



**Expression of Interest (Eoi) for Hydrogen Fuel cell based DPRS with regenerative braking system 1200 KW DEMU**

Ref No: ID/TBSG/21/FC/EOI/01

Dated: 24<sup>th</sup> Sep'2021

**EXPRESSION OF INTEREST**

**FOR**

**Partnering with BHEL**

**ON**

**Hydrogen Fuel cell based DPRS with regenerative braking system 1200 KW DEMU**

**Issued by:**

**Bharat Heavy Electricals Limited,**

**Transportation Business & Systems Group, New Delhi (hereinafter referred to as 'BHEL')**

**also**

**having registered office at**

**BHEL House, Siri Fort New Delhi-110049 INDIA**

**DISCLAIMER**

All information contained in this EOI provided / clarified are in good interest and faith. The information contained in this Expression of Interest document or subsequently provided to Bidder(s), whether verbally or in documentary or any other form, by or on behalf of BHEL, is provided on the terms and conditions set out in this EOI and such other terms and conditions subject to which such information is provided.

The purpose of this EOI is to provide interested parties with information that may be useful to them in the formulation of their application for qualification and subsequent selection pursuant to this EOI. This EOI is not an offer by BHEL to the prospective Bidder(s) or any other person. This EOI is neither intended nor shall it be construed as creating or requiring any ongoing or continuing relationship or commitment with any party or person. This is not an offer or invitation to enter into an agreement of any kind with any party.

Though adequate care has been taken in the preparation of this EOI document, the interested firms shall satisfy itself that the document is complete in all respects. The information is not intended to be exhaustive. Interested Agencies are required to make their own enquiries and assumptions wherever required. Intimation of discrepancy, if any, should be given to the specified office immediately. If no intimation is received by this office by the date mentioned in the document, it shall be deemed that the EOI document is complete in all respects and firms submitting their interest are satisfied with the EOI Document in all respects.

The issue of this EOI does not imply that BHEL is bound to select and shortlist Bidder(s) for next stage or to enter into any agreement(s) with any Bidder(s). BHEL reserves all right to reject any applications submitted in response to this EOI document at any stage without assigning any reasons thereof. BHEL also reserves the right to withhold or withdraw the process at any stage. Neither BHEL nor its employees and associates will have any liability any loss, expense or damage which may arise from or be incurred or suffered in connection with anything contained in this EOI document or any matter deemed to form part of this EOI document, the information and any other information supplied by or on behalf of BHEL. BHEL accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance/use of any statements/information contained in this EOI by the Bidder. BHEL is not making any representation or warranty, express or implied, as to the accuracy or completeness of any information/statements made in this EOI.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Application including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by BHEL or any other costs incurred in connection with or relating to its Application. All such costs and expenses will remain with the Bidder and BHEL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Bidder in preparation or submission of the Application, regardless of the conduct or outcome of the EOI.

## **1.0 INTRODUCTION**

This Expression of Interest (Eoi) seeks response from Original Equipment Manufacturer (OEMs)/suppliers who have past experience in developing fuel cell/battery based hybrid power train along with associated control and suitably designed Energy Management Strategy (EMS) and storage module for retrofitment on 1600 HP DEMU.

## **2.0 ABOUT BHEL**

Bharat Heavy Electricals Limited (BHEL) is a Central Public Sector Enterprise, wherein Government of India is holding 63.06% of its equity. It is an integrated power plant equipment manufacturer and one of the largest engineering and manufacturing companies of its kind in India having a turnover of about USD 5 billion. The company is engaged in the design, engineering, manufacture, construction, testing, commissioning and servicing of a wide range of products and services for the core sectors of the economy, viz. Power, Transmission, Industry, Transportation, Renewable Energy, Oil & Gas and Defence with over 180 product offerings to meet the needs of these sectors.

Since its inception in 1964, BHEL has been the solid bedrock of evolution of India's Heavy Electrical Equipment industry. BHEL has a mammoth 20,000 MW per annum capability for manufacturing of power generation equipment. A widespread network of 16 manufacturing units, 2 repair units, 4 regional offices, 8 service centres, 1 subsidiary, 3 active joint ventures, 15 regional marketing centres, 3 overseas offices and current project execution at more than 150 project sites across India and abroad corroborates the humongous scale and size of its operations.

With key focus on project execution, the worldwide installed base of power generating equipment supplied by BHEL has exceeded 178 GW. BHEL's equipment that account for about 60% of the country's total generation from thermal utility sets (coal based), stand a testimony to its valuable contribution towards nation building. BHEL's global competitiveness has established its footprint in all the inhabited continents with references in 82 countries.

The high level of quality & reliability of BHEL products is a testimony to its adherence to international standards by acquiring and adapting some of the best technologies from leading companies in the world including General Electric, Siemens AG, Mitsubishi Heavy Industries Ltd. etc., together with technologies developed in its own R&D centres. BHEL invests more than 2.5% of turnover on R&D and innovation.

BHEL has been designing and manufacturing rolling stock for rail and urban transportation. BHEL has also been manufacturing Motors, Power electronics and Controllers for various transportation applications at its various factories. BHEL also has a Battery Packaging facility for space applications.

In transportation sector, BHEL is into the manufacture of complete electric and diesel electric locomotives and electrical assemblies/components including traction motors, traction transformers, power & auxiliary converters and controls, gear wheels etc.

At Jhansi plant, we manufacture complete Electric Locomotives up to 6000 HP rating for mainline application of Indian Railways, Diesel Electric Locomotives from 350 HP to 3100 HP rating. Till date, we have supplied more than 400 nos. of main line electric locomotives for Indian Railways and more than 350

nos. of diesel electric locomotives for shunting operations to different industries. We are currently executing an order for manufacture of complete Electric Locomotive of 6000 HP. Our Jhansi plant with an installed capacity of 75 nos. locomotives per year. At Jhansi, we have complete state-of-the-art facilities for manufacturing, fabrication and testing of bogies, loco shells, under frames and other mechanical components of locomotives. We have recently developed India's first state-of-the-art WAG7 Electric Locomotive with regenerative capabilities. We have also developed India's first Traction Motor for 9000HP Electric Locomotives.

At Bhopal and Bengaluru plants, among electrical propulsion equipment, we manufacture and supply traction motors, traction transformers, power converters (IGBT/GTO) & controls, auxiliary converters (IGBT/GTO) and vehicle control units for electric locomotives, diesel electric locomotives, EMUs, DEMUs & and metros trains of Indian Railways. Our manufacturing range includes conventional DC drive, IGBT based 3-phase drive equipment up to 6000HP rating. BHEL has also been in the forefront of providing maintenance and spares/replacement support to Indian Railways for their locomotive fleet. We have full-fledged service department located at major centers in the country.

**More details about the entire range of BHEL's products and operations can be obtained by visiting our web site [www.bhel.com](http://www.bhel.com).**

### **3.0 PURPOSE**

- 3.1 BHEL is a regular supplier of traction propulsion equipment to Indian Railways' production units for manufacturing of EMUs by them.
- 3.2 The hydrogen fuel cell based rail propulsion technologies powered by PEMFC (proton exchange membrane based Fuel Cell) along with a suitably sized battery bank are being tried out globally for powering railroad vehicles. Elimination of fossil fuel and very low emissions are inherent advantages of such a rolling stock. Indian Railways plans to convert the existing 1600 hp DEMU into hybrid fuel cell and battery based Distributed Power Rolling Stock (DPRS) with regenerative braking.
- 3.3 **Indian Railways has floated tender no: IROAF-FUELCELL-DEMU-P1-21** (refer Annexure-A, Annexure-B and Annexure C) for converting the existing 1600 hp DEMU 10 car configuration (2 DPC's + 8 TC's) into hybrid fuel cell and battery based Distributed Power Rolling Stock (DPRS) with regenerative braking. All tender documents are uploaded in IREPS website. Link:  
  
<https://www.ireps.gov.in/epsn/nitViewAnonyms/rfq/nitPublish.do?nitId=3555914&activity=viewNIT>
- 3.4 The intent of this Expression of Interest hereinafter referred to as the "EOI" is to invite applications from interested organizations / companies who are willing to Partner with BHEL for identified scope of bidder for execution of contracts for the above mentioned tender:

S.N.	Item	Scope of Partnership
1	On Board Fuel cell system for DEMU as per Technical Specification enclosed as Annexure-A including Supply, Installation, Commissioning	<p>Specifications of Fuel Cell systems should meet the requirements of tender (refer Annexure-A)</p> <p>One prototype of converted DEMU shall be subjected to field trials on Indian Railways for at least 06 months/50000 Kms whichever is later. The successful bidder shall depute a team of engineers for installation, commissioning, testing and field trials of the Fuel cell system in the converted DEMU in service. The successful bidder shall associate in the field trails jointly with BHEL and Indian Railways. The successful bidder shall ensure availability of typical tools and spare parts in adequate quantity for field trials, to be done as part of commissioning. All the modification required due to defects noticed or design improvement found necessary as a results of the field tests/trials shall be carried out by the successful bidder in the least possible time. Total cost of such modifications/design changes shall be borne by the successful bidder.</p>
2	On Board Battery along with Battery management system for DEMU as per Technical Specification enclosed as Annexure-A including Supply, Installation, Commissioning	<p>Specifications of Battery along with Battery management system should meet the requirements of tender (refer Annexure-A)</p> <p>One prototype of converted DEMU shall be subjected to field trials on Indian Railways for at least 06 months/50000 Kms whichever is later. The successful bidder shall depute a team of engineers for installation, commissioning, testing and field trials of the on board Battery along with Battery management system in the converted DEMU in service. The successful bidder shall associate in the field trails jointly with BHEL and Indian Railways. The successful bidder shall ensure availability of typical tools and spare parts in adequate quantity for field trials, to be done as part of commissioning. All the modification required due to defects noticed or design improvement found necessary as a results of the field tests/trials shall be carried out by the successful bidder in the least possible time. Total cost of such modifications/design changes shall be borne by the successful bidder.</p>
3	On Board Hydrogen storage module with safety system for DEMU as per Technical Specification enclosed as Annexure-A including Supply, Installation, Commissioning and third	<p>On Board Hydrogen storage module with safety system as per standards should meet the requirements of tender (refer Annexure-A)</p> <p>One prototype of converted DEMU shall be subjected to field trials on Indian Railways for at least 06 months/50000 Kms whichever is later. The successful bidder shall depute a team of engineers for installation,</p>



	party safety audit certification.	commissioning, testing and field trials of the On Board Hydrogen storage module with safety system in the converted DEMU in service. The successful bidder shall associate in the field trails jointly with BHEL and Indian Railways. The successful bidder shall ensure availability of typical tools and spare parts in adequate quantity for field trials, to be done as part of commissioning. All the modification required due to defects noticed or design improvement found necessary as a results of the field tests/trials shall be carried out by the successful bidder in the least possible time. Total cost of such modifications/design changes shall be borne by the successful bidder.
4	Supply of Hydrogen Gas as per Technical Specification enclosed as Annexure-A	Hydrogen gas for operation of converted DEMU shall be supplied by successful bidder during the commissioning trials, testing of the systems and supply of hydrogen for next 06 months (total 60 tonne) after successful commissioning of the retro-fitted DEMU. Technical Specification of the Supplied Hydrogen must be as per Annexure-A.
5	On Ground Stationary Hydrogen Storage and filling station/ unit replacement of empty Hydrogen tanks at site as per Technical Specification enclosed as Annexure-A complete with Design, Development, Supply, Installation, Commissioning, Inspection and third party safety audit certification	<p>a) Hydrogen storage facility on ground at nominated yard/platform/depot to store minimum 2500 kg hydrogen (including all safety systems).</p> <p>b) Provision in the design to facilitate manual replacement in-situ condition in yards/platforms/depos of the empty hydrogen cartridge/cylinders with filled cylinders carrying hydrogen at 350 bar (including approvals from relevant institutions)</p> <p>c) Dispenser along with compressor (if required) to fill the on board hydrogen storage at 350 bar on Converted DEMU with appropriate nozzle and related systems as per applicable standards.</p> <p>d) The successful bidder will be responsible for operation and maintenance of on ground hydrogen storage and filling station during the commissioning trials, testing of the systems and also for next 06 months/50000 Kms, whichever is later after successful commissioning of the retro-fitted DEMU. The successful bidder shall ensure availability of typical tools and spare parts in adequate quantity for the above as part of commissioning.</p>

3.1 Interested organizations / companies/parties to submit their proposal either for Sl.no. 1 or 2 or 3 or 4 or 5 or any combination of these.

3.2 Warranty for the respective scope will be as per clause no. 18 of Annexure-A

- 3.3 Comprehensive Annual Maintenance Contract for 3 years (CAMC) for the respective scope will be responsibility of the respective bidder/s.
- 3.4 BHEL shall select suitable partner(s) who meet Pre-Qualification Criteria (PQR) for the intended business tie-up and shall enter into a Memorandum of Understanding (MoU)/ Pre-bid tie-up with selected partner(s).
- 3.5 The chosen partner(s) shall also be required to enter into **mutually exclusive pre-bid tie up arrangement** with BHEL to provide due support for fulfilling the contractual obligations of BHEL to the customer i.e. Indian Railways. Preference shall be given to the bidders who are willing for joint consortium bidding as per the tender requirements subject to all other evaluation parameters being at par. Also the selected bidder, after entering into a mutually exclusive agreement with BHEL, cannot quote directly or enter into any kind of joint arrangement with any other party for the above mentioned tender.

**4 Scope of Activities for mentioned Tender:**

***Indicative scope split for items in EOI proposal R -> Responsible, S -> Support***

Sl No	Scope	M/s BHEL	M/s Bidder	Remarks
1	On Board Fuel cell system for DEMU as per Technical Specification enclosed as Annexure-A including Supply, Installation, Commissioning.	S	R	
2	On Board Battery along with Battery management system for DEMU as per Technical Specification enclosed as Annexure-A including Supply, Installation, Commissioning.	S	R	
3	3.1) On Board Hydrogen storage module with safety system for DEMU as per Technical Specification enclosed as Annexure-A including Supply, Installation, Commissioning and third party safety audit certification.	S	R	
	3.2) Approval for on board hydrogen storage for DEMU from Indian Railways	R	S	
	3.3) Approval from CCOE for transportation and uses of Hydrogen at 350 bar	S	R	
4	On Ground Stationary Hydrogen Storage and filling station/ unit replacement of empty Hydrogen tanks at site as per Technical Specification enclosed as Annexure-A complete with Design, Development, Supply,	S	R	

	Installation, Commissioning, Inspection and third party safety audit certification			
5	Hydrogen gas for operation of hydrogen fuel cell based hybrid power train shall be supplied by successful bidder during the commissioning trials, testing of the systems and supply of hydrogen for next 06 months (total 60 tonne) after successful commissioning of the retro-fitted DEMU. Technical Specification of the Supplied Hydrogen must be as per Fuel Cell requirement.	S	R	
6	Submission of design/drawings and documents as per para 17.0 'documentation' to BHEL	S	R	Common for all Items
7	Approval of design layout from Indian Railways	R	S	Common for all Items
8	Submission of certifications and approvals complying the regulations /conventions /regulatory guidelines etc	S	R	Common for all Items
9	Supply as per scope of work	S	R	Common for all Items
10	Structural modification needed in existing DEMU for retro fitment	R	S	Common for all Items
11	Commissioning/Prove out test of converted DEMU	R	S	Common for all Items
12	Field trials	R	S	Common for all Items
13	Hiring of agency for third party safety audit	S	R	Common for all Items
14	Approval of third party safety audit agency from Indian Railways	R	S	Common for all Items

Please note that the list is not exhaustive and additional activities may be added if deemed necessary to meet tender requirements.

**Bidders can indicate suggested scope division in case of any difference from the one indicated above, however the same shall be subject to BHEL evaluation and acceptance.**



## 5 INSTRUCTION TO BIDDERS:

### 5.1 Offer to be submitted in Three (I,II & III) parts:

**Part-I Bid:** The following documents are to be submitted as part of Part I bid.

1. General Information **(As per Annexure-1)**
2. Pre-Qualification Requirements **(As per Annexure-2)**
3. **Bidder to indicate if** it is willing for joint consortium bidding as per the tender requirements, declaration to be provided on the company letterhead by authorised signatory.

#### **Part-II:**

1. Technical Offer for proposed scope, to be submitted as separate offers in case bidder is participating for multiple packages (as mentioned in Clause 3.4 of EOI document).
2. Commercial Offer for proposed partnership (Unpriced)

**Part-III:** Password Protected Price Offer for Proposed partnership as per Annexure C, to be submitted as separate offers in case bidder is participating for multiple packages (as mentioned in Clause 3.4 of EOI document). The price offer should specifically mention the basic value, taxes & duties, any other charges and the final price.

*Note: Password to be provided after request by BHEL through written communication.*

BHEL shall verify & evaluate General information, Pre-qualification requirements submitted by all interested Bidders.

After evaluation, BHEL shall scrutinize Business proposal, technical offer & unpriced commercial offer of eligible Bidders.

BHEL shall request for password for Priced offer from the Bidders through written request only from selected Bidders who emerges after evaluation of technical and unpriced commercial offers.

Evaluation criteria for Bidders shall be as mentioned in **Annexure-3**.

### 5.2 Reputed business entities may submit their offer in Part I & Part II (refer 5.0 above) by Post / e-mail so as to reach us on or before 14<sup>th</sup> Oct'2021 at the following address:

Mr. Pramod Khanduri, Senior Deputy General Manager/  
Dr. Aniruddha, Senior Manager  
Bharat Heavy Electricals Limited, Industry Sector,  
Integrated office complex, Lodhi road, New Delhi -110003, India.  
Email: [pramodk@bhel.in](mailto:pramodk@bhel.in); Phone: +91 9871800410  
[ani@bhel.in](mailto:ani@bhel.in); Phone: +91 9810911884

- 5.3 The details submitted by the Bidder(s) shall be complete in all respects. However, BHEL may seek clarifications / additional information as deemed necessary. Such clarifications/additional information must be provided within 5 days of BHEL request.
- 5.4 The EOI process involves seeking willingness of interested parties and selecting one or more party (ies) amongst all who respond against this EOI.
- 5.5 Any request for further information or clarification on the EOI document may be submitted to the above mentioned official within 07 days from date of issue of EOI.
- 5.6 Responses to EOI are to be submitted in English only. Supporting documents, as required, should also be in English language. In case of some documents being available in languages other than English, the Bidder shall necessarily provide duly authenticated translated version of the same in English.
- 5.7 Duly authorized representative of the Bidder(s) shall sign on each page of the document. Response to EOI should be prepared in such a way so as to provide a straight forward, concise description of Bidder's capabilities.
- 5.8 Notwithstanding anything contained in this EOI, BHEL reserves the right to accept or reject any Application and to annul the EOI Process in whole or part, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.
- 5.9 BHEL reserves the right to verify all statements, information and documents submitted by the Bidder in response to the EOI. Any such verification or lack of such verification by BHEL shall not relieve the Bidder of his obligations or liabilities here under nor will it affect any rights of BHEL.
- 5.10 The EOI process shall be governed by, and construed in accordance with, the laws of India and the Courts at New Delhi shall have exclusive jurisdiction over all disputes arising under, pursuant to and/ or in connection with the EOI process.
- 5.11 All costs incurred for participation in the EOI shall be borne by the Bidder(s).

**Annexure-1**

**General Information to be submitted by Bidders**

1. Name of the Company:
2. Legal status of the Company:
3. Brief description of the Company including details of its business groups/subsidiaries/ affiliates:
4. Date of Incorporation:
5. Date of Commencement of Business:
6. Full address including Telephone nos. / Fax nos.:

Registered Office:

Head Office:

Address for communication:

Contact Details:

Office Address in India, if any:

Place of address where local content is added:

7. Documents to be enclosed:
  - a) Technical Credentials – Relevant Product/System catalogues, Experience /Reference List, Copies of Customer Certificates, Engineering strengths, quality accreditations, etc.
  - b) Financial Credentials – Copies of Audited Financial statements (Annual Reports) for last 3 years, Credit Rating, Market share Segmental (Domestic/International) Revenue in the applied category(ies).

(Sign & Company Seal)

Authorized signatory

## Pre-Qualification Requirements

### **On Board Fuel cell system for DEMU as per Annexure-A**

<b>S. No.</b>	<b>Requirement</b>	<b>Bidder's Response</b>	<b>Supporting document</b>
1	Must have supplied at least ONE (01) no. fuel cell system in last 3 years for use in either traction or road transportation or stationary application with single stack capacity of 50 kW or more and the system should have been in successful operation for at least 2000 hours in a year as on the closing date of this Eoi. In case of more than ONE no. fuel cell system cumulative hours can be considered for meeting qualification criteria upto a maximum of FIVE (05) no. fuel cell system.		Copies of Purchase order & completion certificate for orders executed by bidder shall be provided. Further performance certificate for satisfactory operation for at least 2000 hours in a year shall be provided by bidder.
2	Has not been blacklisted / banned business dealings by Ministry of Railways or any Government Department of India.		Declaration on company's letter head.
3	No previous contract has been terminated either in full or part due to Bidder's failure.		Declaration on company's letter head.
4	Has not suffered insolvency / bankruptcy.		Declaration, Copy of Audited Balance sheet.
5	Respondent must have positive net worth as of last three financial years.		Declaration, Copy of Audited Balance sheet.
6	Bidder's average annual turnover for the last three financial years must be minimum 5 Cr		Copy of Audited Profit & Loss Statement
7	Provide local content as percentage of total scope of supply		
8	Must submit confirmation abiding Rule 144 (xi) of GFR 2017 for Bidder's scope.		
9	Must meet all requirements mentioned in Eligibility criteria of tender no: IROAF-FUELCELL-DEMU-P1-21 (Annexure –A & Annexure – B) for the proposed scope.		

**On Board Battery and Battery management system for DEMU as per Annexure-A**

S. No.	Requirement	Bidder's Response	Supporting document
1	Must have supplied at least ONE (01) no. Traction grade Battery and Battery management system in last 3 years as on the closing date of this Eoi.		Copies of Purchase order & completion certificate for orders executed by bidder shall be provided. Further performance certificate for at least 6 months satisfactory operation shall be provided by bidder.
2	Has not been blacklisted / banned business dealings by Ministry of Railways or any Government Department of India.		Declaration on company's letter head.
3	No previous contract has been terminated either in full or part due to Bidder's failure.		Declaration on company's letter head.
4	Has not suffered insolvency / bankruptcy.		Declaration, Copy of Audited Balance sheet.
5	Respondent must have positive net worth as of last three financial years.		Declaration, Copy of Audited Balance sheet.
6	Bidder's average annual turnover for the last three financial years must be minimum 5 Cr		Copy of Audited Profit & Loss Statement
7	Provide local content as percentage of total scope of supply		
8	Must submit confirmation abiding Rule 144 (xi) of GFR 2017 for Bidder's scope.		
9	Must meet all requirements mentioned in Eligibility criteria of tender no: IROAF-FUELCELL-DEMU-P1-21 (Annexure –A & Annexure – B) for the proposed scope.		



**On Board Hydrogen Storage system for DEMU as per Annexure-A**

<b>S. No.</b>	<b>Requirement</b>	<b>Bidder's Response</b>	<b>Supporting document</b>
1	On Board Hydrogen Storage: Must have executed at least ONE (01) project for supply, installation and commissioning of hydrogen storage (including all safety systems) at 350 bar for mobility application in last 3 years as on the closing date of this Eoi.		Copies of Purchase order & completion certificate for orders executed by bidder shall be provided. Bidder must also provide Certified copies of test reports from a reputed testing agency.
2	Has not been blacklisted / banned business dealings by Ministry of Railways or any Government Department of India.		Declaration on company's letter head.
3	No previous contract has been terminated either in full or part due to Bidder's failure.		Declaration on company's letter head.
4	Has not suffered insolvency / bankruptcy.		Declaration, Copy of Audited Balance sheet.
5	Respondent must have positive net worth as of last three financial years.		Declaration, Copy of Audited Balance sheet.
6	Bidder's average annual turnover for the last three financial years must be minimum 3 Cr		Copy of Audited Profit & Loss Statement
7	Provide local content as percentage of total scope of supply		
8	Must submit confirmation abiding Rule 144 (xi) of GFR 2017 for Bidder's scope.		
9	Must meet all requirements mentioned in Eligibility criteria of tender no: IROAF-FUELCELL-DEMU-P1-21 (Annexure –A & Annexure – B) for the proposed scope.		

**On Ground Hydrogen Storage Package with facility of re-filling/ unit replacement of empty Hydrogen tanks**

S.N.	Requirement	Bidder's Response	Supporting document
1	Must have executed at least ONE (01) project for supply, installation and commissioning of on ground hydrogen storage system (including all safety systems) to store minimum 500 kg hydrogen either in single tank or in multiple tanks at minimum 150 bars in last 3 years as on the closing date of this Eoi.		Copies of Purchase order & completion certificate for orders executed by bidder shall be provided.
2	Has not been blacklisted / banned business dealings by Ministry of Railways or any Government Department of India.		Declaration on company's letter head.
3	No previous contract has been terminated either in full or part due to Bidder's failure.		Declaration on company's letter head.
4	Has not suffered insolvency / bankruptcy.		Declaration, Copy of Audited Balance sheet.
5	Respondent must have positive net worth as of last three financial years.		Declaration, Copy of Audited Balance sheet.
6	Bidder's average annual turnover for the last three financial years must be minimum 3 Cr		Copy of Audited Profit & Loss Statement
7	Provide local content as percentage of total scope of supply		
8	Must submit confirmation abiding Rule 144 (xi) of GFR 2017 for Bidder's scope.		
9	Must meet all requirements mentioned in Eligibility criteria of tender no: IROAF-FUELCELL-DEMU-P1-21 (Annexure –A & Annexure – B) for the proposed scope.		

## Supply of Hydrogen Gas

S.N.	Requirement	Bidder's Response	Supporting document
1	Must have supplied minimum 100 kg in a particular day of hydrogen and cumulatively 5000 Kg/ year in any of the last 3 years as on the closing date of this Eoi.		Copies of Purchase order/rate contract for supply of minimum 100 kg per day of hydrogen
2	Has not been blacklisted / banned business dealings by Ministry of Railways or any Government Department of India.		Declaration on company's letter head.
3	No previous contract has been terminated either in full or part due to Bidder's failure.		Declaration on company's letter head.
4	Has not suffered insolvency / bankruptcy.		Declaration, Copy of Audited Balance sheet.
5	Respondent must have positive net worth as of last three financial years.		Declaration, Copy of Audited Balance sheet.
6	Bidder's average annual turnover for the last three financial years must be minimum 1 Cr		Copy of Audited Profit & Loss Statement
7	Provide local content as percentage of total scope of supply		
8	Must submit confirmation abiding Rule 144 (xi) of GFR 2017 for Bidder's scope.		
9	Must meet all requirements mentioned in Eligibility criteria of tender no: IROAF-FUELCELL-DEMU-P1-21 (Annexure –A & Annexure – B) for the proposed scope.		

Any other documents considered relevant to meet PQR and to support evaluation criteria are to be submitted.

### NOTE :

1. Bidders with deviations to the above mentioned PQR are also encouraged to submit their proposal. However, acceptance/suitability of such responses shall rest with BHEL and same decision shall be final and binding.
2. BHEL qualifies for the tender no. IROAF-FUELCELL-DEMU-P1-21 using its own credentials.

