

Issued by  
Brall on 07.12.24

GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS  
(RAILWAY BOARD)

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No. 2021/55/CE-III/BR/Tunnel(E-3450468)

New Delhi, dated 26.11.2024

Principal Chief Engineers,  
All Indian Railways,

Sub:- Development of "Tunnel Inspection" modules in TuMS Application.

Ref: NR/CPD/TMS's letter No. 198-W/e-Gov/Tunnels/TMMS dt. 22.11.2024.

(ii) Board's letter No. 2021/25/CE-III/BR/1/BMS/Drone dt. 06.08.2024 & 26.09.2023.

(iii) Board's letter No. 2016/55/CE-III/BR/Tunnel (E-3450468) dt. 24.09.2024.

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The inspection of tunnels is covered under Chapter 10 of IRBM of annual tunnel inspection by officials. Tunnel inspection module "Tunnel master module (TuMS)" application to cover the various aspect of annual tunnel inspection has been has been developed and is accessible through BMS application. The Broad features of the TuMS application for Tunnel inspections are as under:-

**Post monsoon inspection by SSE/P.way and SSE/Works.**

- Register creation & tunnel assignment
- Register wise, tunnel wise, inspection entry
- Signing of certificate by SSE/P.Way and SSE/Works
- Tunnel inspection review by ADEN
- Signing of certificate by ADEN
- Compliance entry by SSE/P.Way

**Pre monsoon inspection by ADEN**

- Register wise, tunnel wise, inspection entry along with CRN/ORN/URN
- Signing of certificate by ADEN
- Tunnel inspection review by Sr.DEN/DEN
- Signing of certificate by Sr.DEN/DEN
- Tunnel inspection register review & instructions by CBE
- Compliance entry by ADEN

**Unusual occurrence module:-** To enter details of unusual occurrences in tunnels and adjoining area, details of remedial measures taken along with Photos etc.

With implementation of TuMS for post-monsoon inspection by SSE/P-way & SSE/Works and pre-monsoon inspection by ADEN is to be done in TuMS Module.

Old inspection record should be preserved .

Niraj

Kumar

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by Niraj Kumar  
Date: 2024.11.27  
18:19:58 +05'30'

(Niraj Kumar)

Executive Director Civil Engg./B&S

Phone No. 011-478-45474

Copy to: (i) CBEs/All Indian Railways for information & necessary action please.

(ii) CPD/TMS/NR, for arranging Training accordingly.

**Northern Railway**

Headquarters office,  
Baroda House,  
New Delhi.

No. 198-W/e-Gov/Tunnels/TMMS

Dated: 22.11.2024

**Principal Executive Director (Bridge),**  
Railway Board,  
New Delhi.

**Sub:** Development of "Tunnel Inspection" modules in TuMS Application.

**Ref:** Rly Bd letter no. 2021/25/CE-III/BR/1/BMS/Drone dated 6.8.2024

Railway Board vide above letter has informed to Zonal Railways that tunnel master module of TuMS has been developed by CRIS and divisions should start filling of data in tunnel master module. The filling of data must be completed before start of the inspection of tunnels .

Based on provision in **chapter X PART A-Tunnels of IRBM**, Tunnel Inspection modules have been developed in TuMS Application (accessible through BMS Application) to cover various aspects of annual tunnel inspections by officials. Details of various modules developed for tunnel inspection, are as below:

- 1. Post monsoon inspection by SSE/P.way**
  - a. Register creation & tunnel assignment
  - b. Register wise, tunnel wise, inspection entry
  - c. Signing of certificate by SSE/P.Way
  - d. Tunnel inspection review by ADEN
  - e. Signing of certificate by ADEN
  - f. Compliance entry by SSE/P.Way
- 2. Post monsoon inspection by SSE/Works**
  - a. Register creation & tunnel assignment
  - b. Register wise, tunnel wise, inspection entry
  - c. Signing of certificate by SSE/Works
  - d. Tunnel inspection review by ADEN
  - e. Signing of certificate by ADEN
  - f. Compliance entry by SSE/Works
- 3. Pre monsoon inspection by ADEN**
  - a. Register wise, tunnel wise, inspection entry along with CRN/ORN/URN
  - b. Signing of certificate by ADEN
  - c. Tunnel inspection review by Sr.DEN/DEN
  - d. Signing of certificate by Sr.DEN/DEN

- e. Tunnel inspection register review & instructions by CBE
- f. Compliance entry by ADEN

4. **Unusual occurrence module:-** To enter details of unusual occurrences in tunnels and adjoining area, details of remedial measures taken along with Photos etc.

