



डेडीकेटेड फ्रेट कोरीडोर

EXPRESSION OF INTEREST

FOR

**STUDY ON SUITABILITY OF RAIL TO FACILITATE RUNNING OF
HEAVIER AXLE LOAD ON DFCCIL**

EOI-DOCUMENT

(21st Dec.'2021)

No. HQ-ENWC0MMS(MISC)/1/2021/GGM/WC-I/DFCC/12973

Employer:

**DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE)**

**Under
MINISTRY OF RAILWAY**

Dedicated Freight Corridor Corporation of India Limited

Expression of Interest

1. Background:

Dedicated Freight Corridor Corporation of India Ltd. (hereafter referred as DFCCIL) is a Special Purpose Vehicle set up under the administrative control of Ministry of Railways to undertake planning & development, mobilization of financial resources and construction, maintenance and operation of these Dedicated Freight Corridors on various identified routes in INDIA. DFCCIL is currently constructing Eastern and Western corridors and appx 1000 Km of the Corridor has already been completed and is under operation (New Rewari- New Palanpur (Appx 650 Km) and New Khurja - New Bhaupur (350Km).

Track being one of the most important infrastructure assets, DFCCIL intends to have most efficient and dynamic Track Condition Monitoring System for deploying state-of-the-art Track Inspection and Recording including the Maintenance Management to maintain the assets in an effective manner requiring least dependence on subjective assessment.

2. Objective:

Dedicated Freight Corridor Corporation of India Limited has decided to conduct a detailed study on suitability of 60kg (90 UTS) rail for 25t axle load operation at 100 kmph on DFCCIL and invites Expression of Interest (EOI) in sealed cover from specialized agencies.

3. Salient Features

TRACK

Track Gauge : 1676 mm

Rails : 60 KG Gr. 1080 Head Hardened for main line / 60 KG 880 Gr. For loop lines and sidings in WDFC and 60Kg 880 Gr in EDFC.

Sleepers : PSC sleepers suitable for 25 Tonne axle load

Turnouts: Canted T/Outs of 60 Kg thick web switches & weldable CMS crossings

Welding: Continuous Welded rails all through including yards and Bridges etc.

Level Crossings: No surface crossing is planned . Grade separators are provided

4. Terms of References:

DFCCIL desires to conduct a detailed study for suitability of 60kg (90 UTS) rail for 25t axle load operation at 100 kmph on DFCCIL. The study will deliberate on the following aspects:

1. Criteria followed for selection of rail for operation of 25t axle load at 100 kmph & similar operational requirements. It may include:
 - 1.1 Rail stress calculations based on yield / allowable stress
 - i) Theoretical method for estimation of bending stress in rail due to dynamic wheel load of wagon at critical locations of rail cross section, using IR method or comparable calculations based on international practices of any other advance railway systems.
 - ii) Theoretical method for estimation of total stress in the rail which includes consideration of bending stress due to dynamic wheel load of wagon, thermal stress, residual stress, stress in rail for unforeseen factors & any other stress especially due to curvature in the track (if any), etc. based on IR method or comparable calculations based on international practices of any other advance railway systems.
 - iii) Estimation of various parameters required in rail stress calculations e.g. value of track modulus, Dynamic augment etc. for various speeds for freight stock DFC/IR conditions.
 - 1.2 Fatigue analysis of Rail
 - 1.3 Contact Stress Considerations (allowable shear stress, Yield and shakedown limit)
 - 1.4 Wear and hardness requirement of Rail
 - 1.5 Effect of small wheel diameter on strength requirement of rail (1000mm vis-a-vis 840mm new wheel diameter)

The above studies (para 1.1 to 1.5) should facilitate to work out minimum technical requirements for 60 kg rail section, in terms of steel grade, UTS, proof stress, max. value of permitted residual stress.

2. Measurement of following on DFCCIL track through experiments:
 - i) Stress free temperature of LWR track.
 - ii) Stress on critical points of rail section under no train load condition i.e. due to residual & thermal stress in rail.
 - iii) Stress on critical points of rail section (rail foot centre, rail foot corner (GF & NG), Rail head (GF, NG) under train load condition for 25t @ 100 Kmph.

5. Prequalification Process:

The prequalification process can be briefly described as:



6. Submission Requirements:

The interested parties would be required to fill the form given in Annexure A below-

ANNEXURE A

A. Company/Consultant Details

Company Name:	
Type of Firm: (Corporate or company / Subsidiary / Division / Proprietor / Partnership.)	
Registered With & Registration No.:	
Date of Incorporation:	

<u>Statutory Details</u> GSTIN: PF No.: PAN No.:	
Address:	
Telephone:	
Website:	
Name of the Contact person:	
E-mail of the contact person:	
No. of years of relevant experience:	

B. Details of Relevant Work Performed in the last three years:

(attach completion certificates / references/recommendations)

Name of Client, Client's representative & contact details	Project Description	Contract Values.	Start Date	Completion Date

C. Details of Current Works in Hand:

(attach additional sheets if necessary)

Name of Client, Client's representative & contact details	Project Description	Contract Value Rs.	Start Date	Completion Date

D. Total Value of Projects completed each year, for the previous three years.

Year	Location	Total Value of Works completed (Rs.)

E. Qualifications and experience of key personnel proposed for administration and execution of works. *(attach resumes of key personnel)*

Position	Name	Qualifications	Years of experience in proposed position

F. Financial Referees / References

(attach Solvency Certificate from the bank confirming that the company's bank account in a good standing)

Bank / Financial Institution	Name of Referee	Position	Contact Details

G. Current Financial Details

(attach financial statements & profit/loss statements for the previous 3 years)

Financial information in Rs.	Actual previous three years		
	1	2	3
1. Total assets			
2. Current assets			
3. Total liabilities			
4. Current liabilities			
5. Profits before taxes			
6. Profit after taxes			



H. Details of Current Litigation Involvement

Year	Award For or Against Applicant	Name of opponent and relation, cause of litigation, and matter in dispute

I. Client references

Name of Client	Name and Designation of Key Personnel	Contact Number	Email Address