(Sign & Company Seal)

Authorized signatory

## Evaluation Criteria

Notes for evaluation:

1. Price bid:

Price bid will be invited only from shortlisted Bidders, meeting the pre-qualification criteria and conforming to BHEL EOI requirements for equipment in Bidder's scope. BHEL's decision regarding shortlisting of Bidders shall be final and binding.

Shortlist bidders shall submit their price bids (Part III) within 5 working days from the date of communication from BHEL.

2. Evaluation of price:

Bidder's may submit the offer as per sl no. 1, 2, 3, 4 & 5 of clause 3.4 as standalone package or combined package.

Bidder's quoted price shall Include supply of main equipment + spares, service (engineering, documentation, testing, freight, installation/ commissioning, AMC of equipment), training and other costs applicable for finalized bidder's scope as per scope matrix. The pricing indicated by bidder shall be inclusive of cost for support for integration of Bidder's equipment with rest of equipment forming part of complete package.

3. Final selection of partner(s):

The technically qualified bidder ranked L1 will be selected for pre-bid tie up, for the total equipment per unit

- a) On Board Fuel cell system for DEMU
- b) On Board Battery and Battery management system for DEMU
- c) On Board Hydrogen storage system for DEMU
- d) Supply of Hydrogen Gas
- e) On Ground Stationary Hydrogen Storage and filling station

# **Annexure A**



## **Technical Specifications**

**Tender Notice No. IROAF/FUEL CELL/DEMU/P1/2021**

**Name of Work:-** Hydrogen Fuel cell based DPRS  
with regenerative braking system 1200 KW DEMU



Government Of India

# भारत सरकार रेल मंत्रालय

## Technical Specification

For

## Hydrogen Fuel cell based DPRS with regenerative braking system Broad Gauge 1200 KW DEMU

Specification No.R2/347/Fuel Cell-1  
July 2021

अनुसंधान निदेशालय  
अनुसंधान अभिकल्प और मानक संगठन  
मानक नगर, लखनऊ-226011

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## Abbreviations

- 'IR' means Indian Railways.
- 'RDSO' means Research Designs and Standards Organization, Ministry of Railways, Manak Nagar, Lucknow-226 011.
- 'BG' means 1676 mm gauge, referred to as Broad Gauge.
- 'IEC' means International Electro-technical Commission.
- 'IS' means Indian Standard.
- 'AAR' means Association of American Rail-roads.
- 'UIC' means Union International Des Chemis defer (International Union of Railways)
- 'IRS' means Indian Railway Standard.
- Horse Power (HP) shall be taken as metric horse Power.
- Tonnes (T) shall be taken as metric tone
- DEMU- Diesel Electric multiple Unit (1600 hp)
- PC- power car
- BOP- Balance of Plant
- EMS- Energy management Strategy
- SOC- State of charge
- DOD- Depth of Discharge
- PEMFC- Proton Exchange membrane Fuel cell
- MMD- Maximum Moving Dimension
- VCU- vehicle Control Unit

## 1.0 Purpose

To develop fuel cell/battery based hybrid power train along with associated control and suitably designed Energy Management Strategy (EMS) and storage module for retrofitment on 1600 HP DEMU.

## 2.0 Background

The hydrogen fuel cell based rail propulsion technologies powered by PEMFC (proton exchange membrane based Fuel Cell) along with a suitably sized battery bank are being tried out globally for powering railroad vehicles. Elimination of fossil fuel and very low emissions are inherent advantages of such a rolling stock. Indian Railways plans to convert the existing 1600 hp DEMU 10 car configuration (2 DPC's + 8 TC's) into hybrid fuel cell and battery based Distributed Power Rolling Stock (DPRS) with regenerative braking.

The rake configuration of DEMU will be as per ICF Drawing No. DMU/DPC/SS-9-0-001, DMU/TC/SS-9-0-001 and DMU/TC/V/SS-9-0-001. Installation of under frame equipments for 1600 HP AC-AC DEMU as per ICF Chennai drawing No. DMU/DPC/SS-9-0-003 is attached as Annexure V. For other relevant operational parameters, guidance may be taken from the Diagram Book of 1400 HP DEMU (RDSO report Number: MP-Misc-111(Rev 0.0) of March 2001) or latest.

## 3.0 Design requirements:

Hydrogen fuel cell based power stacks (Primary energy source PEMFC) along with the complete associated support and auxiliary systems like energy storage module (Secondary energy source i.e. Battery Bank), traction converter/Inverter, hydrogen storage module, Hydrogen Safety equipments, Fuel cell control system, propulsion control system, air handling unit, heat exchangers etc. (i.e. Balance of Plant) suitable for supplying power for the complete Driving Cycle and meeting the average and peak power demand during the cycle based on a suitably designed EMS (Energy Management Strategy) for peak total power rating of 1200 KW shall be retrofitted on existing DEMU / 1600 HP platform (ICF) having nominal axle load of 20.32 Ton for DPC and 16.25 Ton for TC/TCV (as per ICF drawing no. DMU/DPC/SS-9-0-001, DMU/TC/SS-9-0-001 and DMU/TC/V/SS-9-0-001).

Indicative rating of power train components based on operational requirement of 1600 HP DEMU can be taken as:

- PEMFC of 800 KW Hydrogen fuel cell based power stacks preferably in the multiples of 100/150/200 KW).
- Secondary energy source i.e battery bank of 330 to 380 KWH with power rating of 400 KW.

Optimization of power train components in terms of final rating to meet the actual drive cycle requirement (both peak and average) will have to done by bidder as per actual drive cycle (Annexure-II). Power train should be so designed that it has minimal weight and space implications onboard the car body of the vehicle and does not exceed the structural strength limits of the car body. Optimization should include all accessories and balance of plant (BOP) in compliance with axle load limits and other structural strength requirement of car body. The Energy management strategy (EMS) should be so designed that the difference between the State of Charge (SOC) of the battery from start of cycle to at the end of cycle should be minimum. The Depth of Discharge (DOD) of battery preferably



upto 40%. However, the optimum level of DOD can be decided by the tenderer duly conforming the SOC stipulation.

The Hydrogen Fuel Cell Retrofitment kit along with the Balance of Plant and Energy Storage and Hydrogen Storage modules will replace the existing power-train items as indicated in the drawing at Annexure-III and mentioned below -

- Engine
- Invertors
- Auxiliary Generator
- Alternator
- Radiator
- Batteries
- Fuel tank etc.

Conformance to following Boundary Conditions while designing retro-fitment kit (retro-fitment scheme) has to be ensured by bidder:

- a. Existing DEMU DPC Bogies, traction motors shall not be altered/changed.
- b. Car body to bogie interface shall not be altered/changed.
- c. The total space envelope that will be available for retrofitment in the existing engine room and passenger area of DPC is 18417 mm (L) X 3240 (W) mm X 2759 mm (H) as indicated in the drawing at Annexure-IV. The existing power-train equipment shall be replaced by the Fuel Cell power-train modules keeping axle load within limits. The layout of the Fuel Cell Power-Train modules (including Energy Storage) should be suitably designed so as not to exceed the specified axle load limits as mentioned in para 3.0 and MMD as per enclosed diagram (Annexure-I).
- d. Axle load of DEMU DPC with the retro-fitted equipments shall not exceed 20.32 Tons and for TC/TCV should not exceed 16.25 Ton.
- e. The layout shall be so designed that it should not disturb the existing center of gravity of the retrofitted DEMU vehicle to the extent possible.
- f. Mounting of equipment/sub-assemblies shall not create infringement with IRSOD 1D diagram of Indian Railways. (Indian Railways Schedule of Dimensions For Broad Gauge Network with latest amendments)
- g. Peak Power rating of the Fuel cell based DEMU DPC shall be 1200 KW for each basic unit of 05 coaches (1DPC + 4TC). The typical driving cycle of 1600 HP DEMU presently operating in Sonapat-Jind Section of Northern Railway has been selected for this project and is enclosed as Annexure-II. The Energy Management Strategy (EMS) shall be so designed that with the power-train rating mentioned under para 3 onboard and the train operating as per the typical drive cycle enclosed as annexure-II, State of Charge (SOC) of the battery bank is sustained and remains the same at the end of the driving cycle as it was at the start of the driving cycle. The weight and space requirements of the power train components should be optimized for onboard application to comply with the axle load limits (boundary conditions) of the vehicle and also with the structural strength requirements of the car body.
- h. Space available under the platform and top/roof of DPC can be utilized for mounting of power train and auxiliary equipments. It should not compromise the axle load limits and safety of passengers.

- i. Suitable Hydrogen fuel storage system onboard will be a part of the retro-fitment kit. The storage capacity for onboard storage of Hydrogen has to suffice for Four Driving-Cycles (2 driving cycles of each type) enclosed with this document (2 round trips). The sizing of components should have adequate built-in capacity margins to take care of normal variations in the driving cycle due to day-to-day operational constraints. Hydrogen fuel storage should be designed for 20% extra capacity as additional margin over and above the requirement of the Hydrogen.
- j. The proposed Retro-fitment kit and Retro-fitment scheme shall have to comply with the existing legal and safety regulations and undergo certifications applicable in India for application in service. It will be the responsibility of the bidder to ensure compliance to all legal and statutory requirements associated with hydrogen fuel cell – battery hybrid and hydrogen storage system offered for this project. Any other additional standard specifications/regulatory guidelines/established convention/certification requirement etc. which is considered applicable/relevant for this project will also to be complied with by the bidder.
- k. Air brake/EP Brake Air brake system shall continue without any modification. Minor modification in layout of piping, if needed, will be done with prior written permission of IR/RDSO.
- l. In built redundancy in the design of fuel cell based propulsion architecture shall be such that in case of failure of one or more fuel cell stack, propulsion with limited capacity stays operational as back-up mode during train service.
- m. Fuel cell and its balance of plant, batteries, convertor/invertor should be of proven technology and from reliable sources.

#### 4.0 Other functional requirements

- 4.1 Technical design features of all the major equipment such as fuel cell stacks, hydrogen storage system, battery, converter etc. and controls shall be governed by the relevant IEC/International standards. However any other additional standard specifications/regulatory guidelines/established convention/certification requirement etc. which is considered applicable/relevant for this project will also to be complied with by the bidder.
- 4.2 Direct hydrogen based fuel cell stack(s) shall be used.
- 4.3 The fuel cell stack (PEMFC) performance parameters are as under. However better designs/configuration(s) will be considered for this application:

S.No.	Parameters	Value
1.	Efficiency @rated power	Minimum 50%
2.	Operating temperature	-10°C to 55°C
3.	Emission	Zero emissions

Note: (a) Bidder shall submit the test certificate complying above parameters with the offer.

- (b) This technology is being introduced first time by Indian Railways with limited experience and field data. Rated life of fuel cell as available in public domain indicate wide variance in the range of 10000 hrs to 30000 hrs. In order to ensure consistent performance of fuel cell power train for a reasonable period in service for this pilot project, benchmarked rated performance is being specified 05 years at the rated efficiency delivering performance parameters to meet the driving cycle

requirement (as per Annex.II) for 02 round trips(04 driving cycle) per day for a period of 05 years.

- (c) Since the option has been kept open, the financial viability of the offers and their inter-se ranking while deciding the most suitable options will be based on the cost of ownership of the equipment i.e. capital cost of the procurement and subsequent maintenance cost upto the 05 years (02 years warranty + 03 years CAMC).

- 4.4 Very low maintenance cost.
- 4.5 It shall produce clean DC power with a low thermal and acoustic signature. The output of the fuel cell stack will be converted into VVVF through an onboard/underslung traction converter for supply to 3 phase AC traction motors being used in DEMU DPC.
- 4.6 The system shall be compact with modular construction.
- 4.7 It shall incorporate state of the art technology including its own humidification and hydrogen recirculation systems.
- 4.8 The cooling system shall provide constant airflow to fuel cell system to preclude confinement of accidentally leaked hydrogen.
- 4.9 All service points shall be located on the perimeter of the fuel cell power plant to allow full service without module removal.
- 4.10 The layout shall preferably allow symmetric piping of air and coolant to all fuel cell stack modules, and shall result in closely balanced flow for the air and coolant systems. The layout shall be suitably designed keeping in view the safety of the passengers on-board.
- 4.11 The hydrogen storage units shall be of adequate pressure rating and shall comply with the relevant international standards related to vehicle functional safety, hydrogen safety and protection of persons against electric shocks mentioned under para 7.0. However any other additional standard specifications/regulatory guidelines/established convention/certification requirement etc. which is considered applicable/relevant for this project will also to be complied with by the bidder.
- 4.12 The design of Fuel cell based DEMU should facilitate re-filling/ unit replacement of empty Hydrogen tanks with filled Hydrogen tanks within 45 minutes using manual efforts. The design should have provision for refilling of the empty Hydrogen cylinder in in-situ conditions on- board using a suitably designed Hydrogen refilling system within a reasonable time not exceeding 45 minutes and the design should also have provision to facilitate manual replacement in in-situ condition in yards/platforms/depos of the empty Hydrogen cartridge/cylinders with filled cylinders carrying Hydrogen at 350 bar.
- 4.13 Remote diagnostics (optional feature): DEMU DPC shall be equipped with remote diagnostics wherein critical DEMU DPC health data and other important parameters along with GPS location information should be available to maintenance depots or anyone else in the real time. It is required to transfer the data from the DEMU DPC microprocessor control system at regular intervals to a central database using commercially available CDMA or GSM cellular networks. Parameters to be monitored shall be decided with mutual consultation. However, these shall comprise at least the following: Battery system, fuel cell stacks, hydrogen storage, DC voltage bus, traction motor, cooling system, braking and other vital parameters of the DEMU DPC controls.
- 4.14 Operating requirements:

Sharpest curve to be negotiated	174m radius and 1 in 8½ turnout in either direction.
Single unit without buffer	
Double unit with buffer	

DPC DMU 1600 hp weight Nominal Axle Load	Not exceeding 80.785 t Not exceeding 20.32 t
Operating Speed. Test speed	110 kmph 120 kmph

### 5.0 Scope of work:

The scope will cover Design, supply, retrofitment, testing & validation, prove out, field trials, of fuel cell & battery based power stack modules, hydrogen storage, power electronics/controls & associated equipments including necessary engineering & supervision work and compliance with all safety norms for hydrogen uses for retrofitment of 1600 hp broad gauge DEMU DPC. The interfacing of the Fuel Cell Stack Controller with the existing VCU (Vehicle Control Unit) / Propulsion Control System of the DPC shall be a part of the Scope of work. Any structural change which will be part of retrofitment will have to be structurally validated for strength and durability by the bidder. It is the responsibility of the successful bidder to deploy competent personal for handling this project to meet safety requirements.

#### 5.1 An indicative list of the equipment covered in scope of supply is as under :

- i. Hydrogen storage tank(s)/Cylinder(s)
- ii. Piping and control, safety, sensing devices for hydrogen storage
- iii. Cables
- ii. Hydrogen Fuel cell stack modules
- iii. Air delivery, and Cooling Systems
- iv. Battery Module
- v. Gauges & Fittings
- vi. Control console / HMI / MMI
- vii. Auxiliary power systems
- viii. Microprocessor based control system with instrumentation, actuators, motor controllers, and a programmable automation controller (PAC) including Traction motor control, Converters/Inverters etc..
- ix. Remote diagnostic system
- x. Any other accessory/sub system/sub assembly required for satisfactory functioning of system
- xi. On ground infrastructure for Hydrogen storage and refilling will be in the scope of bidder.

#### 5.2 On ground hydrogen Infrastructure and supply:

- (i) Hydrogen gas for operation of hydrogen fuel cell based hybrid power train shall be supplied by successful bidder during the commissioning trials, testing of the systems and supply of hydrogen for next 06 months after successful commissioning of the retro-fitted DEMU.
- (ii) Successful bidder shall provide the Hydrogen storage facility on ground at nominated yard/platform/depot to store minimum 2500 kg hydrogen either in single tank or in multiple tanks to meet the operational requirement for refilling the onboard hydrogen cylinders.
- (iii) Successful Bidder shall provide the provision in the design to facilitate manual replacement in-situ condition in yards/platforms/depos of the empty hydrogen cartridge/cylinders with filled cylinders carrying hydrogen at 350 bar.
- (iv) The infrastructure developed for refilling of hydrogen using standard arrangement for refilling onboard storage from the stationary / mobile / line-side hydrogen storage tanks / installation will be the sole property of Indian Railways.

**5.3 Safety Audit:**

Successful bidder shall get the third party safety audit of hydrogen fuel cell based DPRS and the hydrogen storage facilities done by a reputed national / International agency which have experience in performing the safety audits of hydrogen storage and hydrogen fuel cell based systems. The selection of the firm for performing the safety audit shall be done with the approval of competent authority of Indian railways.

- 5.4 Successful Bidder has responsibility of obtaining regulatory/safety compliance certification from concerned regulatory authorities in India both for hydrogen transportation and hydrogen storage in the form of mobile dispensing unit/any other suitable hydrogen storage facility at nominated yards. Indian Railways will assist successful bidder by providing land, power, illumination, water etc. necessary for setting up the mobile dispensing unit or any other suitable hydrogen storage facility / installation at nominated yards/platforms/depots.

List above is not exhaustive. Any other component / Assembly / Software/ Hardware etc., that is required for proper and safe functioning of the retrofitted equipments, will have to be supplied as a part of scope of work and will be the responsibility of the bidder.

**6.0 Environmental conditions**

Design factors such as weight, center of gravity, packaging and safety requirements etc. among other features shall have to be considered. Complete system after retrofitment shall have to be done considering the harsh operating conditions, especially shock loads during marshalling in yard/depots, this shall essentially require component mounting systems capable of absorbing high energy. Additionally, system design should comply with the Railway safety regulations governing safety and addressing safety during such events such as derailment, side impact from yard traffic, refueling and maintenance.

Fuel cell based DEMU DPC shall be required to work continuously under following atmospheric conditions:

Maximum temperature (Atmospheric)	(i) 55 °C (under sun). (ii) 47 °C (in shade) (Temperature inside DEMU DPC may reach 55 °C.)
Humidity	90 % (Up to 100% during rainy season.)
Altitude	Refer Annexure-II
Operation in rainy season	The DEMU DPC shall be designed to permit it's running at 5 Km/h in a flood water level of 10.2 cm above the rail level.
Dust	Extremely dusty and desert terrain in certain areas. The dust content in air may reach as high a value as 1.6 mg / m <sup>3</sup> .
Atmospheric conditions in coastal areas in humidity salt laden and corrosive atmosphere	All the equipment shall be designed to work in coastal areas in humidity salt laden and corrosive atmosphere. (a) Maximum PH value : 8.5 (b) Sulphate : 7 mg / litre. (c) Max. concentration of chlorine : 6 mg / litre (d) Maximum conductivity : 130 micro siemens / CM.



All the equipment and their mounting arrangement shall satisfactorily withstand the maximum allowable acceleration in longitudinal, lateral, and vertical directions for the fuel-cell hardware shall be 3g (*'g' being acceleration due to gravity*). This 3g maximum limit applies at or below the system natural frequency.

## 7.0 National /International standards

The retrofitted equipments should conform to the relevant clauses of the applicable standards listed below, However any other additional standard specifications/regulatory guidelines/established convention/certification requirement etc. which is considered applicable/relevant for this project will also to be complied with by the bidder.

SN	Standard No.	Title
1	ISO 23273:2013 Fuel Cell road vehicles- safety specifications – Part-2	Protection against hydrogen hazards for vehicles fuelled with compressed hydrogen
2	IEC 62282-3-100:2019 Fuel cell technologies – Part 3-100	Stationary fuel cell power systems – Safety
3	EC79/2009 Type approval of hydrogen	powered motor vehicles
5	BS EN 50343:2014+A1: 2017 Railway application, Rolling stock	Rules for installation of cabling is classified in these ICS categories
6	BS EN 50124-1:2017 Railway applications. Insulation coordination	Basic requirements. Clearances and creepage distances for all electrical and electronic equipment
7	BS EN 60077-1:2017 Railway applications. Electric equipment for rolling stock.	General service condition and general rules
8	IEC 62497-1: 2010 + AMD1:2013 CSV Railway applications. Insulation coordination. Basic requirements.	Clearances and creepage distances for all electrical and electronic equipment
9	BS EN 50155:2017 Railway applications. Rolling Stock.	Electronic equipment
10	IEC 62282-3-100:2019	(5.14 Rain test)
11	IEC 60571 Railway application-	Electronic equipment used on rolling stock
12	ISO 17268:2020	Gaseous hydrogen land vehicle refuelling connection devices
13	ISO 23828:2013	Fuel cell road vehicles-Energy consumption measurement- Vehicles fuelled with compressed hydrogen
14	SAE J2578	Recommended practice for General Fuel Cell Vehicle Safety
15	ISO 6469	Electrically propelled Road Vehicles- safety specifications
16	ISO 6469-1 part-1	onboard rechargeable energy storage system

		(RESS)
17	ISO 6469-2 part-2	Vehicle operational safety means and protection against failures
18	ISO 6469-3 part-3	Protection of persons against electric shock
19	ISO 6469-4 part-4	Post crash electrical safety requirement
20	GTR-13	'Global Technical Regulations on Hydrogen and Fuel Cell vehicle'
21	IEC-60571	System Shall be designed to withstand vibrations as per IEC-60571
22	EN 17339:2020	Transportable gas cylinders - Fully wrapped carbon composite cylinders and tubes for hydrogen
23	ISO 14687	Hydrogen fuel quality-Product specification

## 8.0 Hydrogen onboard storage:

Hydrogen fuel storage shall use readily available hardware and should comply to all safety regulations / certifications related with hydrogen safety measures. Modules shall be mounted as per approved layout, each consisting of adequate no. of carbon fiber/aluminum tanks. This storage system shall provide fuel for the requirement as mentioned under **Para-3.0 (i)** of this document.

Each tank shall incorporate an excess flow valve, thermally activated pressure relief devices (PRD), temperature sensor, electronically controlled solenoid valve, and manual shut-off valves. In the event of a line rupture between the tank and distribution manifold, the tank excess-flow valve shall close. In the event of excessive heat (above 109 °C), such as could be caused by a battery fire, the thermally activated PRD's shall vent the tank contents through a routed vent line pointing upward and away from the vehicle. The temperature sensors shall be utilized by the control system to regulate refueling speed as well as indicate any over temperature warnings. The electronic solenoid valve shall be normally closed, powered open for run and refueling modes, and closed if a high level system fault is detected.

The module manifolds, each with independent pressure sensors, shall be connected to a primary distribution line that includes an excess-flow valve to control any ruptures in the primary distribution line. The primary distribution line shall connect to the refueling line, and shall then continues to a filter, pressure regulator, additional electronic solenoid valve, pressure sensor, and an additional PRD. The additional solenoid valve shall add a layer of shutdown capability, while the pressure sensor verifies regulator functionality.

An emergency shutoff device shall be located on each side of the DEMU DPC to allow non-operators or refueling personnel to shut down the fuel system.

## 9.0 Power electronics:

In order to effectively use the fuel cell as the prime mover and a battery charging source, the power shall be delivered to the DEMU DPC high-voltage bus at the correct power and voltage levels. The system controller shall receive a power set point from the VCU and in turn control the power output from the fuel stack and battery bank and accordingly control the operation of BOP operation points as well as the DC/AC traction converter output.

### 10.0 Battery System

The Lithium ion power batteries shall be used. However, alternate design of batteries may also be accepted based upon performance standpoint (i.e. better Energy and Power density, Life Cycle etc.).

### 11.0 Driving Cycle

Driving Cycle for the targeted section on Zonal Railway where DEMU will operate is attached as Annexure-II.

### 12.0 Fuel Cell based Power-Train Control System & its Integration with Existing VCU (Vehicle Control Unit)

The operation of all fuel cell subsystems shall be monitored and coordinated by a central control system. The responsibility of integrating FC controller with VCU including all third party interfaces will be a part of the scope of the work. The Microprocessor shall monitor and log the critical and important operational Fuel Cell and Battery health related parameters. The information to be displayed to the driver/assistant shall be decided mutually between IR and the Fuel Cell System designer.

### 13.0 Mounting and Isolation

Mounting of all fuel cell system modules to the DEMU DPC is of critical importance because DEMU DPC are marshaled in rail yards, which can lead to shock loads up to 10 Gs (11 ms saw tooth). Although they are of short duration, shocks of this magnitude could lead to immediate or fatigued failure of components or mounting structures. To mitigate this harsh environment, each module shall be isolated from the impact loads; this may be effectively done through the use of springs, specifically rubber or synthetic mounts or isolators.

The mounts' natural frequency should be well below the possible disturbing frequencies of the system. The isolation system shall also provide proper shock protection in the horizontal, lateral, and vertical directions. The mounting system shall be designed so that it is at the vertical center of gravity, which shall minimize any rocking motion of the power plant and transmit force directly into the mounts. In addition to careful selection of isolation mounts, finite element analysis shall be used to validate all structural weldment designs.

### 14.0 Control console

The existing HMI \*(Driver Interface) shall remain unchanged. However, the PEMFC and Battery parameters shall be incorporated for display on the MMI/HMI display in the existing control console.

### 15.0 Responsibility chart:

SN	Activity/Items	Responsibility
1.	Submission of design/drawings and documents as per para 17.0 'documentation'	Successful bidder
2.	Approval of design layout	RDSO
3.	Submission of certifications and approvals complying the regulations/conventions/regulatory guidelines etc	Successful bidder
4.	Approval for onboard hydrogen storage for DEMU	IROAF, RDSO
5.	Approval from CCOE for transportation and uses	Successful bidder

	of Hydrogen at 350 bar	
6.	Supply as per scope of work	Successful bidder
7.	Nomination/handing over the DEMU for retro fitment	IROAF
8.	Dismantling of existing power train equipments onboard DEMU	Successful bidder
9.	Structural modification needed in existing DEMU for retro fitment	Successful bidder
10.	Installation of Fuel cell based hybrid power train components	Successful bidder
11.	Commissioning/Prove out test	Successful bidder and witnessed by IROAF, RDSO, Zonal Railway
12.	Field trials	Successful bidder and witnessed by IROAF, RDSO, Zonal Railway
13.	Hiring of agency for third party safety audit for complete system including hydrogen supply infrastructure	Successful bidder
14.	Approval of third party safety audit agency	IROAF, RDSO

#### 16.0 Inspection and Testing:

The tenderer must submit details of test plan for the proposed system along with offer as per the relevant ISO/IEC/BS EN etc. specifications applicable in terms of clause no.7. It should prima-facie include the following details-

#### 16.1 Factory Sub-system level test:

Factory acceptance test is carried out to check full functionality of the systems including sub-systems and components integrated to a fully functional level at a factory. This is the QA test done at the factory either by the tenderer or through third party testing. These tests will not be witnessed by the IR representatives. All documentation for this stage of testing is to be submitted to the IR before dispatch of material.

#### 16.2 System Prove Out Test:

This test will be carried out on the nominated DPC at IR facility/Firms premises for the full proving out of the system. All individually tested sub-systems, as outlined in the clause 16.1, are to be integrated in a fully functional manner and offered for inspection. The test will be witnessed by the IR team at the premises of tenderer/IR facility. Prove out test shall be conducted at the nominated unit of Indian Railways/firms premises on the load box, in which all the performance requirements which can be determined in static condition shall be established by the manufacturer particularly the power requirement.