TuMS has been developed in line of BMS having concept of separate tunnel register of ADEN, SSE/W and SSE/PWAY. The work flow of TuMS and BMS is also similar.

Railway Board vide letter dated 18.5.2023 issued instruction for inspection of Bridges "that due to implementation of BMS, the bridge register has been withdrawn and replaced by BMS modules". However, all old register must be preserved as a permanent record for reference. Similar instructions for effective implementation of TuMS are also required to be issued by the Bd.

A Video Conference (VC) has been planned on 27.11.2024 (Wednesday) for all concerned with tunnel maintenance, to provide insight about these newly developed modules. Link for the VC will be shared in due course of time.

It is desired to please advise all the concerned to attend the VC.

  
(Achal Jain)

Chief Project Director/TMS

**Copy to:**

- 1) AMCE, Railway Board for kind information please.
- 2) MD/CRIS, for information and necessary action pl .
- 3) EDCE (B&S)-I, Railway Board for information and necessary action pl .



Issued by bmuell  
on 06.08.2024

GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS  
(RAILWAY BOARD)

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No. 2021/25/CE-III/BR/1/BMS/Drone

New Delhi, Dt.06.08.2024

Principal Chief Engineers,  
All Zonal Railways.

Sub: - Launch of "Tunnel Master" module of Tunnel Management System (TUMS).

Ref: - Chief Project Director/TMS/NR's letter no. 198-W/e-Gov/Tunnels/TMMS dated 05.08.2024.

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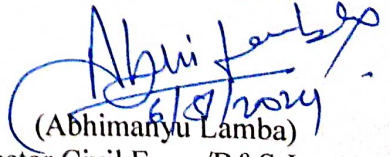
The inspection/maintenance of tunnels is covered under Chapter 10 of IRBM. For inspection and maintenance of Tunnel, details of all tunnels are required. For this purpose, Tunnel master module has been developed in BMS Application to cover various aspects of tunnels as detailed below:-

1. Jurisdiction details (tunnel no, section, location, register no. etc.)
2. Jurisdiction details (tunnel no, section, location, register no. etc.)
3. Track details (lines, ballasting etc.)
4. Age & Service (construction year etc.)
5. Geometry (construction method, tunneling media, shape, width, lining, cutting etc.)
6. Structural elements (portals etc.)
7. Drainage
8. Lighting
9. Ventilation
10. Fire safety & rescue
11. Sensor & instrumentation
12. Last inspection details

The TUMS has been developed in line of BMS having concept of tunnel register, data has to be filled by ADEN and test checked by DEN/SrDEN etc.

In this regard, CRIS will demonstrate the use of Tunnel master module through Video Conference (VC) on 09.08.2024 (Friday) at 15:00 Hrs, link for the VC will be shared in advance.

DA: As above.

  
(Abhimanyu Lamba)  
Director Civil Engg./B&S-I  
Phone No. 011-478-45459

Copy to:-

1. CBEs/All Zonal Railways for information & necessary action please.
2. MD/CRIS, Chanakyapuri, New Delhi for information & necessary action please.

## Northern Railway

Headquarters Office,  
Baroda House,  
New Delhi.

No. 198-W/e-Gov/Tunnels/TMMS

Dated: 05.08.2024

**Principal Executive Director (Bridge),**  
Railway Board,  
Rail Bhavan,  
New Delhi.

**Sub:-** Launch of "Tunnel Master" module of Tunnel Management System (TUMS)

A work named "Tunnel management system (TUMS) " for inspection/maintenance of tunnels has already been sanctioned. The inspection/maintenance of tunnels are covered under Chapter 10 of IRBM. So, it has been decided to make TUMS as part of BMS to avoid multiplicity of login/password.

