorial CEs.
5. All bridges which had been constructed almost at the same time and with the same material, as the bridges which are showing signs of distress, in a particular section, will be kept under close observation and classified as D3.

All such bridges will be subjected to detailed inspection once in 5 years by rotation, covering 20% bridges each year, by Sr.DENS & DENS and test checked by Territorial Chief Engineers.

6. Special inspection:

- .1 Special inspection shall be carried out on the slightest observation of distress such as flattening of arches, loss of camber etc. by any inspecting officer/official, as a result of deterioration or change in loading resulting in additional stresses. Re-assessment of strength of structure will be done for revised loadings & introduction of multiple engine operations etc.
- .2 Special testing and structural analysis, if considered necessary by CBE, shall also be done and kept on record.
- .3 Such inspection shall be carried out for a bridge so identified by an officer from HQ nominated by CBE.

Ambar
Chief Engineer
07/02/89

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