#### 16.3 Field Trials:

One prototype of 'Fuel Cell based Hybrid Power Train' shall be subjected to field trials on Indian Railways for at least 06 months/50000 Kms whichever is later. The successful bidder shall depute a team of engineers for installation, commissioning, testing and field trials of the 'Fuel Cell based Hybrid Power Train' and its equipment in service. The successful bidder shall associates in the field trails jointly with Indian

Railways. The successful bidder shall ensure availability of typical tools and spare parts in adequate quantity for field trials, to be done as part of commissioning.

All the modification required due to defects noticed or design improvement found necessary as a results of the field tests/trials shall be carried out by the successful bidder in the least possible time. Total cost of such modifications/design changes shall be borne by the successful bidder.

## 17.0 Documentation

Following documents shall be submitted to IR for evaluation:

- Functional description of the complete system, including salient features and advantages of the offered system
- All performance curves, including the proposed notch-wise TE Vs Speed, fuel efficiency, efficiency and ventilation characteristics of the major equipment offered, parasitic load of the auxiliaries used in the system, basic design data like ratings, power circuit diagram and temperature capability, envelope and mounting drawings etc. shall be submitted with the offer.
  - a) Technical documentation explaining the complete system including characteristic curves and efficiency, diagnostics and protection circuits etc.
  - b) Detailed analysis along with supporting design documents and simulations results for optimization of hybrid power train and hydrogen storage module is required to be submitted along with the offer.
  - c) DPC DEMU's control circuit line diagram.
  - d) Lay out and mounting drawings of all the equipment offered
  - e) Layout and mounting drawings of each sub-system with interface details.
  - f) Cooling system details.
  - g) Procedure for user settable parameter alteration, fault data downloading and analysis etc.
  - h) List of special tools, jigs and fixtures needed for testing, commissioning, maintenance and repair.
  - i) Maintenance, troubleshooting and operating manuals with detailed information for all the equipment offered in soft and hard copies. Renewal parts manual in soft and hard copies.

Irrespective of the details brought out here, all information and documentation which are essential for operation and maintenance of the DEMU DPC with the equipment supplied shall be submitted on request of Indian Railways.

## 18.0 Warranty:

Successful bidder will be responsible for ensuring satisfactory performance of the Fuel cell based power train during the warranty period. The complete system with controls shall be warranted for satisfactory and trouble free operation. All aspects of workmanship and design shall be covered by this warranty. The supplier shall immediately provide arrangement of rectification of failures reported under warranty. All the consumables/special tools/technical expertise/man power required during warranty period for satisfactory functioning of the system shall be provided by the successful tenderer.

Warranty period of any equipment of the system may be extended as per mutual agreement between Indian Railway/RDSO and supplier, if the equipment has undergone major design modifications during the warranty period. The warranty period will be of minimum 24 months that shall be counted from the date of successful commissioning of retrofitted fuel cell based hybrid power train.

#### **19.0 Comprehensive Annual Maintenance Contract (CAMC):**

The bidder shall also submit the offer for Comprehensive Annual Maintenance Contract (CAMC) of the system for 03 year.

The period of CAMC of the system will be start after completion of warranty period. The contract shall be comprehensive in nature wherein preventive as well as breakdown maintenance for all the retrofitted equipment shall be done including supply of spares, tools, consumables, technically experienced man power. Bidder will ensure that 'Fuel Cell based Hybrid Power Train' will run without interruption and will also maintain inventory of spares for successful operation.

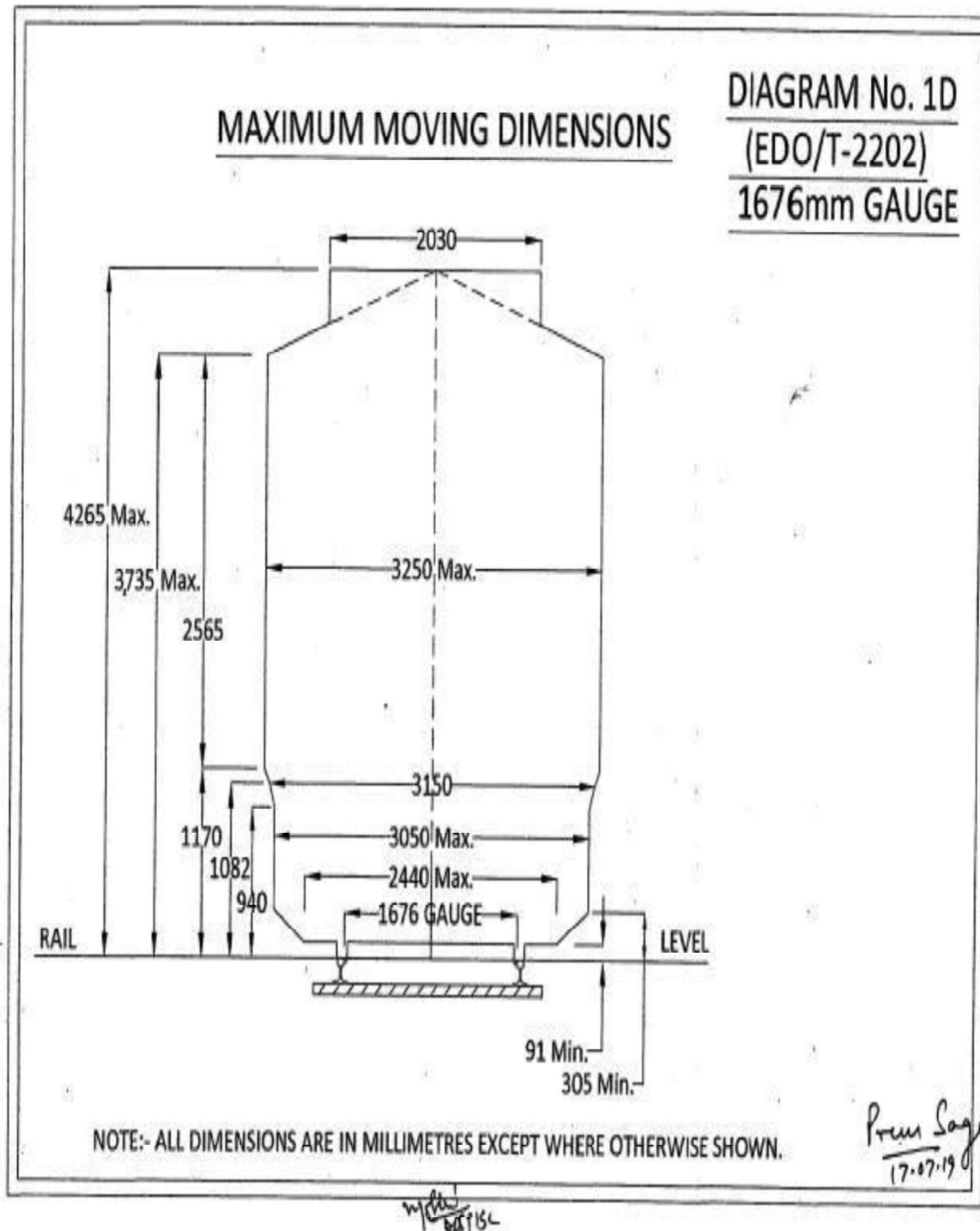
The bidder should submit the preventive maintenance schedule at the time of submitting the offer. The successful bidders shall ensure that downtime on account of all maintenance (preventive and breakdown) of the equipment does not exceed a period equivalent of 10% of total hours for the Fuel cell based DEMU covered in the contract. The down time accountal shall be carried out every month and the successful bidder shall ensure not less than 90% availability on all the retrofitted equipment account, failing which suitable, penalty shall be leviable.

Based upon the experience gained by the successful bidder in the first year of the contract, it should be possible to improve upon the above referred level of the availability and downtime. The bidder should indicate the same in his offer.

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# Annexure-I

## Maximum Moving Dimensions





## Annexure-II

### Design Requirement for Hydrogen Fuel cell based hybrid power train system operating in Sonapat to Jind Section:

#### 1.0 Section Details:

Sonapat-Jind section of Northern Railways has total distance of 89 Kms. The section has 12 no. halts. Altitude 300 meter approx. above mean sea level

2.0 Indicative rating of power train components based on actual drive cycle between Sonapat-Jind plus operating margins for variations in the driving cycle as a part of normal train operation can be taken as:

- a. PEMFC of 800 KW Hydrogen fuel cell based power stacks preferably in the multiples of 100/150/200 KW).
- b. Secondary energy source i.e battery bank of 330 to 380 KWH with power rating of 400 KW.

Optimisation of power train components in terms of final rating to meet the actual drive cycle requirement (both peak and average) will have to done by bidder. Drive cycle of DEMU between Sonapat-Jind (up and down trip) is as under-

#### 3.0 Driving cycle for Sonapat to Jind trip:

TIME (Scale: 0.1 step =15 seconds)	Notch	Power (HP)
0.1	2	466
0.2	2	466
0.3	0	143
0.4	0	143
0.5	1	211
0.6	2	466
0.7	2	466
0.8	3	699
0.9	3	699
1	3	699
1.1	3	699
1.2	3	699
1.3	4	951
1.4	5	1110
1.5	0	143
1.6	0	143
1.7	3	699
1.8	5	1110
1.9	6	1326

2	6	1326
2.1	6	1326
2.2	6	1326
2.3	1	211
2.4	1	211
2.5	1	211
2.6	2	466
2.7	2	466
2.8	2	466
2.9	3	699
3	3	699
3.1	1	211
3.2	1	211
3.3	2	466
3.4	1	211
3.5	1	211
3.6	2	466
3.7	1	211
3.8	0	143
3.9	0	143
4	0	143
4.1	0	143
4.2	0	143
4.3	0	143
4.4	0	143
4.5	0	143
4.6	1	211
4.7	3	699
4.8	4	951
4.9	5	1110
5	6	1326
5.1	6	1326
5.2	6	1326
5.3	1	211
5.4	1	211
5.5	1	211
5.6	3	699
5.7	2	466
5.8	3	699
5.9	2	466
6	1	211
6.1	1	211
6.2	1	211
6.3	2	466
6.4	2	466
6.5	2	466

6.6	2	466
6.7	2	466
6.8	2	466
6.9	1	211
7	2	466
7.1	1	211
7.2	2	466
7.3	0	143
7.4	0	143
7.5	0	143
7.6	0	143
7.7	0	143
7.8	0	143
7.9	0	143
8	0	143
8.1	1	211
8.2	2	466
8.3	0	143
8.4	0	143
8.5	0	143
8.6	0	143
8.7	0	143
8.8	0	143
8.9	0	143
9	0	143
9.1	0	143
9.2	0	143
9.3	2	466
9.4	3	699
9.5	3	699
9.6	0	143
9.7	0	143
9.8	0	143
9.9	2	466
10	4	951
10.1	4	951
10.2	5	1110
10.3	6	1326
10.4	6	1326
10.5	2	466
10.6	1	211
10.7	1	211
10.8	2	466
10.9	1	211
11	1	211
11.1	0	143

11.2	0	143
11.3	1	211
11.4	2	466
11.5	2	466
11.6	2	466
11.7	3	699
11.8	4	951
11.9	0	143
12	0	143
12.1	0	143
12.2	0	143
12.3	0	143
12.4	0	143
12.5	0	143
12.6	1	211
12.7	2	466
12.8	4	951
12.9	5	1110
13	5	1110
13.1	6	1326
13.2	6	1326
13.3	6	1326
13.4	2	466
13.5	3	699
13.6	3	699
13.7	1	211
13.8	2	466
13.9	2	466
14	3	699
14.1	0	143
14.2	0	143
14.3	0	143
14.4	0	143
14.5	0	143
14.6	0	143
14.7	0	143
14.8	2	466
14.9	2	466
15	3	699
15.1	0	143
15.2	0	143
15.3	0	143
15.4	0	143
15.5	0	143
15.6	0	143
15.7	0	143

15.8	0	143
15.9	0	143
16	3	699
16.1	4	951
16.2	5	1110
16.3	6	1326
16.4	6	1326
16.5	6	1326
16.6	1	211
16.7	2	466
16.8	3	699
16.9	3	699
17	2	466
17.1	2	466
17.2	3	699
17.3	0	143
17.4	0	143
17.5	0	143
17.6	0	143
17.7	0	143
17.8	0	143
17.9	0	143
18	0	143
18.1	0	143
18.2	0	143
18.3	0	143
18.4	0	143
18.5	0	143
18.6	0	143
18.7	0	143
18.8	0	143
18.9	0	143
19	0	143
19.1	0	143
19.2	2	466
19.3	2	466
19.4	3	699
19.5	0	143
19.6	0	143
19.7	0	143
19.8	0	143
19.9	1	211
20	1	211
20.1	0	143
20.2	1	211
20.3	1	211

20.4	2	466
20.5	2	466
20.6	1	211
20.7	0	143
20.8	0	143
20.9	0	143
21	0	143
21.1	0	143
21.2	0	143
21.3	0	143
21.4	0	143
21.5	0	143
21.6	0	143
21.7	0	143
21.8	0	143
21.9	0	143
22	0	143
22.1	0	143
22.2	2	466
22.3	2	466
22.4	2	466
22.5	2	466
22.6	0	143
22.7	0	143
22.8	1	211
22.9	3	699
23	4	951
23.1	5	1110
23.2	6	1326
23.3	6	1326
23.4	6	1326
23.5	1	211
23.6	1	211
23.7	3	699
23.8	1	211
23.9	1	211
24	3	699
24.1	1	211
24.2	1	211
24.3	1	211
24.4	1	211
24.5	1	211
24.6	0	143
24.7	0	143
24.8	0	143
24.9	0	143

25	0	143
25.1	0	143
25.2	0	143
25.3	2	466
25.4	4	951
25.5	5	1110
25.6	5	1110
25.7	6	1326
25.8	6	1326
25.9	1	211
26	0	143
26.1	0	143
26.2	1	211
26.3	2	466
26.4	1	211
26.5	1	211
26.6	1	211
26.7	3	699
26.8	3	699
26.9	1	211
27	0	143
27.1	0	143
27.2	0	143
27.3	0	143
27.4	0	143
27.5	0	143
27.6	0	143
27.7	0	143
27.8	0	143
27.9	2	466
28	3	699
28.1	3	699
28.2	4	951
28.3	6	1326
28.4	6	1326
28.5	6	1326
28.6	1	211
28.7	1	211
28.8	1	211
28.9	1	211
29	2	466
29.1	2	466
29.2	0	143
29.3	0	143
29.4	0	143
29.5	0	143



29.6	0	143
29.7	0	143
29.8	2	466
29.9	3	699
30	5	1110
30.1	6	1326
30.2	6	1326
30.3	6	1326
30.4	6	1326
30.5	2	466
30.6	3	699
30.7	3	699
30.8	2	466
30.9	2	466
31	2	466
31.1	0	143
31.2	0	143
31.3	0	143
31.4	0	143
31.5	0	143
31.6	0	143
31.7	0	143
31.8	0	143
31.9	0	143
32	0	143
32.1	2	466
32.2	0	143
32.3	0	143
32.4	0	143
32.5	0	143
32.6	0	143
32.7	0	143
32.8	0	143
32.9	0	143
33	0	143
33.1	0	143
33.2	0	143
33.3	0	143
33.4	0	143
33.5	0	143
33.6	0	143
33.7	0	143
33.8	0	143
33.9	0	143
34	0	143
34.1	0	143

34.2	0	143
34.3	0	143
34.4	0	143
34.5	0	143
34.6	0	143
34.7	0	143
34.8	0	143
34.9	0	143
35	0	143
35.1	0	143
35.2	0	143
35.3	0	143
35.4	0	143
35.5	0	143
35.6	0	143
35.7	0	143
35.8	0	143
35.9	0	143
36	0	143
36.1	0	143
36.2	0	143
36.3	0	143
36.4	0	143
36.5	0	143
36.6	0	143
36.7	0	143
36.8	0	143
36.9	0	143
37	0	143
37.1	0	143
37.2	0	143
37.3	0	143
37.4	0	143
37.5	0	143
37.6	0	143
37.7	0	143
37.8	0	143
37.9	0	143
38	0	143
38.1	0	143
38.2	0	143
38.3	0	143
38.4	0	143
38.5	0	143
38.6	0	143
38.7	0	143

38.8	0	143
38.9	0	143
39	0	143
39.1	0	143
39.2	0	143
39.3	0	143
39.4	0	143
39.5	0	143
39.6	0	143
39.7	0	143
39.8	0	143
39.9	0	143
40	0	143
40.1	0	143
40.2	0	143
40.3	0	143
40.4	0	143
40.5	0	143
40.6	0	143
40.7	0	143
40.8	0	143
40.9	0	143
41	0	143
41.1	0	143
41.2	0	143
41.3	0	143
41.4	1	211
41.5	2	466
41.6	2	466
41.7	0	143
41.8	0	143
41.9	0	143
42	0	143
42.1	1	211
42.2	0	143
42.3	0	143
42.4	3	699
42.5	4	951
42.6	4	951
42.7	1	211
42.8	1	211
42.9	0	143
43	0	143
43.1	1	211
43.2	1	211
43.3	1	211

43.4	1	211
43.5	1	211
43.6	2	466
43.7	2	466
43.8	2	466
43.9	0	143
44	0	143
44.1	0	143
44.2	0	143
44.3	0	143
44.4	0	143
44.5	0	143
44.6	1	211
44.7	2	466
44.8	2	466
44.9	2	466
45	1	211
45.1	2	466
45.2	1	211
45.3	0	143
45.4	0	143
45.5	0	143
45.6	0	143
45.7	0	143
45.8	0	143
45.9	0	143
46	0	143
46.1	0	143
46.2	0	143
46.3	0	143
46.4	0	143
46.5	0	143
46.6	0	143
46.7	0	143
46.8	0	143
46.9	0	143
47	0	143
47.1	2	466
47.2	4	951
47.3	4	951
47.4	4	951
47.5	1	211
47.6	1	211
47.7	1	211
47.8	1	211
47.9	0	143

48	0	143
48.1	0	143
48.2	0	143
48.3	0	143
48.4	0	143
48.5	1	211
48.6	2	466
48.7	0	143
48.8	0	143
48.9	0	143
49	1	211
49.1	3	699
49.2	1	211
49.3	1	211
49.4	1	211
49.5	2	466
49.6	2	466
49.7	2	466
49.8	1	211
49.9	0	143
50	0	143
50.1	0	143
50.2	0	143
50.3	0	143
50.4	2	466
50.5	3	699
50.6	0	143
50.7	0	143
50.8	0	143
50.9	0	143
51	0	143
51.1	0	143
51.2	0	143
51.3	0	143
51.4	0	143
51.5	0	143
51.6	2	466
51.7	2	466
51.8	1	211
51.9	1	211
52	2	466
52.1	2	466
52.2	1	211
52.3	0	143
52.4	0	143
52.5	1	211

52.6	2	466
52.7	2	466
52.8	4	951
52.9	5	1110
53	3	699
53.1	0	143
53.2	0	143
53.3	0	143
53.4	0	143
53.5	0	143
53.6	2	466
53.7	3	699
53.8	3	699
53.9	0	143
54	0	143
54.1	0	143
54.2	0	143
54.3	0	143
54.4	0	143
54.5	0	143
54.6	0	143
54.7	0	143
54.8	0	143
54.9	0	143
55	1	211
55.1	1	211
55.2	0	143
55.3	0	143
55.4	0	143
55.5	0	143
55.6	0	143
55.7	0	143
55.8	0	143
55.9	0	143
56	0	143
56.1	0	143
56.2	0	143
56.3	0	143
56.4	0	143
56.5	0	143
56.6	0	143
56.7	0	143
56.8	0	143
56.9	0	143
57	0	143
57.1	0	143

57.2	0	143
57.3	0	143
57.4	0	143
57.5	0	143
57.6	0	143
57.7	0	143
57.8	0	143
57.9	0	143
58	0	143
58.1	0	143
58.2	0	143
58.3	0	143
58.4	0	143
58.5	0	143
58.6	0	143
58.7	0	143
58.8	0	143
58.9	0	143
59	0	143
59.1	0	143
59.2	0	143
59.3	0	143
59.4	0	143
59.5	0	143
59.6	0	143
59.7	0	143
59.8	0	143
59.9	0	143
60	0	143
60.1	0	143
60.2	0	143
60.3	0	143
60.4	0	143
60.5	0	143
60.6	0	143
60.7	0	143
60.8	0	143
60.9	0	143
61	0	143
61.1	0	143
61.2	0	143
61.3	0	143
61.4	0	143
61.5	0	143
61.6	0	143
61.7	0	143



61.8	0	143
61.9	0	143
62	0	143
62.1	0	143
62.2	0	143
62.3	0	143
62.4	0	143
62.5	0	143
62.6	0	143
62.7	0	143
62.8	0	143
62.9	0	143
63	0	143
63.1	0	143
63.2	0	143
63.3	0	143
63.4	0	143
63.5	0	143
63.6	0	143
63.7	0	143
63.8	0	143
63.9	1	211
64	2	466
64.1	0	143
64.2	0	143
64.3	0	143
64.4	0	143
64.5	1	211
64.6	1	211
64.7	0	143
64.8	0	143
64.9	0	143
65	4	951
65.1	5	1110
65.2	6	1326
65.3	6	1326
65.4	1	211
65.5	1	211
65.6	1	211
65.7	1	211
65.8	2	466
65.9	2	466
66	1	211
66.1	1	211
66.2	1	211
66.3	0	143

66.4	0	143
66.5	0	143
66.6	0	143
66.7	0	143
66.8	0	143
66.9	0	143
67	0	143
67.1	0	143
67.2	0	143
67.3	0	143
67.4	0	143
67.5	0	143
67.6	0	143
67.7	0	143
67.8	0	143
67.9	0	143
68	0	143
68.1	0	143
68.2	0	143
68.3	0	143
68.4	0	143
68.5	0	143
68.6	0	143
68.7	0	143
68.8	0	143
68.9	0	143
69	0	143
69.1	0	143
69.2	0	143
69.3	0	143
69.4	2	466
69.5	3	699
69.6	3	699
69.7	3	699
69.8	0	143
69.9	0	143
70	0	143
70.1	0	143
70.2	1	211
70.3	0	143
70.4	0	143
70.5	2	466
70.6	1	211
70.7	1	211
70.8	0	143
70.9	0	143

71	0	143
71.1	0	143
71.2	0	143
71.3	2	466
71.4	3	699
71.5	0	143
71.6	0	143
71.7	0	143
71.8	1	211
71.9	0	143
72	0	143
72.1	0	143
72.2	4	951
72.3	6	1326
72.4	6	1326
72.5	6	1326
72.6	2	466
72.7	1	211
72.8	0	143
72.9	0	143
73	0	143
73.1	0	143
73.2	0	143
73.3	0	143
73.4	0	143
73.5	0	143
73.6	0	143
73.7	0	143
73.8	0	143
73.9	1	211
74	1	211
74.1	0	143
74.2	0	143
74.3	0	143
74.4	0	143
74.5	0	143

**Driving cycle for Jind To Sonapat trip:**

Time Scale 0.1 step=15 Seconds	Notch	Power (HP)
0.1	1	211
0.2	1	211
0.3	1	211
0.4	1	211

0.5	1	211
0.6	2	466
0.7	2	466
0.8	2	466
0.9	0	143
1	0	143
1.1	1	211
1.2	1	211
1.3	0	143
1.4	0	143
1.5	4	951
1.6	6	1326
1.7	6	1326
1.8	6	1326
1.9	1	211
2	0	143
2.1	0	143
2.2	0	143
2.3	3	699
2.4	3	699
2.5	0	143
2.6	0	143
2.7	0	143
2.8	0	143
2.9	0	143
3	1	211
3.1	1	211
3.2	0	143
3.3	0	143
3.4	0	143
3.5	0	143
3.6	0	143
3.7	0	143
3.8	2	466
3.9	2	466
4	0	143
4.1	0	143
4.2	1	211
4.3	1	211
4.4	0	143
4.5	0	143
4.6	0	143
4.7	1	211
4.8	4	951
4.9	6	1326
5	6	1326

5.1	6	1326
5.2	1	211
5.3	1	211
5.4	2	466
5.5	2	466
5.6	2	466
5.7	0	143
5.8	0	143
5.9	2	466
6	2	466
6.1	2	466
6.2	0	143
6.3	0	143
6.4	0	143
6.5	0	143
6.6	0	143
6.7	0	143
6.8	1	211
6.9	1	211
7	0	143
7.1	0	143
7.2	0	143
7.3	0	143
7.4	0	143
7.5	0	143
7.6	0	143
7.7	0	143
7.8	0	143
7.9	0	143
8	1	211
8.1	2	466
8.2	2	466
8.3	2	466
8.4	0	143
8.5	0	143
8.6	0	143
8.7	1	211
8.8	1	211
8.9	0	143
9	1	211
9.1	1	211
9.2	1	211
9.3	0	143
9.4	1	211
9.5	4	951
9.6	5	1110

9.7	5	1110
9.8	5	1110
9.9	5	1110
10	0	143
10.1	0	143
10.2	0	143
10.3	0	143
10.4	0	143
10.5	2	466
10.6	2	466
10.7	1	211
10.8	0	143
10.9	0	143
11	0	143
11.1	0	143
11.2	0	143
11.3	0	143
11.4	0	143
11.5	0	143
11.6	0	143
11.7	2	466
11.8	3	699
11.9	3	699
12	2	466
12.1	0	143
12.2	0	143
12.3	2	466
12.4	2	466
12.5	0	143
12.6	0	143
12.7	0	143
12.8	1	143
12.9	1	143
13	2	466
13.1	0	143
13.2	0	143
13.3	0	143
13.4	0	143
13.5	0	143
13.6	0	143
13.7	0	143
13.8	0	143
13.9	0	143
14	1	211
14.1	1	211
14.2	0	143

14.3	0	143
14.4	0	143
14.5	4	951
14.6	2	466
14.7	0	143
14.8	0	143
14.9	0	143
15	0	143
15.1	0	143
15.2	0	143
15.3	0	143
15.4	0	143
15.5	0	143
15.6	0	143
15.7	0	143
15.8	0	143
15.9	0	143
16	3	699
16.1	4	951
16.2	4	951
16.3	2	466
16.4	1	211
16.5	0	143
16.6	0	143
16.7	0	143
16.8	2	466
16.9	2	466
17	1	211
17.1	1	211
17.2	1	211
17.3	1	211
17.4	1	211
17.5	1	211
17.6	1	211
17.7	0	143
17.8	0	143
17.9	0	143
18	0	143
18.1	0	143
18.2	0	143
18.3	1	211
18.4	2	466
18.5	2	466
18.6	2	466
18.7	1	211
18.8	1	211



18.9	0	143
19	0	143
19.1	0	143
19.2	0	143
19.3	0	143
19.4	0	143
19.5	0	143
19.6	2	466
19.7	2	466
19.8	0	143
19.9	0	143
20	0	143
20.1	0	143
20.2	1	211
20.3	1	211
20.4	0	143
20.5	0	143
20.6	0	143
20.7	0	143
20.8	0	143
20.9	0	143
21	0	143
21.1	0	143
21.2	0	143
21.3	0	143
21.4	2	466
21.5	2	466
21.6	3	699
21.7	0	143
21.8	0	143
21.9	0	143
22	0	143
22.1	2	466
22.2	4	951
22.3	4	951
22.4	4	951
22.5	6	1326
22.6	6	1326
22.7	6	1326
22.8	0	143
22.9	0	143
23	0	143
23.1	0	143
23.2	0	143
23.3	0	143
23.4	0	143

