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EXPRESSION OF INTEREST

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Installation, Commissioning, Operation and Maintenance of Instruments on bridges for Structural Health Monitoring of bridges of DFCCIL

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The implementation of Vindro Isspection & Monitoring Scheme is to be carried out on important bridges. The each will be divided in two phases. The first phase will be the installation and commissioning at the monitoring scheme on all the identified bridges The second phase will consist of operation and maintenance of the system, ensuring snag-free functioning for a minimum period of 60 months. The scope of work shall brundly consist of

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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 the Dedicated Freight Corridors. DFCCIL is currently constructing Eastern and Western corridors, which are likely to be fully operational very soon. A large number of bridges are being constructed on these two corridors.

Bridges are the most important infrastructure asset for DFC tracks, there is a need to develop proper Bridge Inspection Management System in line with various such online developments taking place in recent past, across various infrastructure and other organizations.

DFCCIL wishes to put in place a state-of-the-art Bridge monitoring and Inspection system to maintain these bridges of WDFC as well as EDFC corridors in an effective manner.

2. Objective:

Dedicated Freight Corridor Corporation of India Limited has decided to initiate Structural Health Monitoring on several of its bridges. DFCCIL invites Expression of Interest (EOI) in sealed cover from specialized agencies for installing, operating & maintaining of such instruments on bridges for the same.

3. Terms of References:

The Implementation of Bridge Inspection & Monitoring Scheme is to be carried out on important bridges. The work will be divided in two phases. The first phase will be the Installation and commissioning of the monitoring scheme on all the identified bridges. The second phase will consist of operation and maintenance of the system, ensuring snag-free functioning for a minimum period of 60 months. The scope of work shall broadly consist of:

A. Installing and Commissioning:

- 1. To develop a conceptual sketch showing various parameters being recorded and their inter-relationship. The sketch shall also identify the field measurements that may be required for deriving the parameters.
- To develop a complete list of instruments/sensors and accessories (including cables, etc.) used to measure the required parameters, for approval of DFCCIL, including detailed specifications of each instrument.
- To develop a detailed drawing, for approval of DFCCIL, showing the exact location of each instrument on the bridge, the method of fixing the instrument and method of measuring the relevant parameter(s).

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- 4. To procure all the instruments, accessories, cables etc. as per DFCCIL approved documents and install the same on the bridge as per the approved method of fixing shown on the approved drawing.
- 5. To transmit the processed ".csv" file into an object storage provided by DFCCIL as per the designated time schedule for each parameter.
- 6. To provide redundancies in the sensors to ensure detection of malfunctioning of sensor (by comparing the data received from multiple sensors). This will be applicable for critical parameters to be measured, as specified by DFCCIL.
- 7. To provide certificate of validity of measurement from each instrument or validate each instrument by testing the same after installation.
- 8. To provide an "Operation Manual" for each instrument.
- 9. To provide a system/device for the sensors to be tested for the specified rate of measurement of said parameter(s).
- 10. To receive data from the instruments and process the same for transmission to the nominated IP address of DFCCIL in the prescribed manner and frequency of transmission.

B. Maintenance:

- 1. To monitor the health and performance of all instruments and ensure that these are kept in working condition all the time.
- 2. To diagnose defects if any in the instruments and rectify the same.
- 3. To monitor the data being received from the instruments and check for any abnormal/absurd data being received. In case any absurd data is noted, investigate/diagnose the likely cause of the same. In case the fault lies with the instrument then effect the necessary repairs/replacement of the instrument.
- 4. To obtain Calibration Certificate from a NABL Accredited Third-party entity annually. The sensors should be physically tested to check functionality according to specified measurement conditions every 3 months.
- 5. To enter into an Annual Maintenance Contract for all installed devices and accessories for a minimum period of 60 months.

4. Prequalification Process: The prequalificatoin process can be breifly described as:



5. Submission Requirements:

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

A. Company Details

Company Name:	
Type of Firm:	
(Corporate or company /	a present present of the second s
Subsidiary / Division / Proprietor /	a set familie at the state of the
Partnership.)	
Registered With & Registration No.:	
Date of Incorporation:	
Statutory Details	
GSTIN:	
PF No.:	second and the second
PAN No.:	da governin en en en an 2
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 Value Rs.	Start Date	Completion Date
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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.

Ye	Year Loc		Year Location Total Value of Works compl			d (Rs.)
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			2. Total letor 3			
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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
reforment cause of dispute	Nome of opponent and Integation, and matter in	ran Pyr a rainer Applicant	A Year
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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

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

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I. Quality Assurance – Industry Certificates & Awards

Does your company maintain a current?	Yes	No
Quality Assurance Program		
ISO 9001 certification		
Other Certificates & Awards		
Industry Accepted Quality Assurance Program		
What Industrial Codes and Authorizations does your company hold? (Please specify)	ANW HUCK IS	1 10 10 1
With which other clients are you registered as a contractor? (Please specify)		

J. Health, Safety and Environment Management Program

	Details (and cased yea) to	Yes	No
ISO 14001 Ce	rtification		
OHSAS 18001	Certification		
Other Certific	ates & Awards		
Do you have a operations?	a current written safety program for field		
Does your cor all its employe	npany implement a Health and Safety Policy for ees?		
Does your cor Statement? p	npany have a written Health and Safety Policy lease provide a copy		
Does your cor yes, include th	npany employee qualify Safety professionals? If neir CVs in the submission.		
Does your cor ongoing sites	npany have a Safety Management plan at the		
Does your cor	npany maintain records of all accidents and		

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Occurrences	Pre	vious three y	ears
Injuries requiring first aid	1	2	3
njuries requiring 1 day's absence			542) (42)
njuries causing hospitalization atal Injuries			
otal Man-Hours worked on Sites			

K. Health & Safety Performance for the past three years

L. Client references

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Name of Client	Name and Designation of Key Personnel	Contact Number	Email Address
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Parameter	Min. No. of Readings per hour (/hr)	Range of measurement	Accuracy and Least Count	Proposed instruments for Instrumentation	Proposed Cost for Installation (Rs.) at identified Bridge	Cost of Operation & Maintenance (Rs.)
Ambient Temperature	60	-50° C to +75° C	±1° C			
Girder Temperature	60	-50° C to +75° C	±1° C			
Wind Speed	60	0 - 50 m/s	0.1 m/s			
Scour Depth/ Velocity	60	± 5m	0.1m			
Water Level	60	Should cover HFL - LTL	Range/ 50 Levels (0.25m maximum)			
Inclination of pier	60	±3°	± 0.01°			
Deflection of girder	360	±3°	± 0.01°			
Lateral displacement at the top of pier	360	0mm - 50mm	1μm - 5μm			
Long. Movement @ bearing	360	0mm - 25mm	1μm - 5μm			
Girder Strain	360	+/- 0.0035ε	1με			
Substructure Strain	360	+/- 0.0035ε	1με			
Natural Frequency of	60	0.5-100 Hz	0.01			

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