For inspection and maintenance of Tunnel , details of all tunnels are required. For this purpose, Tunnel master module has been developed in BMS Application to cover various aspects of tunnels as detailed below :-

1. Jurisdiction details (tunnel no, section, location, register no. etc.)
2. Track details (lines, ballasting etc.)
3. Age & Service (construction year etc.)
4. Geometry (construction method, tunneling media, shape, width, lining, cutting etc.)
5. Structural elements (portals etc.)
6. Drainage
7. Lighting
8. Ventilation
9. Fire safety & rescue
10. Sensor & instrumentation
11. Last inspection details

The TUMS has been developed in line of BMS having concept of tunnel register, data has to be filled by ADEN and test checked by DEN/SrDEN etc.. CRIS will demonstrate the use of Tunnel master module through Video Conference (VC) on Friday (09.08.2024) at 3 PM, link for the VC will be shared on 08.08.2024.

As data has to be filled by ADen, so, Railway Board may please advise to all zonal Railways to ensure that all concerned **ADEN** must attend the VC besides officers of Division and HQ.

ACHAL JAIN Digitally signed by ACHAL JAIN  
Date: 2024.08.05 12:17:43  
+05'30'  
**Chief project Director/TMS**

**Copy to:**

- 1) AMCE, Railway Board, New Delhi for kind information please.
- 2) MD/CRIS, Chanakyapuri, New Delhi for information please.
- 3) ED/B&S for information and necessary action please.

Issued by  
Email on 26.09.23

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

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No. 2021/25/CE-III/BR/1/BMS/Drone

New Delhi, dated 26.09.2023

Principal Chief Engineers,  
All Indian Railways,

**Sub:** - Introduction of Technical Bridge Master & Technical Bridge Inspection and other modules in BMS application.

**Ref. :** -(i) CPD/TMS/NR's letter No. 198-W/e-Gov/TMS/BMS/Estimate/Pt-1 dt. 20.09.2023.  
(ii) Board's letters of even number dated 02.03.2023 and 18.05.2023.

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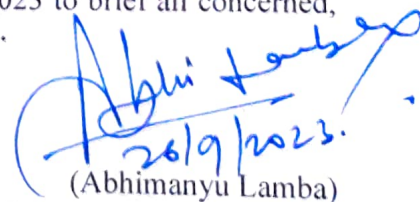
The Bridge master and inspection module for technical inspection of Bridges have been developed in BMS which will be made live on IRBMS w.e.f. 30.09.2023, the broad features of the same are as under:-

1. User Management module to create bridge line organization posts/hierarchy.
2. Introduction of Bridge registers.
3. Bridge asset master for additional details in reference to technical inspection (to be updated by SSE/Bridge).
4. Technical inspection forms having facility to enter rivet/weld/HSFG bolt testing, Camber recording in addition to all required inspection entries of superstructure including bearings as per provisions in Bridge manual.
5. Introduction of bridge inspection certificate at the end of each bridge register.
6. Online submission of annual bridge inspection registers by SSE/Bridge to HQ office through proper channel.
7. Facility given to HQ office (Dy. CE/BD or DY.CE/Br./HQ) to scrutinise bridges inspection registers as per provisions in Bridge manual.
8. User friendly bridge inspection forms and reports.
9. Compliance module has also been developed to record compliance of defects noticed & marked during inspection.

Besides above, following modules have also been developed:-

- a. Module for recording of history/unusual incidence etc by ADEN & SSE/Bridge.
- b. Module for uploading "Under Water Inspection" of bridges by ADEN.
- c. Module for uploading important circulars/drawings etc. by Railway Board/HQ office.

In this regard, VC will be organized by CRIS on 4th & 5th Oct. 2023 to brief all concerned, VC link will be shared in advance.

  
26/9/2023.

(Abhimanyu Lamba)  
Joint Director/Civil Engg./B&S  
Ph. No. 011-478-45459

Copy to:-

- 1). CBE/All Zonal Railways for information & necessary action please.
- 2). MD/CRIS, Chanakyapuri, New Delhi for information and necessary action.



Northern Railway

SN-27  
Headquarters Office,  
Baroda House,  
New Delhi.