23.5	0	143
23.6	0	143
23.7	0	143
23.8	0	143
23.9	0	143
24	0	143
24.1	0	143
24.2	2	466
24.3	3	699
24.4	6	1326
24.5	6	1326
24.6	6	1326
24.7	6	1326
24.8	6	1326
24.9	0	143
25	0	143
25.1	0	143
25.2	0	143
25.3	0	143
25.4	0	143
25.5	0	143
25.6	0	143
25.7	0	143
25.8	0	143
25.9	2	466
26	3	699
26.1	6	1326
26.2	6	1326
26.3	6	1326
26.4	6	1326
26.5	6	1326
26.6	3	699
26.7	1	211
26.8	1	211
26.9	2	466
27	0	143
27.1	0	143
27.2	0	143
27.3	0	143
27.4	4	951
27.5	4	951
27.6	2	466
27.7	0	143
27.8	0	143
27.9	0	143
28	0	143

28.1	0	143
28.2	0	143
28.3	2	466
28.4	4	951
28.5	6	1326
28.6	6	1326
28.7	6	1326
28.8	6	1326
28.9	0	143
29	0	143
29.1	0	143
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29.5	0	143
29.6	0	143
29.7	0	143
29.8	0	143
29.9	0	143
30	0	143
30.1	0	143
30.2	0	143
30.3	0	143
30.4	0	143
30.5	0	143
30.6	1	211
30.7	2	466
30.8	3	699
30.9	1	211
31	0	143
31.1	0	143
31.2	0	143
31.3	0	143
31.4	0	143
31.5	0	143
31.6	0	143
31.7	0	143
31.8	0	143
31.9	0	143
32	1	211
32.1	1	211
32.2	0	143
32.3	0	143
32.4	0	143
32.5	0	143
32.6	0	143

32.7	0	143
32.8	0	143
32.9	0	143
33	0	143
33.1	1	211
33.2	2	466
33.3	3	699
33.4	3	699
33.5	0	143
33.6	0	143
33.7	0	143
33.8	0	143
33.9	4	951
34	6	1326
34.1	6	1326
34.2	6	1326
34.3	6	1326
34.4	6	1326
34.5	0	143
34.6	0	143
34.7	0	143
34.8	0	143
34.9	0	143
35	4	951
35.1	4	951
35.2	4	951
35.3	4	951
35.4	1	211
35.5	0	143
35.6	0	143
35.7	0	143
35.8	0	143
35.9	0	143
36	0	143
36.1	0	143
36.2	0	143
36.3	0	143
36.4	0	143
36.5	0	143
36.6	4	951
36.7	5	1110
36.8	6	1326
36.9	6	1326
37	6	1326
37.1	6	1326
37.2	1	211

37.3	1	211
37.4	2	466
37.5	3	699
37.6	2	466
37.7	2	466
37.8	1	211
37.9	3	699
38	3	699
38.1	3	699
38.2	3	699
38.3	1	211
38.4	0	143
38.5	0	143
38.6	0	143
38.7	4	951
38.8	1	211
38.9	0	143
39	0	143
39.1	0	143
39.2	0	143
39.3	0	143
39.4	0	143
39.5	0	143
39.6	0	143
39.7	2	466
39.8	4	951
39.9	6	1326
40	6	1326
40.1	6	1326
40.2	6	1326
40.3	5	1110
40.4	1	211
40.5	1	211
40.6	1	211
40.7	1	211
40.8	1	211
40.9	1	211
41	1	211
41.1	1	211
41.2	2	466
41.3	3	699
41.4	2	466
41.5	0	143
41.6	0	143
41.7	0	143
41.8	0	143

41.9	0	143
42	0	143
42.1	0	143
42.2	0	143
42.3	0	143
42.4	1	211
42.5	1	211
42.6	0	143
42.7	0	143
42.8	0	143
42.9	0	143
43	0	143
43.1	0	143
43.2	0	143
43.3	1	211
43.4	2	466
43.5	2	466
43.6	2	466
43.7	2	466
43.8	0	143
43.9	0	143
44	0	143
44.1	2	466
44.2	4	951
44.3	5	1110
44.4	5	1110
44.5	5	1110
44.6	5	1110
44.7	5	1110
44.8	2	466
44.9	1	211
45	3	699
45.1	3	699
45.2	2	466
45.3	2	466
45.4	0	143
45.5	0	143
45.6	0	143
45.7	0	143
45.8	4	951
45.9	1	211
46	1	211
46.1	1	211
46.2	1	211
46.3	2	466
46.4	2	466

46.5	2	466
46.6	0	143
46.7	0	143
46.8	0	143
46.9	0	143
47	0	143
47.1	0	143
47.2	0	143
47.3	0	143
47.4	0	143
47.5	0	143
47.6	3	699
47.7	4	951
47.8	4	951
47.9	5	1110
48	6	1326
48.1	6	1326
48.2	6	1326
48.3	6	1326
48.4	0	143
48.5	0	143
48.6	0	143
48.7	5	1110
48.8	5	1110
48.9	5	1110
49	0	143
49.1	0	143
49.2	0	143
49.3	0	143
49.4	0	143
49.5	0	143
49.6	0	143
49.7	0	143
49.8	0	143
49.9	0	143
50	0	143
50.1	0	143
50.2	0	143
50.3	0	143
50.4	0	143
50.5	0	143
50.6	0	143
50.7	0	143
50.8	0	143
50.9	0	143
51	0	143

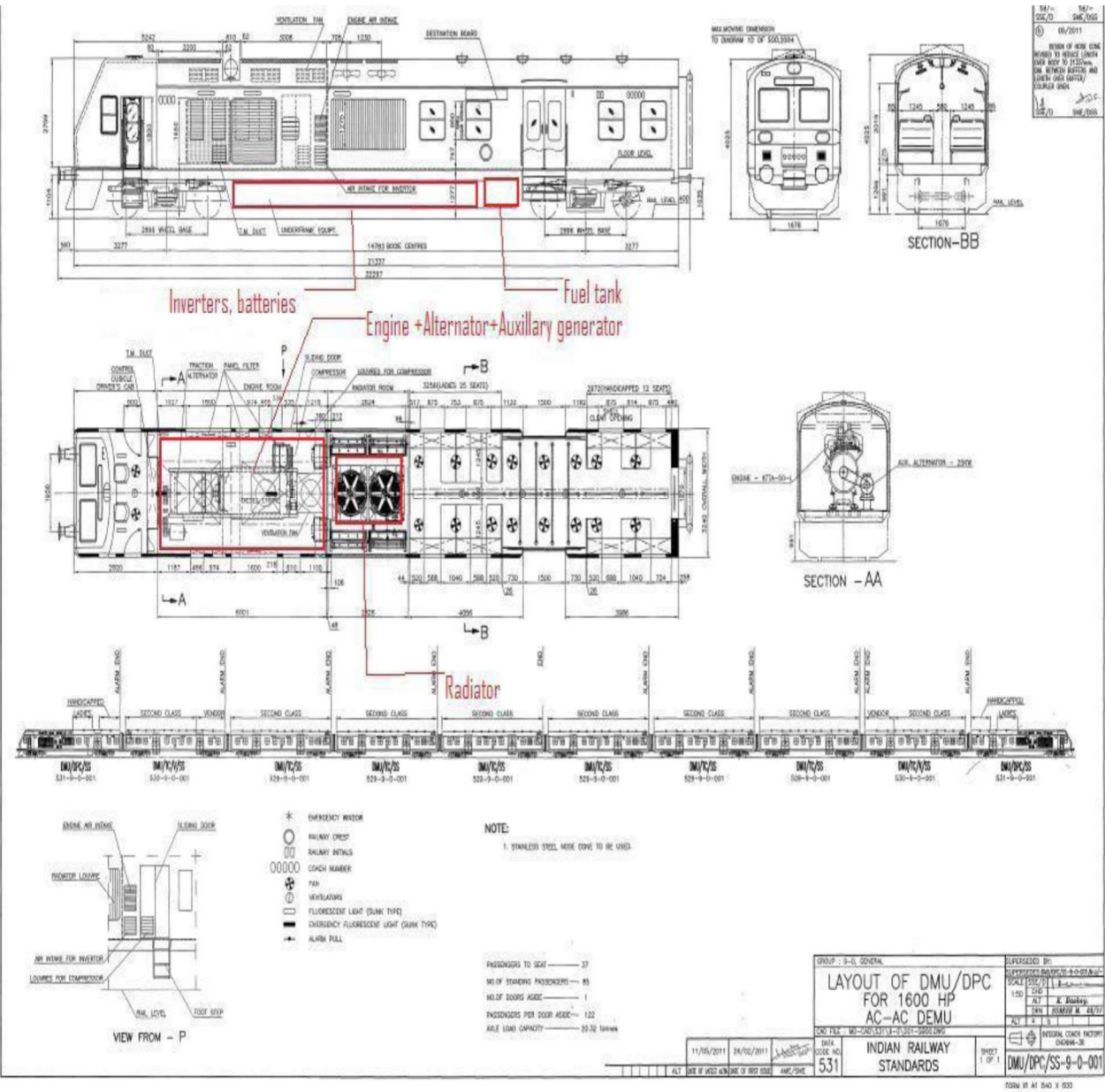
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51.3	1	211
51.4	0	143
51.5	0	143
51.6	0	143
51.7	1	211
51.8	0	143
51.9	0	143
52	0	143
52.1	0	143
52.2	0	143

- The Sonapat-Jind section may be treated as level terrain for all calculations.



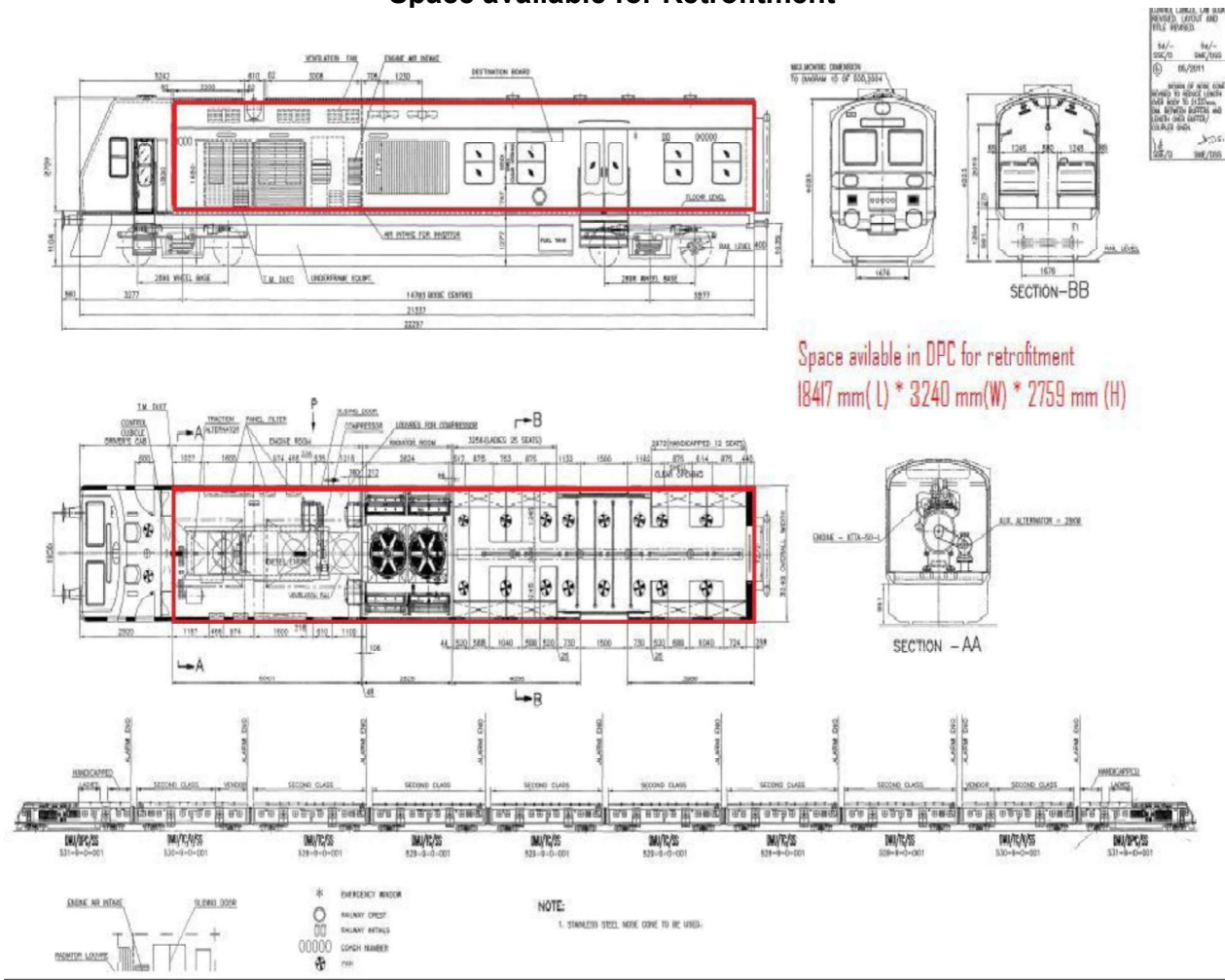
Annexure-III

Equipments to be removed from DEMU



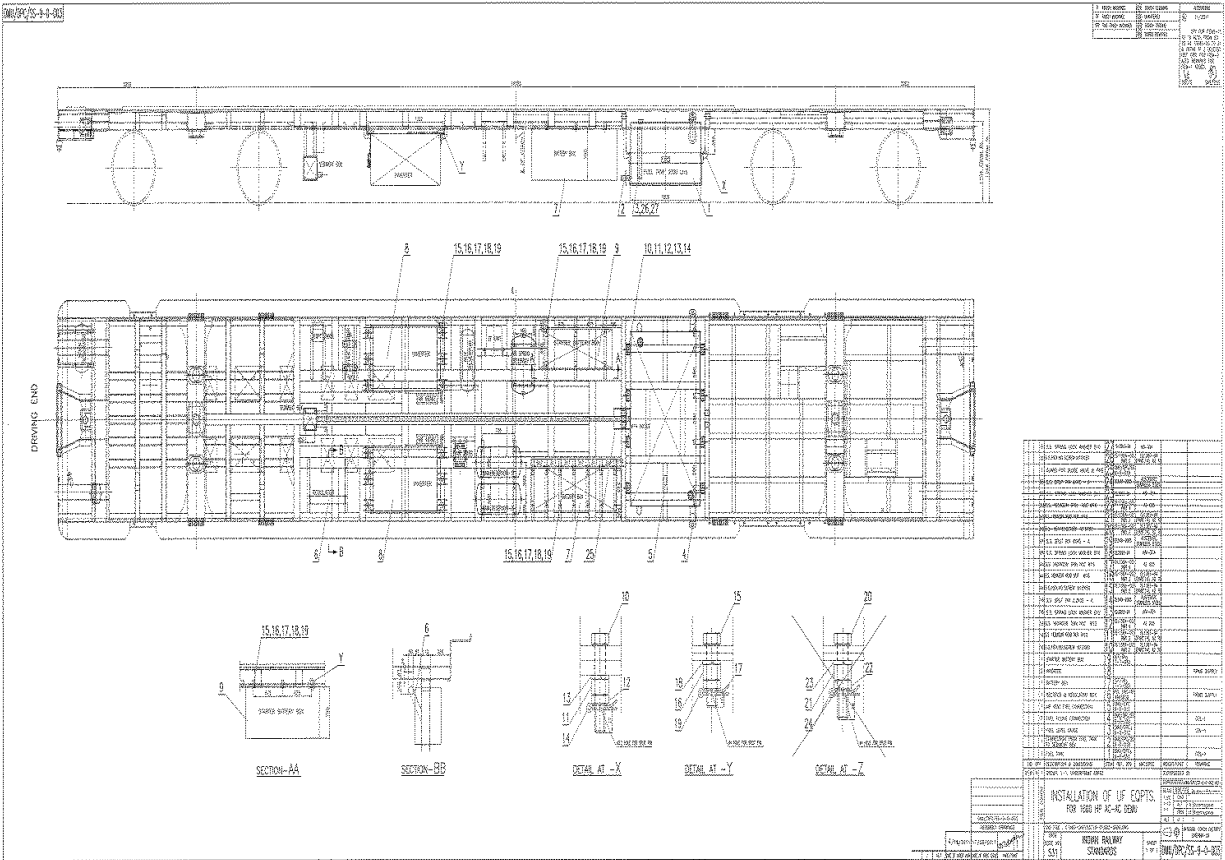
Annexure-IV

Space available for Retrofitment



Annexure-V

Installation of Underframe equipments for 1600 HP DEMU



# **Annexure B**

# **Indian Railways Organization for Alternate Fuel (IROAF)**

## **BID DOCUMENT**

**IROAF/FUEL CELL/DEMU/P1/2021**

**Hydrogen Fuel Cell based DPRS  
with regenerative braking system 1200 KW DEMU**

# PACKET - I

**BID DOCUMENT**  
**PACKET -I**  
**Indian Railways Organization for Alternate Fuel (IROAF)**  
**(TOP SHEET)**

(A) Details of Bid:

Mode of Tender	<b>e-Tender under Two Packet System (e-Reverse Auction Basis)</b>
Tender Notice No.	IROAF/FUEL CELL/DEMU/P1/2021
Full name of work	Hydrogen Fuel cell based DPRS* with regenerative braking system 1200 KW DEMU**
Estimated cost	Rs. 84.20 Crore (Rs. Eighty Four Crore Twenty Lacs only).
Completion period	24 months from the date of issue of LOA
Earnest money amount	Rs. 43,60,000/- (Fourty Three Lac Sixty Thousand only) Option A (valid up to 31.12.2021) or Option B as per Clause No. 3.0 of Special Tender Conditions and Instructions to Tenderer (s) at Page No. 41
Sale/availability of tender document on Rly. Website	Tender documents will be available on IREPS web site i.e. <a href="http://www.ireps.gov.in">www.ireps.gov.in</a> from <b>27.07.2021 to 05.10.2021 up to 11.30 hrs.</b>
Last date/Time of upload of tenders	<b>05.10.2021 up to 11.30 hours.</b> Tender documents can be uploaded by the tenderer on IREPS website w.e.f. <b>21.09.2021 to 05.10.2021</b>
Date and time of opening of tender	<b>05.10.2021 at 11.30 hours</b> (immediately after close of uploading of tender (D2). Financial bids of the eligible tenderers would be opened subsequently on the date & time to be notified later on.
1 <sup>st</sup> Pre Bid conference	To be held at IROAF office on <b>17.08.2021</b> at 11:30 hrs.
2 <sup>nd</sup> Pre Bid conference	To be held at IROAF office on <b>09.09.2021</b> at 11:30 hrs.

\* DPRS – Distributed Power Rolling Stock

\*\*DEMU – Diesel Electric Multiple Unit

(B) Details to be filled in by tenderer while uploading their offer:

1.	Constitution of the firm/ Concern (Tick as applicable)	Sole Proprietorship/ Partnership Firm / Company/ JV/ Society/LLP/HUF
2.	Full name of Sole Proprietorship/ Partnership firm/ Company/ JV/ Society/LLP/HUF (as the case may be)	
3.	Year of formation/ incorporation	
4.	(a) PAN NO. (b) GST No. (c) TAN No.	

5.	Registered Office Address	
6.	Address on which correspondence regarding this tender should be done	
7.	Names of the Proprietor/ Partners/ JV members etc.	
8.	Contact No and e-mail ID of authorized person under whose digital signature key tender document will be signed/uploaded on behalf of the tendering firm	

Note:

- i) Special attention of tenderers is drawn to clause 2.4.1 of “Special tender condition & instruction to tenderers”, tenderer must upload, the documents mentioned therein pertaining to constitution of firm/concern.
- ii) Special attention of tenderers is drawn to **clause 2.3 of “special tender condition & instruction to tenderers”** and **Annexure-M**, they should upload the requisite documents pertaining to their technical & financial eligibility.

**Signature of the tenderer**

**Name of signatory**\_\_\_\_\_



**(C) Check List of documents to be uploaded by the tenderer(s) while submitting their offer.**

Tenderer must upload following documents along with their offer

1.	Cost of tender document : <b>NIL</b>
2.	Requisite <b>Earnest Money</b> , (ONLINE mode (No Documentary Proof required)), <b>Option A</b> or <b>Option B</b> vide clause 3.0 Special tender conditions and instructions to tenderers
3.	All requisite documents/credentials mentioned in clause 2.3 of “ <i>Special Tender Conditions and Instructions to tenderers</i> ” pertaining to his/their technical and financial eligibility. (As applicable)
4.	All requisite documents mentioned in clause 2.4 of “ <i>Special Tender Conditions and instruction to tenderers</i> ” pertaining to constitution of firm.
5.	Tenderers are compulsorily required to upload certificate as per <b>Annexure – M</b> as stipulated in 2.2.6 of “ <i>Special Tender Conditions and instruction to tenderers</i> ” without which the offer will be considered incomplete and <b>will be rejected summarily</b> .
6.	Tenderer(s) are compulsorily required to upload detail statement of works being executed/in hand on prescribed format as per <b>Annexure-H</b> & maximum value of contractual payment received in any one year in last three years & current financial year up to the date of inviting of tender as per <b>Annexure-N</b> as stipulated in Clause No. 2.3.2(B)(viii) of “ <i>Special Tender Condition and Instructions to Tenderer(s)</i> ” without which the offer will be considered as incomplete and <b>will be rejected summarily</b> .
7.	Tenderers are required to upload requisite details in prescribed Performa of <b>Annexure C to G, I, J &amp; L</b> without which the offer is liable to be rejected.
	<p><b>Note:</b></p> <p>i) After opening of tender, any document/credential pertaining to technical, financial eligibility and available Bid Capacity constitution of firm etc. shall neither be asked nor be entertained/considered under any circumstances and no claim or representation whatsoever from the tenderer in this regard shall be entertained. Scanned copy of the documents, uploaded by the tenderer shall be clear &amp; readable. However, Railway reserves the right to ask for any clarification on the documents/credentials already submitted by the tenderer along with the offer.</p> <p>ii) Tenderer may have to produce the original Documents in physical form at short notice whenever asked by Railway at any stage of tender evaluation process or even after finalization of tender.</p> <p>iii) In e-tender, all submissions of documents are to be uploaded on web-site. There may be last minute hic-cups and delay in uploading the Documents and payment of Earnest Money etc. Tenderer's/Prospective bidders are advised to upload their offer well in time. Railway will not be responsible for any delay/non submission of offer due to any reason whatsoever</p> <p>iv) <b>Annexure Q</b>-Mandatory undertaking Regarding Employment/ Partnership of Retired Railway Employees.</p> <p>v) <b>Annexure – S</b> Mandatory certificate regarding instructions for bidders from a country which shares a land border with India.</p> <p>vi) For Tenderer may please note that offers received without requisite <b>Annexure-H &amp; N</b> as mentioned above, will be considered as incomplete &amp; invalid tender and <b>will be summarily rejected</b> for which contractor shall have no claim on Railway.</p>

**(D) CHECK LIST FOR DOCUMENTS TO BE ATTACHED WITH THE OFFER**  
**(For guideline to tenderers)**

**(ATTACHED AS ANNEXURE-1&2)**

**(E) PRECAUTIONS TO BE TAKEN FOR PREPARING LEGAL DOCUMENTS (For guidance to Tenderer):**

**1. Non-Judicial stamp paper**

- (i) Should have been purchased in the name of the Company/firm/executants
- (ii) Should be purchased from the Place/State where the document is being executed.
- (iii) Values of the non-judicial stamp paper (NJSP) should be Rs. 100 or as per the law of the state in which the document is being executed.
- (iv) Date of purchase of Non Judicial stamp paper should be prior from the date of execution of document.

**2. Signature on the document**

- (i) The document should be signed on each page and also at the appropriate place meant for signature of executants/deponent.
- (ii) Signatory/executants should ensure that on the date of signing the document he/she has valid authority/attorney in his/her favour for signing.
- (iii) In affidavit declaration clause as well as verification clause both should be signed by deponent/executants.
- (iv) Where the document requires witnessing, it should be duly signed by witnesses alongwith their names and addresses.
- (v) On Power of Attorney, signatures of the Attorney holder should also be got done and attested by executants.

**3. Format of the document**

- (i) Where the format has been prescribed by the Railway, the document should be executed in that format.
- (ii) Date and place of execution should always be mentioned on the document.

**4. Notarization of document**

- (i) The document should be duly attested (signed and stamped) by notary public on each page.
- (ii) The seal of the notary public should contain his name, area of practice and Registration number.
- (iii) Notarial stamps of appropriate value wherever required should be affixed on the document

Ministry of Railways  
Indian Railway Organization for Alternate Fuel

**TENDER NOTICE**

The Chief Administrative Officer/IROAF, Railway Offices Complex, Tilak Bridge, New Delhi-110002 for and on behalf of the President of India invites open e-tender for the following work:

SN	Name of work	Estimated Cost / Earnest Money	Similar Work / Period of completion	Cost of tender document (Nil in case of e tender )
1.	Hydrogen Fuel cell based DPRS with regenerative braking system 1200 KW DEMU	<p><b>Estimated Cost</b> is Rs. 84.20 Cr. (Eighty four crore Twenty Lacs only)</p> <p><b>Earnest Money Deposit (EMD)</b> is Rs. 43,60,000/- (Fourty Three Lac Sixty Thousand only)</p> <p>Either Option A (valid up to 31.12.2021) or Option B as per clause No.3 of Special Tender Conditions &amp; Instructions to Tenderer(s).</p>	<p>Manufacturer/System Integrators of powering system based on fuel cell with battery on any public transport, having minimum capacity of 300 kW</p> <p style="text-align: center;">or</p> <p>Manufacturer/System Integrators of train propulsion system* of Railway Locomotive/DEMU/ EMU/MEMU/High Speed Train sets/Metro coaches on any railway system having minimum capacity of 880 kW</p> <p>*Three phase electric propulsion system including IGBT based train converters.</p> <p><b>Period of completion:</b> 24 months from the date of LOA</p>	Tender Document will be available at <a href="http://www.ireps.gov.in">www.ireps.gov.in</a> .

Critical Dates		
Code	Activity	Date
D0	Issue of Tender Notice on <a href="http://www.indianrailways.gov.in">www.indianrailways.gov.in</a> , <a href="http://www.iroaf.indianrailways.gov.in">www.iroaf.indianrailways.gov.in</a> and availability of tender document on <a href="http://www.ireps.gov.in">www.ireps.gov.in</a>	<b>27.07.2021</b>
1 <sup>st</sup> Pre Bid conference	To be held at IROAF office.	<b>17.08.2021</b>
2 <sup>nd</sup> Pre Bid conference	To be held at IROAF office.	<b>09.09.2021</b>

Signature of Tenderer

D1 =	Start of submission of offer on <a href="http://www.ireps.gov.in">www.ireps.gov.in</a>	<b>21.09.2021</b>
D2 =	<ul style="list-style-type: none"> <li>• End of Availability of Tender Documents at <a href="http://www.ireps.gov.in">www.ireps.gov.in</a>.</li> <li>• Opening of Technical-cum-Commercial bid</li> <li>• Note This is also the last date for uploading of completed offers by the bidders.</li> </ul>	<b>05.10.2021</b>
<i>The cut off time for all the above activities is <b>11.30 hours.</b></i>		
<p>NOTE:</p> <p>(i) In case the intended date for opening of tenders is declared a holiday, the tenders will be opened on the next working day at the same time.</p> <p>(ii) ELECTRONIC REVERSE AUCTION (e-RA) will be followed as per terms and condition of Clause No. 2.0 (C) of Special Tender Conditions and Instructions to Tenderer(s)</p> <p><b>Technical Eligibility Criteria: @ {Ref. Clause: 2.3.2 (A) (v)}</b></p> <p>The tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:</p> <p>Three Similar Works each costing not less than the amount equal to 30% of advertised value of the tender, or</p> <p>Two Similar Works each costing not less than the amount equal to 40% of advertised value of the tender, or</p> <p>One Similar Work each costing not less than the amount equal to 60% of advertised value of the tender.</p>		

**@ Note for Technical Eligibility Criteria:**

Work experience certificate from private individuals shall not be considered. However, in addition to work experience certificates issued by any Govt./Railway organization, work experience certificate issued by Public listed company having average annual turn-over of Rs.500 crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange or any other recognized Stock Exchange, incorporated/registered at least 5 years prior to the date of opening of tender, shall also be considered provided the work experience certificate has been issued by a person authorized by the Public listed company to issue such certificates.

In case tenderer submits work experience certificate issued by public listed company, the tenderer shall also submit alongwith work experience certificate, the relevant copy of work order, bill of quantities, bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received and copy of final/last bill paid by company in support of above work experience certificate.

**Financial Eligibility Criteria: {Ref. Clause: 2.3.2 (B)}**

As a proof of sufficient financial capacity and organizational resources, the tenderer(s) should have received the total payments against satisfactory execution of all completed/ongoing works of all types (not confined to only Similar Works) during the last three financial years and in the current financial year {up to the date of inviting of the tender} of a value not less than 150% of the advertised cost of work.

**BID CAPACITY: {Ref: Annexure N}**

Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the updated estimated value. The available Bid Capacity will be calculated as detailed in tender document.

**Submission of Tender Documents & Opening-**

The tenders may be uploaded up to 11:30 Hrs on date D2 along with scanned copy of all the requisite document (as per **Annexure 1 & 2**).

- Technical cum Commercial Bids will be opened on Date D2 immediately after close of uploading of tenders.
- Financial bids of the eligible tenderers would be opened subsequently on the date and time to be notified later on.
- Tenderer may have to produce the original Documents at short notice whenever asked by Railway at any stage of tender evaluation process or even after finalization of tender.
- In e-tender, all submissions of documents are to be uploaded on web-site. There may be last minute hic-cups and delay in uploading the Earnest Money and Documents etc. Tenderer's/Prospective bidders are advised to upload their offer well in time. Railway will not be responsible for any delay/non submission of offer due to any reason whatsoever.

**Note**

- 1.0 Tender **will be summarily rejected** in case of non-submission of **Annexure- H, M, N & S**.
- 2.0 Instructions regarding GST
  - (i) Works contracts shall be treated as supply of services as per Schedule-II of GST Act.
  - (ii) GST Act and Rules issued from time to time by the Government/ concerned authorities shall be applicable.
  - (iii) The successful Contractor/ suppliers/ service providers/ parties immediately after the award of tender shall register their firms under GSTIN (GST Identification Number) and submit immediately after the award of contract, without which no payment shall be released to the Contractor. The Contractor shall be responsible for deposition of applicable GST to the concerned authority.
- 3.0 N/A
- 4.0 **Tenderer(s) shall upload two packets: Packet-I and Packet-II.**
  - (i) Packet -I shall contain Technical Cum Commercial bid and all necessary documents regarding constitution of the firm and other requisite documents/credentials as per **Annexures 1 and 2** of Tender Document.
  - (ii) Packet-II shall contain the Financial Bid only as per **Annexure - 3**
- 5.0 "JVs shall be considered in accordance with approved tender conditions."

**NOTE:**

1. The bidders who desires to participate against e-tenders, are advised to electronically register themselves on website [www.ireps.gov.in](http://www.ireps.gov.in) for which they would require to obtain Class III digital certificate (if already not obtained) issued by CCA under IT Act-2000.
2. All other terms and conditions in respect of above tender are given in the tender document.
3. Only e-tenders will be accepted and tenders submitted in any other form **will be summarily rejected**.

**Dy. Chief Mechanical Engineer/IROAF**

# CHECK LIST

## Annexure- 1

### Scanned copy Of the Documents to be uploaded on IREPS along with offer

S No	Document	Required in the form	If Not submitted along with the tender, then
1.	Cost of Tender Document	NIL	Not Applicable
2.	Earnest Money Deposit in favour of FA & CAO/Northern Railway, Baroda House, New Delhi	<b>ONLINE MODE</b> (no documentary proof required)  <b>Option A</b> (valid up to 31.12.2021) or <b>Option B</b> as per clause No.3 of Special Tender Conditions & Instructions to Tenderer(s).	<b>Summarily Rejected</b>
3.	Constitution of Firm documents (as required in terms of Clause 2.4 of the tender document)		As per Clause 2.4.1.1 of Special Tender conditions and Instruction to the tenderer,
a)	In case of Sole Proprietorship Concern	Undertaking as per <b>Annexure O-1)</b>  As per para 14(iii) of GCC- 2020, If it is NOT mentioned in the submitted tender that tender is being submitted on behalf of a Sole Proprietorship firm/Partnership firm/Joint Venture/Registered Company etc., then the tender shall be treated as having been submitted by the individual who has signed the tender.	After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm / Registered Company/ Registered Trust / Registered Society / HUF etc. shall be neither asked nor considered, if submitted. Further, no suo moto cognizance of any document available in public domain (i.e., on internet etc.) or in Railway's record/office files etc. will be taken for consideration of the tender, if no such mention is available in tender offer submitted. Note: If all the requisite documents pertaining to the constitution of the firm/JV/sole proprietorship/ partnership firm/company/ Society/LLP/HUF etc., as specified in clause 2.4.1 above, are not submitted, offer will be considered as incomplete and shall be summarily rejected.
b)	In case of a "Partnership Firm/Concern"	(i) Notary certified copy of the Partnership Deed.  (ii) Document(s) in support of Registration of firm with Registrar of firms which includes Certificate of registration and copy of Register of firm (Form No. may vary from State to State) (as applicable) etc. issued by Registrar of firms.  (iii) Notarised / Registered Power of Attorney in favour of the individual signing the tender document authorized by all the partners to act on behalf of the firm and create liability against the Firm. (Standard Performa as per <b>Annexure O-2</b> is enclosed for guidance)  (iv) An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of opening of bids, either in their individual capacity or in any firm in which they were / are	

Signature of Tenderer

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		<p>partners. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.</p> <p>Note: Authorization given in POA only will be considered irrespective of any authorization that may have given in Partnership Deed. In case of non-submission of POA or invalid POA, offer is liable to be rejected.</p>	
c)	In case of a “JV Firm”	<p>(i) A copy of Memorandum of Understanding (MoU) duly executed by the JV members on a stamp paper, shall be submitted by the JV along with the tender. The complete details of the members of the JV, their share and responsibility in the JV etc. particularly with reference to financial, technical and other obligations shall be furnished in the MoU.</p> <p>(ii) Power of Attorney/authorization duly notarized by all JV constituents, in favour of the individual under whose digital signature key the tender document shall be uploaded on behalf of JV for signing the tender document on behalf of the JV (Standard Performa as per <b>Annexure O-3</b>)</p>	
(c) (i)	In case one or more of the members of the JV Firm is/are Partnership Firm(s), following documents shall be submitted:	<p>(i) Notary copy of the Partnership Deed. Document(s) in support of registration of firm with Registrar/Sub-Registrar of firms viz. Certificate of registration and Register of firm (Form No. may vary from State to State) etc. issued by registrar of firms.</p> <p>(ii) A copy of consent of all the partners or individual authorized by partnership firm, to enter into the Joint Venture Agreement on a stamp paper (Standard Performa as per <b>Annexure O-4</b>).</p> <p>(iii) A copy of Power of Attorney (<b>duly notarized/registered</b>) in favour of the individual to sign the MOU/JV Agreement on behalf of the partnership firm and create liability against the firm. (Standard Performa as per <b>Annexure O-5</b>)</p>	

		<b>Note:</b> Authorization given in POA only will be considered irrespective of any authorization that may have given in Partnership Deed. In case of non-submission of POA or invalid POA, offer is liable to be rejected.	
(c)(ii)	In case one or more of the members of the JV Firm is/are Proprietary Firm or HUF, following documents shall be submitted:	(i) A copy of notarized affidavit on Stamp Paper declaring that he who is signing the affidavit on behalf of HUF is in the position of 'Karta' of Hindu Undivided Family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF. (Standard Affidavit as per <b>Annexure O-6</b> )	
(c)(iii)	In case one or more members of JV is/are Limited Companies, the following documents shall be submitted:	(i) A copy of resolutions of the Directors of the Company, permitting the company to enter into a JV agreement, (Standard Performa as per <b>Annexure O-7</b> ) (ii) Copy of Memorandum and Articles of Association of the Company (iii) Copy of certificate of incorporation (iv) A copy of Authorization/copy of Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender, sign MOU/JV Agreement on behalf of the company and create liability against the company (Standard Performa as per <b>Annexure O-8</b> )	
(c)(iv)	In case one or more members of JV is/are LLP firm, the following documents shall be submitted/uploaded	(i) A notarized copy of certificate of incorporation and LLP agreement. (ii) A notarized copy of resolution of the partners of LLP, permitting the LLP to enter into a JV agreement, authorizing one of the partners of LLP to sign JV MOU/agreement and such other documents required to be signed on behalf of the LLP and to create liability against the LLP and/or to do any other act on behalf of LLP (Standard Performa as per <b>Annexure O-13</b> ). (iii) A copy of authorization/copy of power of attorney issued by the LLP (backed by resolution of partners) in favour of individual to sign the tender, sign MOU/JV agreement on behalf of the LLP and create liability against the LLP (Standard Performa as per <b>Annexure O-14</b> ).	
	Note:- All the Members of JV shall certify that they are not blacklisted or debarred by Railways or any other Ministry /		



	Department of the Govt. of India from participation in tenders/contract on the date of opening of bids either in their individual capacity or as a member of the JV in which they were/are members.	
d)	In case of a “Company”	<p>(i) Copies of the AOA / MOA (Article of Association/ Memorandum of Association) of the Company</p> <p>(ii) A copy of certificate of incorporation.</p> <p>(iii) A copy of Authorization/Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender on behalf of the company and create liability against the company (Standard Performa as per <b>Annexure O-9, 10</b>).</p> <p>(iv) An Undertaking that the company is not black listed or debarred by Railways or any other Ministry/Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which the company was/is a partner/member. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of the General Conditions of contract.</p>
e)	In case of a Registered Society & Registered Trust	<p>(i) copy of the certificate of registration;</p> <p>(ii) copy of Deed of formation; and</p> <p>(iii) Notorized copy of Power of Attorney in favour of the individual to sign the tender documents and create liability against the Society/Trust</p>
f)	In case of LLP	<p>(i) A copy of LLP Agreement,</p> <p>(ii) A copy of Certificate of Incorporation; and</p> <p>(iii) A copy of Power of Attorney/Authorization issued by the LLP in favour of the individual to sign the tender on behalf of the LLP and create liability against the LLP (Standard proforma as per <b>Annexure O-11 &amp; O-12</b>).</p>

		<p>(iv) An Undertaking that the LLP is not black listed or debarred by Railways or any other Ministry/Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of JV in which the LLP was/is a member. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of the General Conditions of contract.</p>	
g)	In case of HUF	<p>(i) A copy of notarized affidavit on Stamp Paper declaring that he who is submitting the tender on behalf of HUF is in the position of 'Karta' of Hindu Undivided Family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF. (Standard proforma as per <b>Annexure O-15</b>).</p> <p>(ii) An undertaking that the HUF is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which HUF was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.</p>	

**CHECK LIST**  
**Annexure-2**

**Scanned copy Of the Documents to be uploaded on IREPS along with offer**

S.No.	Detail of documents	Summarily/Liable to be rejected
1.	<b>Technical Eligibility Criteria:-</b> Completion/Performance Certificate in support of 30%/40%/60% Similar Work as per clause 2.3.2.A(v) of tender document.	<p>Liable to be Rejected</p> <p><b>Note</b> As per Note(i) of para 7 of Check List (C) and in para 5 of covering note.</p> <p>“After opening of tender, any document/credential pertaining to technical, financial eligibility and available Bid Capacity constitution of firm etc. shall neither be asked nor be entertained/considered under any circumstances and no claim or representation whatsoever from the tenderer in this regard shall be entertained. Scanned copy of the documents, uploaded by the tenderer shall be clear &amp; readable. However, Railway reserves the right to ask for any clarification on the documents/credentials already submitted by the tenderer along with the offer.</p>
2.	<b>Financial Eligibility Criteria:-</b> Contractual payment received as per <b>Annexure- I</b> and as per clause 2.3.2 (B) of Tender Document.	
3.	<b>Annexure – C</b>	DELETED
4.	<b>Annexure-D</b> (Declaration regarding constitution of firm)	Liable to be rejected
5.	<b>Annexure - E</b>	DELETED
6.	<b>Annexure - F</b>	DELETED
7.	<b>Annexure-G</b> (Work executed in last seven years)	Liable to be rejected
8.	<b>Annexure-H</b> (Work in Hand) in support of Bid Capacity)	<b>Summarily Rejected</b>
9.	<b>Annexure-I</b> (Contractual Payment received)	Liable to be rejected
10.	<b>Annexure-J</b> (Bank Detail/RTGS)	Liable to be rejected
11.	<b>Annexure – K-1</b> (Performa for Joint Venture Memorandum of Understanding/Agreement)	Liable to be rejected
12.	<b>Annexure – K-3 &amp; K-4</b>	If tender submitted on behalf of Partnership Firm, relevant <b>Annexures K-3 and K-4</b> as Declaration to be submitted by the tenderer alongwith tender document.
13.	<b>Annexure-L</b> (Performa of Completion Certificate)	Liable to be rejected
14.	<b>Annexure-M</b> (certificate to be submitted by tenderer alongwith the tender documents)	<b>Summarily Rejected</b>

15.	<b>Annexure-N</b> (Contractual payment received in last three years) in support of Bid Capacity	<b>Summarily Rejected</b>
16.	<b>Annexure P-1</b> (Request letter from Executive Branch to Accounts Office for Opening of LC)  <b>Annexure P-2</b> (Document of Authorization for LC)	Payment through LC
17.	<b>Annexure - Q</b> - Mandatory undertaking/Certificate Regarding Employment/ Partnership of Retired Railway Employees.	Liabile to be rejected
18.	<b>Annexure - R</b>	DELETED
19.	<b>Annexure – S</b> (Instructions for bidders from a country which shares a land border with India) – As per Railway Board letter No. 2020/CE-I/CT/2/GCC/Correspondence, dated 11.08.2020	<b>Summarily Rejected</b>
20.	<b>Annexure-T</b> (Instructions for Bid Security Declaration)	<b>Compliance as per Clause 3 of Special Tender Conditions and Instruction to Tenderers</b>
21.	<b>Annexure -U</b> – Performa for Statement of Deviations	Liabile to be Rejected
22.	<b>Annexure –V</b> – Performa for declaration of Local content	<b>Summarily Rejected</b>
23.	<b>Annexure-3</b> –Price Bid	<b>Summarily Rejected</b>

**Note:**

- (i) **Annexure A & B** formats for agreements.

## COVERING NOTE

### FOR THE SPECIAL ATTENTION OF THE TENDERERS

The tenderers are requested to carefully peruse the Tender Documents, and upload all requisite documents/credentials along with the offer. Scanned copy of the documents, uploaded by the tenderer shall be clear & readable. Documents submitted/uploaded previously or along with another tender currently under consideration SHALL NOT be considered while evaluating the present tender.

1. The tenderer(s) shall visit the site of work (Any DEMU shed of IR) and acquaint himself/themselves with the conditions of work. They should familiarize themselves fully with the relevant Rolling Stock.
2. FURTHER, OFFERED RATES SHOULD BE FILLED UP IN THE TENDER SCHEDULE at specified space. RATES OFFERED IN ANY OTHER PROFORMA/FORM **WILL BE SUMMARILY REJECTED.**
3. Single stage, Two Packet system is followed,
  - 3.1 The tender uploaded by the tenderer(s) will consist of TWO Packets i.e. Packet-I and Packet-II.
  - 3.2 Packet-I– Technical cum Commercial Bid will be opened immediately after close of uploading of tender i.e on date D2 at 11.30 hrs. This Bid shall contain (a) Tender form (First sheet) (b) Special Tender Conditions and Instructions to tenderer(s). (c) special condition relating to site data and specifications. This Bid shall contain all the documents as listed **Annexure-1 & Annexure-2**. Tenderers are requested to ensure that all such documents and Annexures duly filled in are uploaded, complete in all respects with their Packet-I failing which his/their offer is likely to be rejected/**summarily rejected**, as applicable.
  - 3.3 Packet II - FINANCIAL BID of only those tenderer(s) will be opened who qualify the techno-commercial evaluation as per Technical and Financial eligibility criteria. The time, date and venue of opening of Packet-II (Financial Bids) shall be notified to the successful tenderer(s) who qualify for price bid opening after evaluation of their Packet-I (Technical cum Commercial Bids).
- 4.0 Not Applicable
- 5.0 **Note:-** Tenderer(s) to please note that after opening of tender, any document/credential pertaining to technical & financial eligibility, constitution of firm etc. shall neither be asked nor be entertained/ considered under any circumstances and no claim or representation whatsoever from the tenderer in this regard shall be entertained. Scanned copy of the documents, uploaded by the tenderer shall be clear & readable. However Railway reserves the right to seek any clarification on the documents/credentials already submitted by the tenderer along with the offer.
  - 5.1 Tenderer should keep the validity of their offer for **120 days** from the date of opening of Tender. Any deviation from this will not be accepted under any circumstances.
- 6.0 Tenderer may have to produce the original Documents in physical form at short notice whenever asked by Railway at any stage of tender evaluation process or even after finalization of tender.
- 7.0 In e-tender, all submissions of documents are to be uploaded on web-site. There may be last minute hic-cups and delay in uploading the Documents and payment of Earnest Money etc. Tenderer's/Prospective bidders are advised to upload their offer well in time. Railway will not be responsible for any delay/non submission of offer due to any reason whatsoever.

- 8.0 Each page of the tender papers will be treated as signed/ accepted by the tenderer(s) or such person(s) on his/their behalf who is/are legally authorized to sign for him/them.
- 9.0 The tenderer(s) may note that the Railway reserves its right to either accept or reject any Bid/s without assigning any reasons whatsoever and tenderer(s) shall have no claim(s) on this account.
- 10.0 Public Procurement (Preference to Make in India):- The tenderer shall comply with Public Procurement Policy order 2017 – (latest amended on 16.09.2020) or as amended time to time up to date of inviting tender, details of which (elaborated in Clause No. 2.3.4 of “Special Tender Conditions and Instruction to tenderer(s)”
- 11.0 Prospective tenderer(s) may contact Deputy Chief Mechanical Engineer, IROAF, (e-mail id [dy.cmeiroaf@gmail.com](mailto:dy.cmeiroaf@gmail.com)), IROAF 4<sup>th</sup> Floor, Railway Offices Complex, Tilak Bridge, New Delhi -110002 for obtaining further clarifications, if required, during working hours.

**Ministry of Railway**  
**Indian Railway Organization for Alternate Fuel**

**TENDER FORMS (FIRST SHEET)**

**Tender No.** IROAF/FUEL CELL/DEMU/P1/2021

**Name of Work** Hydrogen Fuel cell based DPRS with regenerative braking system 1200 KW  
DEMU

To  
**The President of India,**  
**Acting through the**  
**Chief Administrative Officer**  
**4th Floor,**  
**Railway Offices Complex,**  
**Tilak Bridge,**  
**New Delhi –110002.**

1. I/We.....  
-----have read all the conditions of the tender attached here with and agree to abide by the said conditions. I/We also agree to keep this tender open for acceptance for a period of **120 days** - from the date fixed for opening the same and in default thereof, I/We will be liable for forfeiture of my/our "Earnest Money". I/We offer to do this work-----for IROAF at the rates quoted in the attached schedule (Financial Bid) and hereby bind myself/ourselves to complete the work in all respects within 24 months from the date of issue of letter of acceptance of the tender.
2. I/We also hereby agree to abide by the General Conditions of Contract - July 2020 corrected up to printed/ advance correction slip and to carry out the work according to the Special Tender Conditions of Contract.
3. Earnest Money Deposit (EMD):
  - 3.1 (A) Bid Security Declaration has been submitted by me/us on IREPS (Refer detailed instructions Annexure-T).
  - OR
  - (B) A sum of 43,60,000/- (Fourty Three Lac Sixty Thousand only) has already been deposited online as Earnest Money.
  - 3.2 I/We shall be banned from submission of bids in any Works/Service Tender issued by Indian Railways for a period of 12 months from the date of such banning done on e-platform IREPS OR the full value of the Earnest Money Deposit (EMD) and other dues shall stand forfeited whichever applicable, without prejudice to any other rights or remedies in case my/ our Tender is accepted and if: -
    - (a) I/We do not submit the Performance Guarantee within the time specified in the Tender document;
    - (b) I/We do not execute the contract documents within Seven days after receipt of the notice issued by the Railway that such documents are ready; and
    - (c) I/We do not commence the work within fifteen days after receipt of orders to that effect;
    - (d) I/We do not submit a Performance Guarantee in any of the forms as prescribed in clause 5.2 of "SPECIAL TENDER CONDITIONS AND INSTRUCTIONS TO TENDERERS" amounting to 5% of contract value ( however it is 3% for tenders issued till 31.12.2021) as per the Performa as prescribed by the Railways, within 21(twenty one ) days from the

date of issue of letter of acceptance (LOA) or 60 (sixty) days, if the extension of time for submission of PG beyond 21 days and upto 60 days is given by the competent authority along with interest @ 12%per annum for the delay beyond 21days and up to 60 days from the date of issue of LOA. Further, if the 60<sup>th</sup> day happens to be a declared holiday in the concerned office of the Railway, submission of PG can be accepted on the next working day. I/We shall also be debarred from participating in re-tender of the above work, in case I/we fail to submit the PG as stipulated above.

The Performance Guarantee shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case, the time for completion of work gets extended, the contractor shall get validity of Performance Guarantee extended to cover such extended time for completion of work plus 60 days. The value of PG to be submitted by the contractor will not change for variation up to 25% (either increase or decrease).

In case during the course of execution, value of the contract increases by more than 25% of the original contract value, an additional Performance Guarantee amounting to 3% (Three percent) for the excess value over the original contract value shall be deposited by the contractor.

On the other hand, if the value of Contract decreases by more than 25% of the original contract value, Performance Guarantee amounting to 3% (Three percent) of the decrease in the contract value shall be returned to the contractor. The PG amount in excess of required PG for decrease contract value, available with Railways, shall be returned to contractor as per their request duly safeguarding the interest of Railways.

Note: The reduced performance guarantee of 3% (instead of 5%) of the value of the contract is applicable for all the tenders issued till 31.12.2021.

4. I/We am/are a Startup firm registered by ..... Department of Industrial Policy and Promotion (DIPP) and my registration number is ..... valid upto ..... (Copy enclosed) and hence exempted from submission of Earnest Money
5. We are a 100% Govt. owned PSUs and hence exempted from payment of Earnest Money.
6. We are a Labour Cooperative Society and our Registration No. is ..... with .....and hence required to submit Bid Security Declaration on IREPS (Refer detailed instructions at **Annexure-T**) OR deposit only 50% of Earnest Money, whichever applicable. {Para 3.1 (A) & (B)}
7. Until a formal agreement is prepared and executed, acceptance of the tender shall constitute a binding contract between us subject to modifications, as may be mutually agreed to between and indicated in the Letter of Acceptance of my/our offer for this work.

**Signature of the Tenderer(s)**

**Signature of Witnesses:-**

**Date:**

1. ....

2. ....

**Address of the Tenderer(s)**

**(Complete postal address)**



**SPECIAL TENDER CONDITIONS AND INSTRUCTION TO  
TENDERER(S)**

**Tender Notice No.  
IROAF/FUEL CELL/DEMU/P1/2021**

**Name of Work  
Hydrogen Fuel cell based DPRS  
with regenerative braking system 1200 KW DEMU**

## SPECIAL TENDER CONDITIONS AND INSTRUCTION TO TENDERER(S)

<b>1.0</b>	<b><u>DETAILS OF WORKS:</u></b>
	Tenders are invited for the work “AS ON TOP SHEET”
<b>2.0</b>	<b><u>TENDER DOCUMENTS:</u></b>
<b>A.</b>	Not Applicable
<b>B.</b>	<p><b><u>Tender is invited as Two Packet :</u></b></p> <p>The following document will form part of tender /document:-</p> <p><b>Packet I – Technical cum commercial Bid</b></p> <ul style="list-style-type: none"> <li>• Top sheet,</li> <li>• Tender Notice,</li> <li>• Addendum/Corrigendum, if any,</li> <li>• Covering Note.</li> <li>• Tender form (first sheet),</li> <li>• Special Tender Conditions and Instructions to the Tenderers along with related Annexures,</li> <li>• Special Conditions related to Site Data and Specifications along with related Annexures.</li> <li>• Tenderers are requested to ensure that all such documents and Annexures duly filled in are uploaded, complete in all respects failing which his/their offer is likely to be rejected/summarily rejected, as applicable.</li> </ul> <p>Note</p> <ul style="list-style-type: none"> <li>• Standard General Conditions of Contract and Standard Specifications (Works and Materials) of Indian Railways as amended/corrected up to latest correction slips, copies of which can be seen in the office of <u>CAO/IROAF</u> or obtained from the office of the CAO/IROAF, Railway Offices Complex, Tilak Bridge, New Delhi-110002 on payment of prescribed charges.</li> <li>• All general and detailed drawings pertaining to this work which will be issued by the Engineer or his representatives (from time to time) with all changes and modifications</li> <li>• <b>Packet II – Financial Bid</b></li> </ul> <p>It will contain the Schedule of Items and Quantities with provision for quoting of rates by tenderers.</p>

C.

**e-RA is applicable in the subject tender.**  
**(Ref:- RB Letter No.2017/Trans/01/Policy/Pt-S dated 28-03-2018)**

a) Financial Bids in single currency/parameter only shall be allowed. This currency will be in INR (Indian Rupee) unless otherwise specified in tender document.

b) The procedure discussed herein shall be fully implemented through IREPS. Any reference to Reverse Auction in these instructions shall imply e—RA.

c) Conduct and reporting of Reverse Auction shall be as detailed below

d) The essential technical and commercial parameters will be specified in a transparent manner in the tender document. No deviation to such essential Technical & Commercial conditions shall be permitted to the tenderer(s) in the electronic bid form.

e) Technical Bid & Initial Price Offer:

(i) Bidder shall be simultaneously required to electronically submit Techno-Commercial and Initial Price Offer. The offers found eligible for award of contract (those meeting eligibility criteria) shall be categorized as Qualified for Award of Contract for the purpose of e-RA.

(ii) Offers not complying with essential technical & commercial requirements of the tender shall be declared as Ineligible for award of contract. Their price bid shall not be opened.