Dated: 20.09.2023

No. 198-W/e-Gov/TMS/BMS/Estimate/Pt-1

**Principal Executive Director/Bridge,**  
Railway Board,  
Ministry of Railways,  
Rail Bhawan,  
New Delhi.

**Sub:** Introduction of Technical Bridge Master and Technical Bridge Inspection and other modules in BMS application.

**Ref:** Rly Board letter no.2021/25/CE-III/BR/1/BMS/Drone dated 02.03.2023 & 18.5.23

The Bridge master and inspection module for technical inspection of Bridges have been developed in BMS, will be made live on IRBMS w.e.f 30.9 2023, the broad features are as under:-

1. User Management module to create bridge line organisation posts/hierarchy.
2. Introduction of Bridge registers.
3. Bridge asset master for additional details in reference to technical inspection (to be updated by SSE/Bridge).
4. Technical inspection forms having facility to enter rivet/weld/HSFG bolt testing, Camber recording in addition to all required inspection entries of Superstructure including bearings as per provisions in Bridge manual.
5. Introduction of bridge inspection certificate at the end of each bridge register.
6. Online submission of annual bridge inspection registers by SSE/Bridge to HQ office through proper channel.
7. Facility given to HQ office (Dy.CE/BD or Dy.CE/Br./HQ) to scrutinise bridges inspection registers as per provisions in Bridge manual.
8. User friendly bridge inspection forms and reports.
9. Compliance module has also been developed to record compliance of defects noticed & marked during inspection.

Besides above, following modules have also been developed:-

- a. Module for recording of history/unusual incidence etc by ADEN & SSE/Bridge.
- b. Module for uploading 'Under Water Inspection' of bridges by ADEN.
- c. Module for uploading important circulars/drawings etc. by Rly Board/Hq office

In this regard, VC will be organised by CRIS on 4 & 5<sup>th</sup> Oct.'2023 to brief all concerned, VC link will be shared in advance.

Railway Board vide letter dated 18.5.23 issued the instructions that " Due to implementation of BMS, the bridge registers used by SSE(P.Way)/SSE(Works) for pre monsoon inspection and ADEN for post monsoon inspection have been withdrawn and replaced by the BMS module. However, all old such registers must be preserved as a permanent record for reference."

Railway Board may consider to issue the similar instructions for technical inspection of Bridges also .

ACHAL JAIN Digitally signed by ACHAL JAIN  
Date: 2023.09.20 17:29:34  
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Chief Project Director/TMS

JP  
185 ne letter  
07/22/23  
Copy to:

1. AMCE, Railway Board kind information please.
2. PCE(s), All Zonal Railways for information and necessary action as mentioned in the letter.
3. MD/CRIS, Chanakyapuri, New Delhi for information and necessary action.

Issued by bmeel  
on 25.09.2024

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

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No.2016/55/CE-III/BR/Tunnel (E- 3450468 )

New Delhi, Dated 24.09.2024

Chief Project Director,  
Track Management System,  
Northern Railway,  
New Delhi.

Sub:- Tunnel Rating System for inspection of Tunnels on IR.

Ref:- Your letter No. 198-W/e-Gov/Tunnels/TMMS dated 19.09.2024 .

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Vide above referred letter CPD/TMS has proposed Numerical Rating System for tunnel inspection in Tunnel Management System. This is based on the book published by IRICEN titled "Railway Tunnels". The same rating system is also given in guidelines for Civil Engg. Inspection, Maintenance and Safety in existing Tunnels Report No. RDSO/2009/G-0015(issued in 2012). Draft Indian Railway Tunnel Manual has also been prepared by RDSO. These manual /guidelines are still under scrutiny and likely to be discussed in coming BSC. In both of these documents, the same Tunnel Rating System has been specified.

In-principal approval for adoption of conditional rating number on the basis of above is hereby granted subject to modifications coming up, if any in BSSC.

Niraj  
Kumar

Digitally signed  
by Niraj Kumar  
Date: 2024.09.24  
16:52:57 +05'30'

(Niraj Kumar)  
Executive Director/Civil Engg. (B&S)  
Railway Board  
Ph. No.011- 478-45474