(iii) Initial Price Offer of only those bidders categorized as Qualified for Award of contract shall be opened and tabulated by system separately.

f) Financial Bid:

(i) Financial Bid shall comprise of Final Price Offer obtained through Reverse Auction. Following conditions and procedure shall be followed in selection of bidders for conduct of Reverse Auction:

Number of tenderers Qualified for Award of contract	Number of tenderer. to be selected for Reverse Auction	Remarks
< 3	NIL*	The bids disallowed from participating in the Reverse Auction shall be the highest bidder(s) in the tabulation of Initial Price Offer. In case the highest bidders quote the same rate, the Initial Price Offer received last, as per time log of IREPS, shall be removed first, on the principle of last in first out, by IREPS system itself.
3 to 6	3	
More than 6	50% of Vendors Qualified for Award of contract (rounded off to next higher integer )	

\*If the number of tenderers qualified for Award of Contract is less than 3, RA shall not be done and tender may be decided on the basis of Initial Price Offer(s).

- (i) Make in India criteria: All bidders eligible for benefits under Public Procurement (Preference to Make In India) Order 2017-- (latest amended on 16.09.2020) or as amended time to time up to date of inviting tender, found Qualified for Award of Contract and are within the specified range of price preference of lowest Initial Price Bid shall be permitted to participate in the Reverse Auction, irrespective of their inter-se ranking on the basis of Initial Price Bid. Such bidders shall be over and above the number of vendors selected for Reverse Auction, as per sub para (i) above.
  - (ii) During Reverse Auction process, bidders shall not be allowed to bid a rate higher than the lowest Initial Price Offer.
- (h) Reverse auction among bidders categorized as Qualified for Award of Contract shall be conducted on IREPS platform. Bidders shall be able to see the auction screens.

**(i) PROCEDURE FOR CONDUCT AND REPORTING OF R.A.**

1. The tendering authority shall solicit bids through an invitation to the electronic Reverse Auction to be published or communicated in accordance with the provisions similar to e-procurement.
2. Depending upon the nature of item/work/service and complexity of case on hand, following shall be indicated in the tender for e-RA itself.
  - (a) Initial e-RA period: This shall be the initial time interval for e-RA, e-RA shall be open for this duration.
  - (b) Auto extension period: In case any offer is received in the time period equal to auto extension period before close of initial e-RA period, the e-RA shall be extended for time equal to auto extension period from the time of last bid. There shall be no upper limit on number of auto extensions. When no offer is received in the last auto extension period, e-RA shall close.
  - (c) Minimum decrement in percentage of value of the last successful bid.
3. Date and time for start of e-RA shall be communicated to qualified tenderers by the convener after evaluation of the Technical Bids.
4. After submission of Initial Price Bid, tenderers will not be allowed to revise the taxes, duties, levies, cess etc.
5. During auction period, identities of the participating tenderers will be kept hidden.
6. Minimum admissible bid value will be last bid value minus minimum decrement as specified by the tendering authority before starting of reverse auction. Starting point for reverse auction shall be the lowest initial Price Bid of the Tenderer eligible for award of contract.
7. After close of the RA, tabulation of lot (minimum) bids received from all the tenderers will be generated and made visible to Railways and participating tenderers.
8. Railway users can also view the bidding history in chronological order.
9. Bidders will not be allowed to withdraw their last offer.
10. L-1 will be defined as the lowest bid obtained after the closure of R.A. session.

**Note:**

- (i) Auto Elimination Rules are applicable in e-Reverse Auction.
- (ii) Initial cooling off period is 2 hrs.
- (iii) Subsequent cooling off period is 30 minutes.
- (iv) Successive lots closing interval (minimum) is 30 minutes.
- (v) The final tabulation statement shall also include the initial price offer of a firm who has not participated in the R.A. process.
- (vi) Minimum decrement value for e-Reverse Auction is 0.12 % of estimated cost of tender.



2.1	<b><u>SUBMISSION OF TENDERS:</u></b>
2.1.1 (i)	<p>The offer is to be uploaded online up to 05.10.2021 by <b>11.30</b> hrs. (D2) along with scanned copy of all the requisite document (as per <b>Annexure 1 &amp; 2</b> of tender notice).</p> <ul style="list-style-type: none"> <li>Tenderer may have to submit the original Documents in physical form at short notice whenever asked by Railway at any stage of tender evaluation process or even after finalization of tender.</li> <li>In e-tender, all submissions of documents are to be uploaded on web-site. There may be last minute hic-cups and delay in uploading the Documents and submission of Bid Security Declaration <u>OR</u> payment of Earnest Money, as applicable etc. Tenderer's/Prospective bidders are advised to upload their offer well in time. Railway will not be responsible for any delay/non-submission of offer due to any reason whatsoever.</li> </ul>
2.1.1 (ii)	<b>Care in submission of tender</b>
	(a) Before submitting a tender, the tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates he enters in the tender forms are adequate and all-inclusive to accord with the provisions in Clause-37 of the Standard General Conditions of Contract for the completion of works to the entire satisfaction of the Engineer.
	(b) Tenderers will examine the various provisions of The Central Goods and Services Tax Act, 2017(CGST)/Integrated Goods and Services Tax Act, 2017(IGST)/Union Territory Goods and Services Tax Act, 2017(UTGST)/ respective state's State Goods and Services Tax Act (SGST) also, as notified by Central/State Govt. & as amended from time to time and applicable taxes before bidding. Tenderers will ensure that full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting rates.
	(c) The successful tenderer who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to railway immediately after the award of contract, without which no payment shall be released to the contractor. The contractor shall be responsible for deposition of applicable GST to the concerned authority.
	(d) In case the successful tenderer is not liable to be registered under CGST/IGST/UTGST/SGST Act, the railway shall deduct the applicable GST from his/their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority.
2.1.2	<b>Cost of Tender Documents</b> The cost of tender document is Nil
2.1.3	In case the intended date for opening of tenders is declared a holiday, the tenders will be opened on the next working day at the same time
2.2	<b><u>COMPLETION OF TENDER DOCUMENTS :</u></b>
2.2.1	The tenderers shall quote the rates in Packet II as per attached format <b>Annexure – 3</b> only (Fin. Bid). Every possible fluctuation, in the rate of labour, material and general commodities, and other possibilities of each and every kind which may affect the rates, should be considered and kept in view before quoting the rates and no claim on this account shall be entertained by the Railway under any circumstances. <b><u>(Note: Price variation Clause is not applicable in this tender)</u></b>

2.2.2	The quantities shown in the attached Schedule are given as a guide and are approximate only and are subject to variation according to the needs of the Railway. The Railway does not guarantee work under each item of the Schedule. The tenderer(s) shall quote rates / rebates only at specified place in Tender Form supplied by Railway. Any revision of rates / rebates submitted (quoted) through a separate letter whether enclosed with the bid (Tender Form) or submitted separately or mentioned elsewhere in the document other than specified place shall be summarily ignored and will not be considered.
2.2.3	Each page of the tender papers will be treated as signed/ accepted by the tenderer(s) or such person(s) on his/their behalf who is/are legally authorized to sign for him/them and to enter into commitments on their behalf.
2.2.4	The rates, rebates and/or other financial terms, if any, quoted by tenderer in the relevant fields of the Financial Bid page will only be the ruling terms for deciding the inter-se ranking, and any such condition having financial repercussions, if quoted by them anywhere else including attached documents shall not be considered for deciding inter-se ranking.
2.2.5	Additional conditions or stipulations, if any, must be made by the tenderer/s in a covering letter with the tender. The Railway reserves the right not to consider conditional tenders and reject the same without assigning any reason. Only those additional conditions which are explicitly accepted by the Railway shall form part of the contract.
2.2.6	<p>The tenderers shall upload a certificate stating that they are not liable to be disqualified and all their statements/documents submitted along with bid are true and factual. Standard format of the certificate to be submitted by the bidder is enclosed as <b>Annexure-M</b>. Non submission of an certificate by the bidder shall result in summarily rejection of his/their bid and it shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self-attested by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document. It will not be obligatory on the part of Tender Committee to scrutinize beyond the submitted document of tenderer as far as his qualification for the tender is concerned. If contents in documents uploaded/submitted by tenderers are found to be incorrect/false, action will be taken against such tenderers as per provisions contained in certificate submitted by them as <b>Annexure M</b>. In such eventuality, next lowest eligible tenderer/offer will be considered.</p> <p style="text-align: right;">-</p> <p><b>(Ref: RB letter No. 2018/CE-I/CT/37/GCC/Policy dated 12-05-2020)</b></p>
2.2.7	<p>(a) The Railway reserves the right to verify all statements, information and documents submitted by the bidder in his tender offer, and the bidder shall, when so required by the Railway, make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of such verification by the railway shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any rights of the railway there under.</p> <p>b) In case of any information submitted by tenderer is found to be false, forged or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender Earnest Money Deposit besides banning of business for a period of up to five years.</p> <p>(c) In case of any information submitted by tenderer is found to be false, forged or incorrect after the award of contract, the contract shall be terminated. Earnest Money Deposit (EMD), Performance Guarantee and Security Deposit available with the railway shall be forfeited. In addition, other dues of the contractor, if any, under this contract shall be forfeited and agency shall be banned for doing business for a period of up to five years.</p>
2.2.8	Tenderer may have to submit the original Documents in physical form at short notice whenever asked by Railway at any stage of tender evaluation process or even after finalization of tender.

2.2.9	In e-tender, all submissions of documents are to be uploaded on web-site. There may be last minute hic-cups and delay in uploading the Documents and submission of Bid Security Declaration <u>OR</u> payment of Earnest Money, as applicable etc. Tenderer's/Prospective bidders are advised to upload their offer well in time. Railway will not be responsible for any delay/non-submission of offer due to any reason whatsoever.
2.2.10	Tenders containing erasures and / or alterations of tender documents are liable to be rejected. Any correction made by tender(s) in his/their entries must be attested by him / them.
2.2.11	The works is required to be completed within a period of 24 months from the date of issue of acceptance letter.
2.2.12	<p><b>Employment/Partnership etc. of Retired Railway Employees:</b></p> <p>a) Should a tenderer</p> <ol style="list-style-type: none"> <li>be a retired Engineer of the gazetted rank or any other gazetted officer working before his retirement, whether in the executive or administrative capacity or whether holding a pensionable post or not, in the Engineering or any other department of any of the railways owned and administered by the President of India for the time being, OR</li> <li>being partnership firm / joint venture (JV) / registered society / registered trust etc. have as one of its partners a retired Engineer of the gazetted rank or any other gazetted officer working before his retirement, OR</li> <li>being an incorporated company have any such retired Engineer of the gazetted rank or any other gazetted officer working before his retirement as one of its directors</li> </ol> <p style="text-align: center;">AND</p> <p>in case where such Engineer or officer had not retired from government service at least 1 year prior to the date of submission of the tender</p> <p style="text-align: center;">THEN</p> <p>the tenderer will give full information as to the date of retirement of such Engineer or gazetted officer from the said service and as to whether permission for taking such contract, or if the Contractor be a partnership firm or an incorporated company, to become a partner or director as the case may be, has been obtained by the tenderer or the Engineer or officer, as the case may be from the President of India or any officer, duly authorized by him in this behalf, shall be clearly stated in writing at the time of submitting the tender.</p> <p>b) In case, upon successful award of contract, should a tenderer depute for execution of the works under or to deal matters related with this contract, any retired Engineer of gazetted rank or retired gazetted officer working before his retirement in the Engineering or any other department of any of the railways owned and administered by the President of India for the time being, and now in his employment, then the tenderer will ensure that retired Engineer or retired gazetted officer had retired from government service at least 1 year prior to the date of his employment with tenderer and in case he had retired from service within a year then he possesses the requisite permission from the President of India or any officer, duly authorized by him in this behalf, to get associated with the tenderer.</p> <p>c) Should a tenderer or Contractor being an individual, have member(s) of his family or in the case of partnership firm/ company / joint venture (JV) / registered society / registered trust etc. one or more of his partner(s)/shareholder(s) or member(s) of the family of partner(s)/shareholder(s) having share of more than 1% in the tendering entity employed in gazetted capacity in Indian Railways, then the tenderer at the time of submission of tender, will inform the authority inviting tenders the details of such persons.</p>



	Note:-If information as required as per 2.2.12 a), b), c) above has not been furnished, contract is liable to be dealt in accordance with provision of clause 62 of Standard General Condition of contract .The undertaking shall be submitted as per <b>Annexure-Q</b> .
2.2.13	<p>Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. Detailed instructions in this regard are available at clause No. 2.4.3. Standard format of the certificate to be submitted by the bidder is enclosed as <b>Annexure-S</b>. In case of non-submission of above certificate, tender shall be summarily rejected. Evidence of valid registration by Competent Authority shall also be attached, wherever applicable.</p> <p><b>Note:</b> Entities of countries which have been identified by the nodal Ministry/Department as not allowing Indian companies to participate in their Government procurement for any item related to that nodal Ministry shall not be allowed to participate in Government procurement in India for all items related to that nodal Ministry/Department, except for the list of items published by the Ministry/Department permitting their participation. The term 'entity of a country shall have the same meaning as under the FDI Policy of DPIIT as amended from time to time.</p>
<b>2.3</b>	<p><b><u>CREDENTIALS TO BE UPLOADED/SUBMITTED ALONGWITH TENDER DOCUMENTS: (ELIGIBILITY CRITERIA)</u></b></p> <p><b><u>Note:- For the purpose of Eligibility criteria</u></b></p>
2.3.1	Tenderer(s) should upload documents and certificates to show that he/they has/have satisfactorily carried out the Similar work as defined in Clauses 2.3.2 (A) (V) (c). He/they should also produce proof of satisfaction of the Railway of his/their technical ability and financial stability to undertake the work of the magnitude tendered for.
2.3.2	The tenderer(s) shall upload with his/their tender a list of serviceable machinery, tools and plants, equipment's and vehicles he/they has/have in hand for executing the work & those, he/they intends/intend to purchase.
2.3.2 (A)	The tenderer(s) must upload along with his/their tenders:-
(i)	Statement showing similar works executed by him/them
(ii)	Certificates of successful completion of his/their work
(iii)	<p>A statement of all payments received against all successfully completed work/ works in progress of all types (not confined to Similar work) for three preceding financial years and the current financial year up to the date of inviting of the tender should be uploaded, as per <b>Annexure- I</b>, duly certified by Chartered Accountant. Contractual payment received should be based on Audited Balance Sheets or Form 16A /26AS generated through TRACES of IT or certificate from concerned Department / Client.</p> <p><b>Note:</b></p> <p>(a) Client certificate from other than Govt. organization should be duly supported by Form 16A/26AS generated through TRACES of IT Department.</p> <p>(b) The Audited Balance Sheet or Form 16A /26AS from IT TRACES or Certificates from concerned Department / Client as referred for contractual payments received should be submitted along with the tender failing which payment received shall not be considered.</p> <p>(c) In case the figure of contractual payment is not directly available in Audited Balance Sheet, the CA should obtain this figure from the Audited Account based on which the Balance Sheet has been prepared</p>
(iv)	A list of their Engineering Organization and equipment, construction Tools and Plants available with them.
(v)	<b>Technical Eligibility Criteria</b>

	<p>(a) The tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of the month previous to the one in which tender is invited.</p> <p>Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or</p> <p>Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or</p> <p>One similar work each costing not less than the amount equal to 60% of advertised value of the tender.</p> <p>(b) ( <b>Not Applicable</b>)</p> <p><b>Note for Technical Eligibility Criteria:</b></p> <p>Work experience certificate from private individuals shall not be considered. However, in addition to work experience certificates issued by any Govt./Railway organization, work experience certificate issued by Public listed company having average annual turn over of Rs 500 crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange or any other recognized Stock Exchange incorporated/registered at least 5 years prior to the date of opening of tender, shall also be considered provided the work experience certificate has been issued by a person authorized by the Public listed company to issue such certificates.</p> <p>In case tenderer submits work experience certificate issued by public listed company, the tenderer shall also submit along with work experience certificate, the relevant copy of work order, bill of quantities, Bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received and copy of final/last bill paid by company in support of above work experience certificate.</p>
	<p>(c) <b>Similar Work</b></p> <p>Manufacturer/System Integrators of powering system based on fuel cell with battery on any public transport, having minimum capacity of 300 kW</p> <p style="text-align: center;">or</p> <p>Manufacturer/System Integrators of train propulsion system* of Railway Locomotive/DEMU /EMU/MEMU/High Speed Train sets/Metro coaches on any railway system having minimum capacity of 880 kW</p> <p>*Three phase electric propulsion system including IGBT based train converters.</p>
<p><b>2.3.2</b> (B)</p>	<p><b><u>Financial Eligibility Criteria:</u></b></p>
	<p>(i) As a proof of sufficient financial capacity and organizational resources, the tenderer(s) should have received the total payments against satisfactory execution of all completed/ongoing works of all types (not confined to only similar works) during the last three financial years and in the current financial year (up to the date of inviting of tender) of a value not less than 150% of the advertised cost of work. The tenderers shall submit certificates of year-wise contractual payment received as per <b>Annexure- I</b>, duly certified by Chartered Accountant. Contractual payment received should be based on Audited Balance Sheets or Form 16A /26AS generated through TRACES of IT or certificate from concerned Department / Client.</p> <p>Note:</p> <p>(a) Client certificate from other than Govt. Organisation should be duly supported by Form</p>

	<p>16A/26AS generated through TRACES of IT Department.</p> <p>(b) The Audited Balance Sheet or Form 16A /26AS from IT TRACES or Certificates from concerned Department / Client as referred for contractual payments received should be submitted alongwith the tender failing which payment received shall not be considered.</p> <p>(c) In case the figure of contractual payment is not directly available in Audited Balance Sheet, the <u>CA</u> should obtain this figure from the Audited Account based on which the Balance Sheet has been prepared</p>
(ii)	<p>Work experience certificate from private individuals shall not be considered. However, in addition to work experience certificates issued by any Govt./Railway organization, work experience certificate issued by Public listed company having average annual turn-over of Rs.500 crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange or any other recognized Stock exchange, incorporated/registered at least 5 years prior to the date of opening of tender, shall also be considered provided the work experience certificate has been issued by a person authorized by the Public listed company to issue such certificates.</p> <p>In case tenderer submits work experience certificate issued by public listed company, the tenderer shall also submit alongwith work experience certificate, the relevant copy of work order, bill of quantities, bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received and copy of final/last bill paid by company in support of above work experience certificate.</p> <p>Completion Certificate/Experience Certificate issued by Competent Authority in favour of tenderer duly stating Name &amp; Final cost of the Work, Date of Completion etc. as per <b>Annexure –L</b> must be uploaded along with the offer.</p>
(iii)	Not Applicable
(iv)	The list of personnel / organization on hand and proposed to be engaged for the tendered work. Similarly list of Plant & Machinery available on hand and proposed to be inducted and hired for the tendered work.
(v)	Tenderer(s) has to satisfy the eligibility criteria for technical capability and competence as well as for financial capacity and organizational resources.
(vi)	If the tenderer(s) is a JV, each partner of JV should have good credentials and the JV should meet the technical and financial eligibility criteria as per the guide lines given in <b>Annexure K &amp; K-2</b> .
(vii)	If the tenderer(s) is a Partnership Firm, the conditions and the technical & financial eligibility criteria will be applicable as per guidelines given in <b>Annexure K-2</b> .
(viii)	<b><u>Bid Capacity:</u></b>
	<p>The tenderer will be qualified only if its available bid capacity is equal to or more than the total bid value of the present tender. The available bid capacity shall be calculated as under:</p> <p>Available Bid capacity= <b>[AxNx2]-B</b></p> <p>Where</p> <p>A= Maximum value of construction works executed and payment received in any one of the previous three financial years or the current financial year (up to date of inviting tender), taking</p>

	<p>into account the completed as well as works in progress.</p> <p><b>N</b>= Number of years prescribed for completion of work for which bids has been invited.</p> <p><b>B</b>= Value of existing commitments and balance amount of ongoing works with the tenderer to be completed in next 'N' years.</p> <p>(a) The tenderer(s) shall furnish the details of existing commitments and balance amount of ongoing works with tenderer as per the prescribed Performa in <b>Annexure-H</b> for statement of all works in progress and also the works which are awarded to tenderer but yet not started up to the date of inviting of tender. In case of no works in hand, a Nil statement should be furnished. This statement should be submitted duly verified by Chartered Accountant.</p> <p>(b) In case of JV, the tenderer(s) must furnish the details of existing commitments and balance amount of ongoing works with each member of JV as per the prescribed proforma of Railway for statement of all works in progress and also the works which are awarded to tenderer but yet not started upto the date of inviting of tender. In case of no works in hand, a 'NIL' statement should be furnished. This statement should be submitted duly verified by Chartered Accountant.</p> <p>(c) The tenderers shall upload on the prescribed Performa as per <b>Annexure- N</b>, duly certified by Chartered Accountant. Contractual payment received should be based on Audited Balance Sheets or Form 16A /26AS generated through TRACES of IT or certificate from concerned Department / Client.</p> <p>Note</p> <p>(i) Client certificate from other than Govt. Organization should be duly supported by Form 16A/26AS generated through TRACES of IT Department.</p> <p>(ii) The Audited Balance Sheet or Form 16A /26AS from IT TRACES or Certificates from concerned Department / Client as referred for contractual payments received should be submitted alongwith the tender failing which payment received shall not be considered.</p> <p>(iii) In case the figure of contractual payment is not directly available in Audited Balance Sheet, the CA should obtain this figure from the Audited Account based on which the Balance Sheet has been prepared</p> <p>(d) Value of a completed work/work in progress/work awarded but yet not started for a Member in an earlier JV shall be reckoned only to the extent of the concerned member's share in that JV for the purpose of satisfying his/her compliance to the above mentioned bid capacity in the tender under consideration.</p> <p>(e) The arithmetic sum of individual "bid capacity" of all the members shall be taken as JV's "bid capacity".</p> <p>(f) In case, the tenderers fail to submit the above statement along with offer, their/his offer shall be considered as incomplete and will be rejected summarily.</p> <p>(g) The available bid capacity of tender shall be assessed based on the details submitted by the tenderer. In case the available Bid capacity is lesser than estimated cost of work put to tender, his offer shall not be considered even if has been found eligible in other eligibility criteria/tender requirement.</p>
(ix)	Not Applicable

(x)	<p>Credentials if submitted in foreign currency shall be converted into Indian currency i.e., Indian Rupee as under:</p> <p>The conversion rate of US Dollars into Rupees shall be the daily representative exchange rates published by the Reserve Bank of India for the relevant date. Where, relevant date shall be as on the last day of month previous to the one in which tender is invited. In case of any other currency, the same shall first be converted to US Dollars as on the last day of month previous to the one in which tender is invited, and the amount so derived in US Dollars shall be converted into Rupees at the aforesaid rate. The conversion rate of such currencies shall be the daily representative exchange rates published by the International Monetary Fund for the relevant date.</p>
(xi)	<p>[Explanation for clause 2.3 - Eligibility Criteria:</p> <ol style="list-style-type: none"> <li>1. In case a work is started prior to even 07 (seven) years, ending last day of month previous to the one in which tender is invited, but completed in last 07 (seven) years, ending last day of month previous to the one in which tender is invited, the completed work shall be considered for fulfillment of credentials.</li> <li>2. If a work is physically completed and completion certificate to this extent is issued by the concerned organization but final bill is pending, such work shall be considered for fulfillment of credentials.</li> <li>3. If a part or a component of work is completed but the overall scope of contract is not completed, this work shall not be considered for fulfillment of technical credentials even if the cost of part completed work/component is more than required for fulfillment of credentials.</li> <li>4. In case a work is considered similar in nature for fulfillment of technical credentials, the overall cost of that work including PVC amount if any shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility.</li> <li>5. The value of final bill including PVC amount-if paid, or otherwise in case final bill is pending the contract cost in last approved variation statement plus PVC amount paid or cumulative amount paid up to last on-account bill including PVC amount and statutory deductions whichever is less, shall be considered as the completion cost of work.</li> <li>6. In case of newly formed partnership firm, the credentials of individual partners from previous propriety firm(s) or dissolved previous partnership firm(s) or split previous partnership firm(s), shall be considered only to the extent of their share in previous entity on the date of dissolution / split and their share in newly formed partnership firm. For example, a partner A had 30% share in previous entity and his share in present partnership firm is 20%. In the present tender under consideration, the credentials of partner A will be considered to the extent of <math>0.3 \times 0.2</math> * value of the work done in the previous entity. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.</li> <li>7. In case of existing partnership firm, if any one or more partners quit the partnership firm, the credentials of remaining partnership firm shall be re-worked out i.e., the quitting partner(s) shall take away his credentials to the extent of his share on the date of quitting the partnership firm (e.g. in a partnership firm of partners A, B &amp; C having share 30%, 30% &amp; 40% respectively and credentials of Rs 10 crore; in case partner C quits the firm, the credentials of this partnership firm shall remain as Rs 6 crore). For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.</li> <li>8. In case of existing partnership firm if any other partner(s) joins the firm, the credentials of partnership firm shall get enhanced to the extent of credentials of newly added partner(s) on the same principles as mentioned in item 7 above. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deeds, dissolution/splitting deeds and proof of surrender of PAN No.(s) in case of dissolution of partnership firm etc.</li> <li>9. Any partner in a partnership firm cannot use or claim his credentials in any other firm without leaving the partnership firm i.e., In a partnership firm of A&amp;B partners, A or B partner cannot use</li> </ol>

	<p>credentials of partnership firm of A&amp;B partners in any other partnership firm or propriety firm without leaving partnership firm of A&amp;B partners.</p> <p>10. In case a partner in a partnership firm is replaced due to succession as per succession law, the proportion of credentials of the previous partner will be passed on to the successor.</p> <p>11. If the percentage share among partners of a partnership firm is changed, but the partners remain the same, the credentials of the firm before such modification in the share will continue to be considered for the firm as it is without any change in their value. Further, in case a partner of partnership firm retires without taking away any credentials from the firm, the credentials of partnership firm shall remain the same as it is without any change in their value.</p> <p>12. In a partnership firm "AB" of A&amp;B partners, in case A also works as propriety firm "P" or partner in some other partnership firm "AX", credentials of A in propriety firm "P" or in other partnership firm "AX" earned after the date of becoming a partner of the firm AB shall not be added in partnership firm AB.</p> <p>13. In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm.</p> <p>14. In case company A is merged with company B, then company B would get the credentials of company A also.]</p> <p>Note:-</p> <p>A. In respect of GCC-2020, clause-10, Explanation Note No. 7, following is clarified:-</p> <ol style="list-style-type: none"> <li>In case of any change in the partners of firm during last 07 (seven) years, ending last day of the month previous to the one in which tender is invited, the share of credentials for the purpose of Technical Eligibility will be considered as per the share of partners as on the date of completion of work.</li> <li>In case of any change in partners of firm during last 03 (three) financial years and current financial year upto the date of inviting of the tender, the share of credentials of any partners will be considered in the proportion of partners on the date of receipt of contractual payments.</li> </ol> <p>B. In case of new partnership firm, following is clarified in respect of clarification of credentials of individual partners from previous partnership firm(s) or previous dissolved partnership firm(s) or previous split partnership firm(s):-</p> <ol style="list-style-type: none"> <li>For the purpose of Technical Eligibility, the credentials of individual partners from the previous dissolved / split previous partnership firm (s) shall be considered in proportion as on the date of completion of work.</li> <li>For the purpose of Financial Eligibility, the proportion of individual partners from the previous dissolved / splitted previous Partnership firm (s) shall be considered in the proportion as on the date of receipt of contractual payments.</li> </ol> <p>In such cases, following documents are required to be submitted alongwith bid:-</p> <ol style="list-style-type: none"> <li>Copy of previous Partnership Deed(s).</li> <li>Copy of previous Dissolution Deed(s) of previous partnership deed(s).</li> <li>Proof of surrender of PAN No(s) (in case of dissolution of partnership firm).</li> </ol> <p>➤ Relevant <b>Annexures K-3 &amp; K-4</b> are to be submitted by the tenderer alongwith the bid.</p>
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2.3.3	<p>Assignment or Subletting of Contract: The Contractor shall not assign or sublet the contract or any part thereof or allow any person to become interested therein in any manner whatsoever without the special permission in writing of the CME/IROAF, save as provided below. Any breach of this condition shall entitle the Railway to rescind the contract under Clause 62 of these Conditions and also render the Contractor liable for payment to the Railway in respect of any loss or damage arising or ensuing from such cancellation; provided always that execution of the details of the work by petty Contractor under the direct and personal supervision of the Contractor or his agent shall not be deemed to be sub-letting under this clause.</p> <p>In case Contractor intends to subcontract part of work, he shall submit a proposal in writing seeking permission of CME/IROAF for the same. While submitting the proposal to railway, Contractor shall ensure the following:</p> <p>(i) (a) Total value of work to be assigned or to sublet to sub-contractor (s) shall not be more than 50% of total contract value.</p> <p>(b) The sub contractor shall have successfully completed at least one work similar to work proposed for subcontract, costing not less than 35% value of work to be subletted, in last 5 years through a works contract directly given to him by a Govt. Department; or by a Public listed company having average annual turnover of Rs.500 crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange, registered at least 5 years back from the date of submission of proposal by Contractor to Railway and work experience certificate issued by a person authorised by the Public Listed Company to issue such certificates.</p> <p><i>Note: For subletting of work costing up to Rs. 50 lakh no previous work experience shall be asked for by the Railway.</i></p> <p>In case tenderer submits work experience certificate issued by public listed company, the tenderer shall also submit alongwith work experience certificate, the relevant copy of work order, bill of quantities, bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received and copy of final / last bill paid by company in support of above work experience certificate.</p> <p>(c) There is no banning of business with the sub-contractor in force over IR.</p> <p>(ii) The Contractor shall provide to the Engineer a copy of the agreement to be entered into by Contractor with subcontractor. No subcontractor shall be permitted without a formal agreement between Contractor and subcontractor. This agreement shall clearly define the scope of work to be carried out by subcontractor and the terms of payment in clear &amp; unambiguous manner.</p> <p>(iii) On receipt of approval from CME/IROAF, Contractor shall enter into a formal agreement legally enforceable in Court of Law with subcontractor and submit a copy of the same to the Engineer.</p> <p>(iv) The Contractor shall intimate to the Engineer not less than 7 days in advance, the intended date of commencement of subcontractor's work.</p> <p>(v) Once having entered into above arrangement, Contractor shall discontinue such arrangement, if he intends to do so at his own or on the instructions of Railway, with prior intimation to CME/IROAF.</p> <p>(vi) The Contractor shall indemnify railway against any claim of subcontractor.</p> <p>(vii) The Contractor shall endeavour to resolve all matters and payments amicably and speedily with the subcontractor.</p>
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	<p>(viii) In addition to issuance of work experience certificate to Contractor, the Engineer, when, based on documents, is satisfied that subcontracted work has been carried out by subcontractor, shall issue work experience certificate to the subcontractor also for the portion of work subcontracted and successfully completed by the sub-contractor.</p> <p><i>Note: Work Experience Certificate to the subcontractor shall be issued only when the contractors work is complete and contractor is entitled for the issuance of work experience certificate. However, in the same contract, when the Chief Engineer, based on documents is satisfied that the subcontractor has successfully carried out subletted work; without issuance of work experience certificate to subcontractor at this stage, the Chief Engineer can, only once consider the successfully completed subletted work for the fulfillment of eligibility for further subletting of work to the subcontractor in the same contract. When the contractors work is complete and contractor is entitled for the issuance of work experience certificate, the subcontractor shall be issued one Work Experience Certificate for the total scope of work executed by the subcontractor in the contract.</i></p> <p>(ix) The responsibility of successful completion of work by subcontractor shall lie with Contractor. Subcontracting will in no way relieve the Contractor to execute the work as per terms of the Contract.</p> <p>(x) Further, in case Engineer is of the view that subcontractor's performance is not satisfactory, he may instruct the Contractor to remove the subcontractor from the work and Contractor has to comply with the above instructions with due promptness. Contractor shall intimate the actual date of discontinuation of subcontract to Engineer. No claim of Contractor whatsoever on this account shall be entertained by the Railway and this shall be deemed as 'excepted matter' (matter not arbitrable).</p> <p>(xi) The permitted subletting of work by the Contractor shall not establish any contractual relationship between the sub-contractor and the Railway and shall not relieve the Contractor of any responsibility under the Contract.</p>
2.3.4	Public Procurement (Preference to Make in India):- (Authority:- As per Railway Board letter No. 2015/RS(G)/779/5, dated 01.02.2018, No. 2017/Trans/01/Policy/Pt-S, dated 28.03.2018, Railway Board letter no. 2020/RS(G)/779/2, dated 12.06.2020 and Ministry of Commerce and Industry letter no. P-45021/2/2017-B.E.-II, dated 15.06.2017) (latest amended on 16.09.2020) or as amended time to time upto date of inviting tender.
2.4	<b><u>CONSTITUTION OF THE FIRM:</u></b>
2.4.1	<p>(i) The tenderer shall clearly specify whether the tender is submitted on his own (Proprietary Firm) or on behalf of a Partnership Firm / Company / Joint Venture (JV) / Registered Society/ Registered Trust / HUF etc. The tenderer(s) shall enclose the attested copies of the constitution of their concern, and copy of PAN Card along with their tender. Tender Documents in such cases are to be signed by such persons as may be legally competent to sign them on behalf of the firm, company, association, trust or society, as the case may be.</p> <p>(ii) Following documents shall be submitted by the tenderer:</p>
(A)	<b><u>Sole Proprietorship firm:</u></b>
	<p>(Undertaking as per <b>Annexure O-1</b>)</p> <p><b>Undertaking</b> (An Undertaking that the company is not black listed or debarred by Railways or any other Ministry/Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which the company was/is a partner/member. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of the General Conditions of contract) may be given.</p>



	As per para 14(iii) of GCC-2020, If it is NOT mentioned in the submitted tender that tender is being submitted on behalf of a Sole Proprietorship firm/Partnership firm/Joint Venture/Registered Company etc., then the tender shall be treated as having been submitted by the individual who has signed the tender.
<b>(B)</b>	<b><u>Partnership Firm:</u></b>
	<p><b><u>For All Type of Works Tenders.</u></b></p> <p>The tenderer shall clearly specify that the tender is submitted on behalf of a partnership firm. The following documents shall be submitted by the partnership firm, with the tender:</p> <ol style="list-style-type: none"> <li>1. A Notarised copy of the Partnership Deed.</li> <li>2. Document(s) in support of Registration of firm with Registrar/Sub-Registrar of firms viz. Certificate of registration and copy of Register of firm (Form No. may vary from State to State) (as applicable) etc. issued by Registrar of firms.</li> <li>3. A Notarised or Registered Power of Attorney in favour of the individual signing the tender document and create liability against the Firm. (Standard Performa as per <b>Annexure O-2</b>)</li> <li>4. An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of opening of bids, either in their individual capacity or in any firm in which they were / are partners. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.</li> </ol> <p><b>Note:</b> Authorisation given in POA only will be considered irrespective of any authorization that may have given in Partnership Deed. In case of non-submission of POA or invalid POA, offer is liable to be rejected.</p>
<b>(C)</b>	<b><u>Joint Venture (JV):</u></b>
	If the tender is uploaded on behalf of a JV, the tenderer must upload the following
(1)	A copy of Memorandum of Understanding (MoU) duly executed by the JV members on a stamp paper, shall be submitted by the JV alongwith the tender (Standard performa as per <b>Annexure K-1</b> ). The complete details of the members of the JV, their share and responsibility in the JV etc. particularly with reference to financial, technical and other obligations shall be furnished in the MoU.
(2)	Notarised Power of Attorney/authorization duly executed by all JV constituents, in favour of the individual signing the tender document on behalf of the JV; (Standard Performa as per <b>Annexure O-3</b> )
(3)	In addition, following documents must be upload/submit by the JV firms along with the tender:-
(i)	In case one or more of the members of the JV firms is /are partnership firm(s), following documents shall be uploaded/submitted.
	<p>(a) A Notarized copy of the Partnership Deed.</p> <p>(b) Document(s) in support of registration of firm with registrar/Sub-Registrar of firms viz. Certificate of registration and copy of Register of firm (Form No. may vary from State to State) (as applicable) etc. issued by Registrar of Firms.</p>
	(c) A copy of consent of all the partners or individual authorized by partnership firm, to enter into the Joint Venture Agreement on a stamp paper, (Standard Performa as per <b>Annexure O-4</b> ).

	<p>(d) A copy of Power of Attorney (duly Notarized or Registered) in favour of the individual to sign the MOU/JV Agreement on behalf of the partnership firm and create liability against the firm. (Standard Performa as per <b>Annexure O-5</b>).</p> <p><b>Note:</b> Authorization given in POA only will be considered irrespective of any authorization that may have given in Partnership Deed. In case of non-submission of POA or invalid POA, offer is liable to be rejected.</p>
(ii)	<p>In case one or more members of JV is/are Proprietary Firm or HUF, the following documents shall be uploaded/submitted:</p> <p>A copy of notarized affidavit on Stamp Paper declaring that he who is signing the affidavit on behalf of HUF is in the position of 'Karta' of Hindu Undivided Family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF. (Standard Affidavit as per <b>Annexure O-6</b>)</p>
(iii)	<p>In case one or more members of JV is/are Limited Companies, the following documents shall be submitted/uploaded:</p>
	<p>(a) A copy of resolutions of the Directors of the Company, permitting the company to enter into a JV agreement, (Standard Performa as per <b>Annexure O-7</b>)</p>
	<p>(b) Copy of Memorandum of Association and Articles of Association of the Company.</p>
	<p>(c) Copy of certificate of incorporation</p>
	<p>(d) A copy of Authorization/copy of Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender, sign MOU/JV Agreement on behalf of the company and create liability against the company (Standard Performa as per <b>Annexure O-8</b>).</p>
(iv)	<p>In case one or more members of JV is/are LLP firm, the following documents shall be submitted/uploaded :</p> <p>(a) A notarized copy of certificate of incorporation and LLP agreement.</p> <p>(b) A notarized copy of resolution of the partners of LLP, permitting the LLP to enter into a JV agreement, authorizing one of the partners of LLP to sign JV MOU/agreement and such other documents required to be signed on behalf of the LLP and to create liability against the LLP and/or to do any other act on behalf of LLP (Standard performa as per <b>Annexure O-13</b>).</p> <p>(c) A copy of authorization/copy of power of attorney issued by the LLP (backed by resolution of partners) in favour of individual to sign the tender, to sign MOU/JV agreement on behalf of the LLP and create liability against the LLP (Standard performa as per <b>Annexure O-14</b>).</p>
	<p><b>Note:</b> All the Members of JV shall certify that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders/contract on the date of opening of bids either in their individual capacity or as a member of the JV in which they were/are members.</p>
(D)	<p><b>Company:</b> If the tender is uploaded on behalf of a Company registered under Companies Act-2013, the tenderer must submit/upload along with the tender the following documents on or before close of uploading of tender &amp; before opening of tender (D2):</p> <p>(i) Copies of the MOA /AOA (Memorandum of Association /Article of Association) of the Company;</p> <p>(ii) A copy of certificate of incorporation.</p> <p>(iii) A copy of Authorization/Power of Attorney issued by the Company (backed by the resolution of</p>

	<p>Board of Directors) in favour of the individual to sign the tender on behalf of the company and create liability against the company (Standard Performa as per <b>Annexure O-9, 10</b>).</p> <p>(iv) An Undertaking that the company is not black listed or debarred by Railways or any other Ministry/Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which the company was/is a partner/member. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of the General Conditions of contract.</p>
<b>(E)</b>	<b>Registered Society &amp; Registered Trust:</b>
	<p>The tenderer must upload following,</p> <p>(i) copy of the certificate of registration;  (ii) copy of Deed of formation; and  (iii) Notarized copy of Power of Attorney in favour of the individual to sign the tender documents and create liability against the Society/Trust.</p>
<b>(F)</b>	<p><b>LLP (Limited Liability Partnership) Firm:</b> If the tender is submitted on behalf of a LLP Firm registered under LLP Act-2008, the tenderer shall upload alongwith the tender-</p> <p>(i) A copy of LLP Agreement,  (ii) A copy of Certificate of Incorporation; and  (iii) A copy of Power of Attorney/Authorization issued by the LLP in favour of the individual to sign the tender on behalf of the LLP and create liability against the LLP (Standard proforma as per <b>Annexure O-11 &amp; 12</b>).</p> <p>(iv) An Undertaking that the LLP is not black listed or debarred by Railways or any other Ministry/Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of JV in which the LLP was/is a member. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of the General Conditions of contract.</p>
<b>(G)</b>	<p><b><u>In Case of HUF:</u></b></p> <p>(i) A copy of notarized affidavit on Stamp Paper declaring that he who is submitting the tender on behalf of HUF is in the position of 'Karta' of Hindu Undivided Family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF (Standard proforma as per <b>Annexure O-15</b>).</p> <p>(ii) An undertaking that the HUF is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which HUF was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.</p>
2.4.1.1	<ul style="list-style-type: none"> <li>After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm / Registered Company/ Registered Trust / Registered Society / HUF etc. shall be neither asked nor considered, if submitted. Further, no suo moto cognizance of any document available in public domain (i.e., on internet etc.) or in Railway's record/office files etc. will be taken for consideration of the tender, if no such mention is available in tender offer submitted.</li> <li>No change in the constitution of the <i>firm/JV/sole proprietorship/partnership firm/company/Registered Trust/Registered Society/LLP/HUF</i> shall be permitted after opening of the tender except where necessitated due to the operation of succession laws etc. in which case prior permission should be taken from Railways and in any case the minimum eligibility criteria</li> </ul>

	<p>should not get vitiated.</p> <ul style="list-style-type: none"> <li>The Railway will not be bound by any change in the composition of the firm made subsequent to the submission of tender. Railway may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor.</li> </ul> <p>Note:</p> <ol style="list-style-type: none"> <li>If all the requisite documents pertaining to the constitution of the firm/JV/sole proprietorship/partnership firm/company/ Registered Trust/Registered Society/ LLP/HUF etc., as specified in clause 2.4.1 above, are not submitted, offer will be considered as incomplete and shall be summarily rejected.</li> <li>Standard Performa/Affidavit O-1 to O-15 are given as per Constitution of Firm requirement in respective clause of Sole Proprietorship firm/Partnership firm/JV/Company Registered Trust/Registered Society/LLP/HUF for guidance purpose.</li> </ol>
2.4.2	<p>The tenderer whether sole proprietor / a company or a partnership firm / joint venture (JV) / registered society / registered trust / HUF etc if they want to act through agent or individual partner(s), should submit along with the tender, a copy of power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favour of the specific person whether he/they be partner(s) of the firm or any other person specifically authorizing him/them to submit the tender, sign the agreement, receive money, co-ordinate measurements through contractor's authorized engineer, witness measurements, sign measurement books, compromise, settle, relinquish any claim(s) preferred by the firm and sign "No Claim Certificate" and refer all or any disputes to arbitration. The above power of attorney shall be submitted even if such specific person is authorized for above purposes through partnership deed / Memorandum of Understanding / Article of Association or such other document, failing which tender is liable to be rejected.</p>
2.4.3	<p>Instructions for bidders from a country which shares a land border with India</p> <p>I Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.</p> <p>II "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a joint venture, every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.</p> <p>III "Bidder from a country which shares a land border with India" for the purpose of this Order means:-</p> <ol style="list-style-type: none"> <li>An entity incorporated, established or registered in such a country; or</li> <li>A subsidiary of an entity incorporated, established or registered in such a country; or</li> <li>An entity substantially controlled through entities incorporated, established or registered in such a country; or</li> <li>An entity whose beneficial owner is situated in such a country; or</li> <li>An Indian (or other) agent of such an entity; or</li> <li>A natural person who is a citizen of such a country; or</li> <li>A joint venture where any member of the joint venture falls under any of the above.</li> </ol>

	<p>IV The beneficial owner for the purpose of (III) above will be as under:</p> <ol style="list-style-type: none"> <li>1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person(s), has a controlling ownership interest or who exercises control through other means.</li> </ol> <p>Explanation-</p> <ol style="list-style-type: none"> <li>a) “Controlling ownership interest” means ownership of, or entitlement to, more than twenty-five per cent of shares or capital or profits of the company;</li> <li>b) “Control” shall include the right to appoint majority of the directors or to control the management or policy decisions, including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;</li> </ol> <ol style="list-style-type: none"> <li>2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;</li> <li>3. In case or an unincorporated association or body of individual, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;</li> <li>4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior management official;</li> <li>5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.</li> </ol> <p>V An agent is a person employed to do any act for another, or to represent another in dealings with third person.</p> <p>VI The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.</p> <p><b>Note:-</b> Mandatory certificate as per <b>Annexure–S</b> to be submitted by tenderer alongwith the tender documents</p>
2.5	<b><u>INCOME TAX DEDUCTION:</u></b>
2.5.1	As per Income Tax Act, Tax will be deducted for sums paid for carrying out the work under this contract. 1% labour cess shall be deducted from each RA bill to be deposited with concerned labour Commissioner/State Govt.

3.0	<b><u>EARNEST MONEY</u></b>
3.1	<p>Option A. Bid Security Declaration will be submitted by bidder on IREPS (Refer detailed instructions at <b>Annexure-T</b>). This option is available for tenders issued till 31.12.2021.</p> <p style="text-align: center;"><u>OR</u></p> <p>Option B. The tender must be accompanied by a sum of Rs. 43,60,000/- (Fourty Three Lac Sixty Thousand only) i.e.@ 2% for works estimated to cost up to ₹ 1 crore and for works estimated to cost more than ₹ 1 crore - Rs ₹ 2 lakh plus 1/2% (half percent) of the excess of the estimated cost beyond ₹ 1 crore, subject to a maximum of ₹ 1 crore, (as indicated in Tender Notice) as Earnest Money in the manner prescribed in Para 3.2 failing which the tender shall be summarily rejected.</p> <ul style="list-style-type: none"> <li>i. Any firm recognized by Department of Industrial Policy and Promotion (DIPP) as 'Startups' shall be exempted from payment of earnest money deposit detailed above.</li> <li>ii. 100% Govt. owned PSUs shall be exempt from payment of earnest money deposit detailed above.</li> <li>iii. Labour Co-operative Societies shall deposit only 50% of above Earnest Money.</li> </ul> <p><b>Note:</b>  <b>Option A or B for Bid Security Declaration or payment of Earnest Money shall be applicable for the tender as specified on IREPS (Refer detailed instructions at Annexure-T).</b></p>
3.1.1	<p>The tenderer(s) shall keep the offer open for a period of <b>120 days</b> from the date of opening of the tender during which tenderer(s) cannot withdraw his/their offer subject to period being extended further, if required, by mutual agreement from time to time. It is understood that the Tender Documents have been sold/issued to the tenderer(s) and tenderer(s) is/are being permitted to in consideration of stipulation on his/their part that after submitting his/their offer, he/they will not resile from his/their offer or modify the terms and conditions thereof in a manner not acceptable to Railway. Should the tenderer(s) fail to observe/to comply with the foregoing stipulation or fail to undertake the contract after acceptance of his/their tender, the entire amount deposited as Earnest Money for the due performance of the stipulation and to keep the offer open for the specified period, shall be forfeited by the Railway or as applicable as per <b>Annexure T</b>.</p> <p>If the tender is accepted, the amount of all Earnest Money will be retained as part Security Deposit for due and faithful fulfilment of the contract. The Earnest Money of unsuccessful tenderer(s) will, save as herein before provided be returned to the unsuccessful tenderer(s) within a reasonable time, but Railway shall not be responsible for any loss or depreciation that may happen to the Earnest Money for the due performance of the stipulation and to keep the offer open for the period stipulated in the Tender Documents while in railway possession nor will be liable to pay interest thereon.</p>
3.2	<p>The Earnest Money of the requisite amount referred to in Clause 3.1 above is required to be deposited through e-gate way (<b>applicable where option B of clause 3.1 is indicated on IREPS</b>).</p> <p><b>Note</b></p>
	<p><b>Note:</b></p> <ul style="list-style-type: none"> <li>(i) Tenders uploaded/submitted with Earnest Money in any form other than those specified above shall not be considered.</li> <li>(ii) Any request for recovery from outstanding bills for Earnest Money against present tender will not, under any circumstances, be entertained</li> <li>(iii) No interest will be payable on the Earnest Money and Security Deposit or the amount payable to the contractor under the contract.</li> </ul>

4.0	<b><u>ACCEPTANCE OF TENDER</u></b>
4.1	(i) <b>IF THE TENDERER(S) DELIBERATELY GIVES WRONG INFORMATION/CREDENTIALS/DOCUMENTS IN HIS/THEIR TENDERS AND THEREBY CREATE(S) CIRCUMSTANCES FOR ACCEPTANCE OF HIS/THEIR TENDER, RAILWAY RESERVES THE RIGHT TO REJECT SUCH TENDER AT ANY STAGE, BESIDES, SUSPENDING THE BUSINESS upto FIVE YEARS”.</b>
	(ii) If on verification of credentials, at the evaluation stage, it is found that the tenderer has submitted forged/fake documents in support of his offer, his Earnest Money Deposit shall be forfeited besides suspending business with him/them upto five years.
4.2	The authority for acceptance of the tenders rests with Competent authority -as the case may be who does not undertake to assign reasons for declining to consider any particular tender or tenders. He also reserves the right to accept the tender in whole or in part or to divide the tender amongst more than one tenderer if deemed necessary.
4.3	The successful tenderer/s shall be required to execute an agreement with the President of India acting through the CAO/IROAF or his authorized representative for carrying out of the work as per agreed conditions. The cost of stamp for the agreement will be borne by the IROAF.
4.3.1	The contractors operations and proceedings in connection with the works shall at all times be conducted during the continuance of contract in accordance with the laws, ordinance, rules and regulations for the time being in force and the contractor shall further observe and comply with the bye-laws and regulations of the Govt. of India, State Govt. and of Municipal & other authorities having jurisdiction in connection with the works or site over operations such as these are carried out by the contractor/s and shall give all notice required by such bye-laws and regulations. The Hospital and medical regulations in force for the time being shall also be complied with by the contractor/s and his workmen.
4.3.2	The contractor shall be responsible for the observance of the rules and regulations under the mines act and mineral rules and Indian Metallurgical rules and regulations of State/Central Govt. concerned as amended from time to time.
4.3.3	Not Applicable
4.4	The tenderer(s) shall not increase his/their rate in case the Railway Administration negotiates for reduction of rates. Such negotiations shall not amount to cancellation or withdrawal of the original offer and rates originally quoted will be binding on the tenderer/s.
4.5	The tenderer/s shall submit an analysis of rates if called upon to do so
4.6	Non-compliance with any of the conditions set-forth herein is liable to result in the tender being rejected.
4.7	Variation in quantity
4.7.1	The tenderer/contractor will be bound to execute the additional quantities on the following terms and Conditions.
4.7.1.1	<b>Variation in items whose agreement value is more than 1% of the total agreement value (Major value items)</b>  (i) Unless otherwise specified in the special conditions of the contract, the accepted upward & downward variation in quantity of each individual item of the contract would be upto 25% of the quantity originally contracted, except in case of foundation work.

	<p>(ii) The Contractor shall be bound to carry out the work at the agreed rates and shall not be entitled to any claim or any compensation whatsoever upto the limit of 25% variation in quantity of individual item of works.</p> <p>(iii) In case an increase in quantity of an individual item by more than 25% of the agreement quantity is considered unavoidable, then same shall be executed at following rates</p> <p>(a) Quantities operated in excess of 125% but upto 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender;</p> <p>(b) Quantities operated in excess of 140% but upto 150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender;</p> <p>(c) Variation in quantities of individual items beyond 150% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender.</p>
4.7.1.2	<p><b>Variation to quantities of Minor Value Item:</b></p> <p>The limit for varying quantities for minor value items shall be 100% (as against 25% prescribed for other items). A minor value item for this purpose is defined as an item whose original agreement value is less than 1 % of the total original agreement value.</p> <p>(i) Quantities operated upto and including 100% of the agreement quantity of the concerned minor value item, shall be paid at the rate awarded for that item in that particular tender;</p> <p>(ii) Quantities operated in excess of 100% but upto 200% of the agreement quantity of the concerned minor value item, shall be paid at 98% of the rate awarded for that item in that particular tender;</p> <p>(iii) Variation in quantities of individual minor value item beyond 200% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender.</p>
5.0	<p><b><u>Security Deposit and Performance Guarantee on Acceptance of Tender</u></b></p>



5.1	<ul style="list-style-type: none"> <li>• The security deposit/rate of recovery/mode of recovery on acceptance of tender shall be as under:</li> <li>• The Earnest Money deposited by the Contractor with his tender will be retained by the Railways as part of security for the due and faithful fulfillment of the contract by the Contractor. The Security Deposit shall be 5% of the contract value. Security Deposit may be deposited by the Contractor before release of first on account bill in cash or Term Deposit Receipt issued from Scheduled Bank, or may be recovered at the rate of 6% of the bill amount till the full Security Deposit is recovered. Provided also that in case of defaulting Contractor, the Railway may retain any amount due for payment to the Contractor on the pending "on account bills" so that the amounts so retained (including amount guaranteed through Performance Guarantee) may not exceed 10% of the total value of the contract.</li> <li>• Further, in case of contracts having value equal to or more than ₹ 50 crore (Rs Fifty crore) the Security Deposit may be deposited as Bank Guarantee Bond also, issued by a scheduled bank after execution of contract documents, but before payment of 1<sup>st</sup> on account bill. Provided further that the validity of Bank Guarantee Bond shall be extended from time to time, depending upon extension of contract granted in terms of Clause 17 of the Standard General Conditions of Contract.</li> </ul> <p>Further, in case Security Deposit has been submitted as Term Deposit Receipt/Bank Guarantee Bond in full amount, the Earnest Money deposited by the Contractor with his tender will be returned by the Railways.</p> <p>Note: After the work is physically completed as certified by competent authority, Security Deposit recovered from the running bills of a Contractor can be returned to him, if he so desires, in lieu of Term Deposit Receipt/irrevocable Bank Guarantee for equivalent amount from Scheduled Bank, to be submitted by him.</p> <p>The total security deposit recoverable from a contractor including the amount of earnest money deposited with the tender as given in Clause above will not exceed 5% of contract value.</p> <p>The security deposit shall be forfeited whenever the Contract is rescinded. The Security Deposit unless forfeited in whole or in part according to the terms and conditions shall be released to the contractor only after the expiry of maintenance period and after passing the final bill based on 'No Claim Certificate'.</p> <p>Thus before releasing the S.D., an unconditional and un-equivocal 'No Claim Certificate' from the Contractor concerned should be obtained. The competent authority should issue the certificate regarding the expiry of the maintenance period and passing of the Final Bill based on 'No Claim Certificate'.</p>
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5.1.1	<p><b>Refund of Security Deposit:</b> Security Deposit shall be returned to the Contractor alongwith or after the following:</p> <ul style="list-style-type: none"> <li>• Final Payment of the Contract as per clause 51(1) of GCC, and</li> <li>• Execution of Final Supplementary Agreement or Certification by Engineer that Railway has No Claim on Contractor, and</li> <li>• Maintenance certificate issued on expiry of the maintenance period (24 months from date of commissioning) and</li> <li>• Submission of suitable Bank Guarantee for CAMC.</li> </ul> <p><b>Note :-</b></p> <p>The Competent Authority to issue above Maintenance Certificate shall normally be the authority who is competent to sign the contract. If this Competent Authority is of the rank lower than JA Grade, then a JA Grade Officer (concerned with the work) should issue the certificate.</p> <p>The certificate, inter alia, should mention that the work has been completed in all respects and that all the contractual obligations have been fulfilled by the Contractor and that there is no due from the Contractor to Railways against the contract concerned.</p>
5.1.2	<p><b>Forfeiture of Security Deposit:</b> Whenever the contract is rescinded as a whole under clause 62 (1) of GCC, the Security Deposit already with railways under the contract shall be forfeited. However, in case the contract is rescinded in part or parts under clause 62 (1) of GCC, the Security Deposit shall not be forfeited.</p>
5.2	<p><b><u>Performance Guarantee:</u></b></p> <p>The successful bidder shall have to submit a performance Guarantee (PG) within 21 (twenty one) days from the date of issue of letter of acceptance (LOA). Extension of time for submission of PG beyond 21 (twenty one) days and up to 60 days from the date of issue of LOA may be given by the authority who is competent to sign the contract agreement. However, a penal interest of 12% per annum shall be charged for the delay beyond 21 (twenty one) days, i.e. from 22<sup>nd</sup> day after the date of issue of LOA. Further, if the 60<sup>th</sup> day happens to be a declared holiday in the concerned office of the Railway, submission of PG can be accepted on the next working day. In case the contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the contract is liable to be terminated duly forfeiting EMD and other dues, if any payable against that contract. In case contract is terminated railway shall be entitled to forfeit Earnest Money Deposit and other dues payable against that contract. In case a tenderer has not submitted Earnest Money Deposit on the strength of their registration as a Startup recognized by Department of Industrial Policy and Promotion (DIPP) under Ministry of Commerce and Industry, DIPP shall be informed to this effect.</p> <p>(a) The failed contractor shall be debarred from participating in re-tender for that work.</p> <p>(b) The successful bidder shall submit the performance Guarantee (PG) in any of the following forms, amounting to 3% of the contract value (For all the tenders issued till 31.12.2021).</p> <ul style="list-style-type: none"> <li>(i) A deposit of cash;</li> <li>(ii) Irrevocable Bank Guarantee;</li> </ul>

- (iii) Government Securities including State Loan Bonds at 5% below the market value;
- (iv) Deposit Receipts, pay orders, Demand Drafts and Guarantee Bonds.  
These forms of performance Guarantee could be either of the State Bank of India or of any of the Nationalized Banks;
- (v) Guarantee Bonds executed of deposits receipts tendered by all scheduled Banks;
- (vi) A Deposit in the post office saving Bank;
- (vii) A Deposit in the National savings Certificates;
- (viii) Twelve years National Defence Certificates;
- (ix) Ten years Defence Deposits;
- (x) National Defence bonds and
- (xi) Unit trust certificates at 5% below market value or at the face value whichever is less. And
- (xii) FDR (free from any encumbrance).

**Note:-** The instruments as listed above will also be acceptable for Guarantees in case of mobilization advance. All the instruments mentioned in (i) to (xii) above should be in favour of FA & CAO/NR/ Delhi.

- (c) A Performance Guarantee shall be submitted by the successful Bidder after the letter of acceptance has been issued, but before signing of the agreement. This PG shall be initially valid up to the stipulated date of completion plus 60 (Sixty) days beyond that. In case, the time of completion of work gets extended, the contractor shall get the validity of Performance Guarantee extended up to extended time for completion of work plus 60 (Sixty) days beyond it.
  - i. If Railway PSUs are awarded contracts through competitive bidding (Open Tender, Special Limited Tender etc.,) the normal rule regarding submission of Performance Guarantee as applicable to other tenderer/s. shall be applicable to these PSUs.
  - ii. Wherever the Railway PSUs are awarded works contracts by Railways, on Single Tender basis, they are exempted from the requirement of submitting Performance Guarantee.
  - iii. However, in the event of failure of the Railway PSU to successfully execute the contract as per terms and conditions laid down in the Agreement, a penalty equivalent to 5% (Five Percent) of the Original value of contract would be levied.
- (d) The value of PG to be submitted by the contractor will not change for variation upto 25% (either increase or decrease)

In case during the course of execution, value of the contract increases by more than 25% of the original contract value, an additional Performance Guarantee amounting to 3% (Three percent) for the excess value over the original contract value shall be deposited by the contractor.

On the other hand, if the value of Contract decreases by more than 25% of the original contract value, Performance Guarantee amounting to 3% (Three percent) of the decrease in the contract value shall be returned to the contractor. The PG amount in excess of required PG for decrease contract value, available with Railways, shall be returned to contractor as per their request duly safeguarding the interest of Railways.

- (e) The Performance Guarantee (PG) shall be released after the Physical completion of the work based on the “Completion Certificate” issued by the competent authority stating that the Contractor has completed the work in all respects satisfactorily. The competent authority shall normally be the authority who is competent to sign this contract. If the competent authority is of the rank lower than JA Grade, then a JA Grade Officer (concerned with the work) should issue certificate. The security deposit shall, however, be released only after expiry of the maintenance period and after passing the final bill based on ‘No claim certificate’ from the contractor.
- (f) Whenever the contract is rescinded, the security deposit shall be forfeited and the Performance Guarantee shall be encashed and the balance work shall be got done independently without Risk and Cost of the failed contractor. The failed contractor shall be debarred from participating in the tender for executing the balance work. If the failed contractor is a JV or a Partnership Firm, then every member/Partner of such a firm shall be debarred from participating in the tender for the balance work in his/ her individual capacity or as a partner of any other JV/Partnership firm.
- (g) The Engineer shall not make a Claim under the Performance Guarantee except for amount to which the President of India is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
  - (i) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above in which event the Engineer may claim the full amount of the Performance Guarantee.
  - (ii) Failure by the contractor to pay President of India any amount due, either as agreed by the Contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer.
  - (iii) The Contract being determined or rescinded under provision of the GCC clause 62.

5.3	<p>Whenever the Railways PSUs are awarded works contracts by Railways, on single tender basis, they are exempted from the requirements of submitting performance guarantee.</p> <p>However, in the event of failure of the Railway PSU to successfully execute the contract as per terms and conditions laid down in the agreement, a penalty equivalent to 5% of the original value of contract would be levied.</p> <p>If Railway PSUs are awarded contract through competitive bidding (open tender, special limited tender etc.) the normal rules regarding submission performance bank guarantee as applicable to other tenderer/s shall be applicable to these PSUs.</p>
6.0	<b><u>CONDITIONS OF CONTRACT AND SPECIFICATIONS</u></b>
6.1	<p>Except where specifically stated otherwise in the tender documents the work is to be carried out in accordance with <b>Indian Railways Standard General Conditions of Contract, July 2020</b> as amended time to time up to date of inviting tender.</p> <p><b>Note:- The above publications are available on <a href="http://www.indianrailway.gov.in">www.indianrailway.gov.in</a>.</b></p>
6.2	<p><b>Order of Precedence of Documents:</b> In a tender/contract, in case of any difference, contradiction, discrepancy, with regard to Conditions of tender/contract, Specifications, Drawings, Bill of quantities etc., forming part of the tender/contract, the following shall be the order of precedence:</p> <ol style="list-style-type: none"> <li>i. Letter of Award</li> <li>ii. Schedule of Items, Rates &amp; Quantities</li> <li>iii. Special Conditions of Contract</li> <li>iv. Technical Specifications as given in tender documents</li> <li>v. Drawings</li> <li>vi. Indian Railways Standard General Conditions of Contract updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.</li> <li>vii. IR Specifications/Guidelines updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents, if applicable.</li> <li>viii. Relevant B.I.S. Codes updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents, if applicable.</li> </ol>

7.0	<b><u>STUDY OF DRAWINGS AND LOCAL CONDITIONS</u></b>  As per GCC																								
8.0	<b><u>PERIOD OF COMPLETION</u></b> - 24 Months																								
8.1	<b><u>TIMELINE/MILESTONES:</u></b>  Following timeline/milestone shall be generally adhered to for the conversion work; <table><tr><th>Sl No.</th><th>Work Details</th><th>Cumulative Timeline (within)</th></tr><tr><td>1.</td><td>Submission of drawings for approval by bidder</td><td>LOA*+2 months</td></tr><tr><td>2.</td><td>Approval of drawings by Railway/RDSO</td><td>LOA + 4 months</td></tr><tr><td>3.</td><td>Handing over DPC</td><td>LOA + 9 months</td></tr><tr><td>4.</td><td>Supply of Fuel Cell retrofitment kit &amp; Completion of fabrication/modification work on DPC</td><td>LOA + 14 months</td></tr><tr><td>5.</td><td>Complete installation of equipments/ components</td><td>LOA +17 months</td></tr><tr><td>6.</td><td>Completion of Joint Load Box Testing</td><td>LOA +18 months</td></tr><tr><td>7.</td><td>Field trials#</td><td>LOA +24 months</td></tr></table> *Date of issue of LOA (Letter of Acceptance) # Field Trials will be either for 6 months or 50,000km which ever is later. NOTE:- While installing the system on DPC, the contractor shall ensure that no part/system of the DPC gets damaged due to provision/operation of dual fuel conversion kit. Contractor shall be liable to repair any such damage to the DPC, as directed by Engineer's representative within the delivery schedule of the contract on his own cost. Any dispute will be referred to the office of CAO/IROAF	Sl No.	Work Details	Cumulative Timeline (within)	1.	Submission of drawings for approval by bidder	LOA*+2 months	2.	Approval of drawings by Railway/RDSO	LOA + 4 months	3.	Handing over DPC	LOA + 9 months	4.	Supply of Fuel Cell retrofitment kit & Completion of fabrication/modification work on DPC	LOA + 14 months	5.	Complete installation of equipments/ components	LOA +17 months	6.	Completion of Joint Load Box Testing	LOA +18 months	7.	Field trials#	LOA +24 months
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8.2	The entire work is required to be completed in all respects within 24 months from the date of issue of LOA. Time is the essence of contract. The contractor/s will be required to maintain speedy and required progress to the satisfactions of the Engineer to ensure that the work will be completed in all respects within the stipulated period failing which action may be taken by the Railway Administration in terms of Clause 17 and/or Clause 62 of the Indian Railways Standard General Conditions of Contract, July, 2020 as amended time to time upto date of inviting tender.																								
8.3	The contractor(s) shall arrange to execute the different items of works in close consultation with and as per directions of the Engineer so that other works being executed in the same area either departmentally or through another agency are also progressed concurrently. It may be noted, however, that any delay in the execution of departmental works, for whatsoever reason shall not be accepted as an excuse for non-performance of the contract.																								
8.4	The contractor(s) will be required to give IROAF a monthly progress report of the work done during the month on 4 <sup>th</sup> of the following month. He will also give to the IROAF the programme of work to be done in coming month by 25 <sup>th</sup> of the preceding month. The programme will be subject to alteration or modifications at the direction of the CAO/IROAF or CME/BD/IROAF or Dy. CME/IROAF, who may discuss such modifications or alterations with the contractor as considered necessary. Approval of any programme shall not in any way relieve the contractor from any of his obligations to complete the whole of the work by the prescribed time or extended time, if any.																								
9.0	<b><u>RATES FOR PAYMENT</u></b>																								
9.1	The rates given in the attached schedule of rates ( <b>Annexure -3</b> )tendered by the contractor and as accepted by the Railways will form the basis of payment for such items under this contract.																								

9.2	No material price variation or wages escalation on any account whatsoever including the Compensation for 'Force Majeure' etc. shall be payable under this contract. Further, price escalation clause is not applicable to this tender.																								
9.3	The rates for any item of work not included in the (Schedule of Items, Rates and Quantities) and which the contractor may be called upon to do by Railway Administration shall be fixed by the supplementary written agreement between the contractor and the Railway before the particular item or items of work is/are executed. In the event of such agreement not being entered into and executed, the Railway may execute these works by making alternative arrangements. Railways will not be responsible for any loss or damages on this account.																								
9.3.1	The contractor shall work in close co-operation with local authorities and contractors & departmental staff working in adjacent section of Railways.																								
9.4	It should be specifically noted by the tenderers that no separate loading, unloading and leading charges for materials (which are supplied by the Railway) shall be paid for by the Railways and the rates quoted by the tenderer(s) shall be inclusive of all these charges.																								
9.5	<b>Not applicable</b>																								
9.6	<b>Not Applicable</b>																								
9.7	Payment for the work done will be made to the contractor only when the formal agreement has been executed between the parties.																								
9.8	<p>PAYMENT TERMS:</p> <p>Stage-wise payment schedule shall be as under:</p> <table><tr><th>SL. NO.</th><th>WORK SCHEDULE`</th><th>PAYMENT</th></tr><tr><td>A.</td><td colspan="2"><b>ON BOARD DEMU ROLLING STOCK</b></td></tr><tr><td>A1</td><td>Supply of Fuel Cell powered retrofitment kit for DEMU.</td><td>70% (Seventy Percent) as to unit total cost. (Based on inspection by Engineer or his representative &amp; receipt of material by the consignee and submission of valid documents)</td></tr><tr><td>A2</td><td>After Fitment/ Installation, commissioning and system integration of complete fuel cell powered system on DEMUs and static Load Box testing.</td><td>15% (Fifteen percent) as to unit total cost (On certification by the Engineer or his representative)</td></tr><tr><td>A3</td><td>After successful completion of field trial and issue of certificate to this effect by Railways.</td><td>Balance 15% (Fifteen percent) as to unit total cost</td></tr><tr><td>B</td><td colspan="2"><b>STATIONARY (ON GROUND) FUELLING ARRANGEMENT</b></td></tr><tr><td>B1</td><td>Supply of Fuelling Arrangement</td><td>70%</td></tr><tr><td>B2</td><td>Installation, commissioning, inspection and third Party safety Audit certification</td><td>15%</td></tr></table>	SL. NO.	WORK SCHEDULE`	PAYMENT	A.	<b>ON BOARD DEMU ROLLING STOCK</b>		A1	Supply of Fuel Cell powered retrofitment kit for DEMU.	70% (Seventy Percent) as to unit total cost. (Based on inspection by Engineer or his representative & receipt of material by the consignee and submission of valid documents)	A2	After Fitment/ Installation, commissioning and system integration of complete fuel cell powered system on DEMUs and static Load Box testing.	15% (Fifteen percent) as to unit total cost (On certification by the Engineer or his representative)	A3	After successful completion of field trial and issue of certificate to this effect by Railways.	Balance 15% (Fifteen percent) as to unit total cost	B	<b>STATIONARY (ON GROUND) FUELLING ARRANGEMENT</b>		B1	Supply of Fuelling Arrangement	70%	B2	Installation, commissioning, inspection and third Party safety Audit certification	15%
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	B3	On commencement of Hydrogen Fuel Cell supply in DEMU	15%
	C	H <sub>2</sub> Fuel Payments	Based on Actuals as per consumption on quarterly basis.
	<p>All payments in respect of the contract during the currency of the contract shall be made through National electronic Fund transfer (NEFT) or Real Time Gross Saving (RTGS). The successful tenderer on award of contract must submit RTGS/NEFT Mandate Form complete in all respects as detailed at <b>Annexure-J</b>. However, if the facility of RTGS/NEFT is not available at a particular location, the payment shall be made by Cheque. In such case the successful tenderer on award of contract will have to furnish contractor's Bank Account Number and Name of the Bank against which all payments in respect of the contract during the currency of contract shall be made.</p> <p><b>Note:</b></p> <p>Documents required before releasing payments:</p> <ul style="list-style-type: none"> <li>(i) Payment will be made after approval of BOM by IROAF/RDSO, as per RDSO Specification No. R2/347/Fuel Cell-1.</li> <li>(ii) Proof of receipt of material i.e. Receipted Challan duly signed by a nominated Gazetted Officer.</li> <li>(iii) Works Test Certificate</li> <li>(iv) One (1) original &amp; three (3) copies of Contractor's invoice.</li> <li>(v) Contractor's certificate that the materials in the invoice are for full rake set.</li> <li>(vi) Contractor's certificate that the amounts claimed in the invoice are correct in terms of the contract.</li> </ul>		
9.9	Not Applicable		
9.10	Not Applicable		
9.11	<p>Final payment of the balance amount due, exclusive of the security deposit required in terms of Clause-5 of these special conditions, will be made after the completion of the entire work and on the certification of the Engineer that work has been completed in all respects and found satisfactory.</p> <p>The security deposit will be refunded after the date of completion according to Clause 5.1 of these conditions.</p>		
9.12 (a)	<p><b>Final SUPPLEMENTARY AGREEMENT</b></p> <p>After the work is completed or otherwise concluded by the parties with mutual consent, and takenover by the Railway as per terms and conditions of the contract agreement, and there is unequivocal no claim on either side under the contract, other than as mentioned in item 4 of <b>Annexure-B</b>, the parties shall execute the final supplementary agreement as per <b>Annexure-B</b>.</p>		
9.12 (b)	DELETED		
9.13	<b><u>Measures to be taken in construction and repairs on roads, embankments, etc.</u></b> - Not Applicable		
10.0	<p><b><u>SETTING OUT WORKS</u></b></p> <p>As per GCC</p>		
11.0	<p><b><u>DRAWINGS FOR WORKS:</u></b></p> <p>As per GCC</p>		
12.0	<b><u>SUPPLY OF MATERIALS BY THE RAILWAYS</u></b>		



	As per GCC						
12.1	<b><u>SUPPLY OF CEMENT AND STEEL BY THE RAILWAYS</u></b>  <b><u>N/A</u></b>						
13.0	<b><u>SUPPLY OF MATERIALS BY THE CONTRACTOR/S</u></b>  <b><u>N/A</u></b>						
14.0	<b><u>SERVICE ROADS</u></b>  <b><u>N/A</u></b>						
15.0	<b><u>EMERGENCY WORK</u></b>  As per GCC						
16.0	<b><u>NIGHT WORK</u></b>  As per GCC						
17.0	<b><u>DISPOSAL OF SURPLUS EXCAVATED MATERIALS</u></b>  As per GCC						
18.0	<b><u>SITE INSPECTION REGISTER</u></b>						
19.0	<b><u>N/A</u></b>						
20.0	<b><u>OPENING UP OF WORK OR MATERIALS FOR INSPECTION OR TEST:</u></b>  As per GCC						
21.0	<b>GENERAL</b>						
21.1	<b><u>PROVISION OF LIGHT SIGNALS ETC.</u></b>  As per GCC						
21.3	<b><u>LABOUR CAMPS</u></b>  As per GCC						
22.0	<b>Levy of Token Penalty</b>						
22.1	<p>Extension of Time with Liquidated Damages (LD) for delay due to Contractor (Clause 17-B of GCC):</p> <p>(i) With liquidated Damage (LD): The time for the execution of the work or part of the works specified in the contract documents shall be deemed to be the essence of the contract and the works must be completed not later than the date(s) as specified in the contract. If the Contractor fails to complete the works within the time as specified in the contract for the reasons other than the reasons specified in Clause 17 and 17-A, the Railway may, if satisfied that the works can be completed by the Contractor within reasonable short time thereafter, allow the Contractor for further extension of time (Proforma at <b>Annexure-VII</b>) as the Engineer may decide. On such extension the Railway will be entitled without prejudice to any other right and remedy available on that behalf, to recover from the Contractor as agreed damages and not by way of penalty for each week or part of the week, a sum calculated at the following rates of the contract value of the works.</p> <p>For the purpose of this Clause, the contract value of the works shall be taken as value of work as per contract agreement including any supplementary work order/contract agreement issued. Provided also, that the total amount of liquidated damages under this condition shall not exceed 5% of the contract value or of the total value of the item or groups of items of work for which a separate distinct completion period is specified in the contract.</p> <table><tr><th>S.No.</th><th>Duration of extension of time under Clause 17-B</th><th>Rate of Liquidated damages</th></tr><tr><td>(i)</td><td>Up to Twenty percent of original period of completion including period of extension of DOC granted under Section 17A(i)</td><td>As decided by Engineer, between 0.01% to 0.10% of contract value for each</td></tr></table>	S.No.	Duration of extension of time under Clause 17-B	Rate of Liquidated damages	(i)	Up to Twenty percent of original period of completion including period of extension of DOC granted under Section 17A(i)	As decided by Engineer, between 0.01% to 0.10% of contract value for each
S.No.	Duration of extension of time under Clause 17-B	Rate of Liquidated damages					
(i)	Up to Twenty percent of original period of completion including period of extension of DOC granted under Section 17A(i)	As decided by Engineer, between 0.01% to 0.10% of contract value for each					

		week or part of the week
(ii)	Above Twenty percent but upto Thirty percent of original period of completion including period of extension of DOC granted under Section 17A(i)	0.20% of contract value for each week or part of the week
(iii)	Above Thirty percent but upto Forty percent of original period of completion including period of extension of DOC granted under Section 17A(i)	0.30% of contract value for each week or part of the week
(iv)	Above Forty percent of original period of completion including period of extension of DOC granted under Section 17A(i)	0.50% of contract value for each week or part of the week

Provided further, that if the Railway is not satisfied that the works can be completed by the Contractor and in the event of failure on the part of the contractor to complete the work within further extension of time allowed as aforesaid, the Railway shall be entitled without prejudice to any other right or remedy available in that behalf, to appropriate the contractor's Security Deposit and rescind the contract under Clause 62 of these Conditions, whether or not actual damage is caused by such default.

(iii) **Bonus for Early Completion of Work (Clause 17-C of GCC):** In case of open tenders having value more than Rs 20 crore and original period of completion be 12 months or more, when there is no reduction in original scope of work by more than 10%, and no extension granted on either railway or Contractor's account, Contractor shall be entitled for a bonus of 1% for each 30 days early completion of work. The period of less than 30 days shall be ignored while working out bonus. The maximum bonus shall be limited to 3% of original contract value. The completion date shall be reckoned as the date of issuance of completion certificate by engineer.

23.0	**TAXES.**	
23.1	The contract shall be governed by the Taxes applicable at the place of actual execution of work.	
23.2	Taxes on works contract, octroi, royalty, toll tax, local tax on materials as well as services and any other tax levied by Central Govt /State Govt. or local bodies shall be borne by the tenderer. No part of such taxes on contractor's labour/material or any other account will be paid by the Railways. Therefore, the contractor must ascertain the various taxes levied by the concerned Govt or local bodies at the place of execution of work and take into account for the same while quoting the rates. This should be kept in view before tendering.  Note:  (i) Works contracts shall be treated as supply of services as per Schedule –II GST Act.  (ii) GST Act and Rules issued from time to time by the Government/ concerned authorities shall be applicable.  (iii) The successful Contractor/ suppliers/ service providers/ parties immediately after the award of tender shall register their firms under GSTIN (GST Identification Number) and shall submit the same immediately after award of contract, without which no payment shall be released to the Contractor. The Contractor shall be responsible for deposition of applicable GST to the concerned authority.	

23.3	<p>However, if rates of existing taxes/duties/levies/cess etc. for Works Contract is increased or any new tax/cess on Works contract is imposed by Statute after the bid due date by the bidder but within the original date of completion/date of completion extended under Clause 17 &amp; 17A of GCC-2020 and the Contractor thereupon properly pays such taxes/cess, the contractor shall be reimbursed the amount so paid in lieu of increased/new tax or cess.</p> <p>Further, if rates of existing taxes/duties/levies/cess etc. for Works Contract is decreased or any tax/cess on Works contract is decreased/removed by Statute after the bid due date by the bidder but within original date of completion/date of completion extended under clause 17 &amp; 17A of GCC-2020 the reduction in tax amount shall be recovered from Contractor's bills/Security Deposit or any other dues of contractor with the Government of India.</p>
23.4	<p>Railways will deduct the taxes specified by the concerned Central Govt/State Govt/Local bodies if required to be deducted at source under the relevant laws as applicable on the date of making the payment. Railway will issue a certificate regarding tax so deducted. It will be responsibility of the contractor to make further correspondence with concerned Govt or local bodies to ensure full deposition of the tax or for claiming a refund, if due, as is done in case of income tax.</p>
23.5	<p>In case any tax is notified to be deducted at source from a specified date and certain payments have already been made in the period that lapsed between the date of applicability of tax and the actual date of implementation of the same, tax required to be deducted at source for this period will be recovered from the subsequent payment.</p>
23.6	Not Applicable

23.7	<p>(i) Contractor is to abide by the provisions of various labour laws in terms of clause 54,55,55-A and 55- B of Indian Railways Standard General Condition of Contract. In order to ensure the same, an application has been developed and hosted on website ‘www.shramikkalyan.indianrailways.gov.in’. Contractor shall register his firm/company etc. and upload requisite details of labour and their payment in this portal. These details shall be available in public domain. The Registration/ updation of Portal shall be done as under:</p> <p>(a) Contractor shall apply for onetime registration of his company/firm etc. in the Shramikkalyan portal with requisite details subsequent to issue of Letter of Acceptance. Engineer shall approve the contractor’s registration on the portal within 7 days of receipt of such request.</p> <p>(b) Contractor once approved by any Engineer, can create password with login ID (PAN No.) for subsequent use of portal for all Letter of Acceptances issued in his favour.</p> <p>(c) The contractor once registered on the portal, shall provide details of his Letter of Acceptances (LOA) / Contract Agreements on shramikkalyan portal within 15 days of issue of any LOA for approval of concerned engineer. Engineer shall update (if required) and approve the details of LOA filled by contractor within 7 days of receipt of such request.</p> <p>(d) After approval of LOA by Engineer, contractor shall fill the salient details of contract labours engaged in the contract and ensure updating of each wage payment to them on shramikkalyan portal on monthly basis.</p> <p>(e) It shall be mandatory upon the contractor to ensure correct and prompt uploading of all salient details of engaged contractual labour&amp; payments made thereof after each wage period.</p> <p>(ii) While processing payment of any ‘On Account bill’ or ‘Final bill’ or release of ‘Advances’ or ‘Performance Guarantee / Security deposit’, contractor shall submit a certificate to the Engineer or Engineer’s representatives that “I have uploaded the correct details of contract labours engaged in connection with this contract and payments made to them during the wage period in Railway’s Shramikkalyan portal at www.shramikkalyan.indianrailways.gov.in’ till _Month,_Year.”</p>
24.0	<p>All payments in respect of the contract during the currency of the contract shall be made through National electronic Fund transfer (NEFT) or Real Time Gross Saving (RTGS). The successful tenderer on award of contract must submit RTGS/NEFT Mandate Form complete in all respects as detailed at <b>Annexure-J</b>. However, if the facility of RTGS/NEFT is not available at a particular location, the payment shall be made by Cheque. In such case the successful tenderer on award of contract will have to furnish contractor’s Bank Account Number and Name of the Bank against which all payments in respect of the contract during the currency of contract shall be made.</p>
25.0	<p>Damage to the Railway Property:</p> <p>(As per GCC)</p>

26.0	Master copy of the tender document will be available in the office of IROAF. After award of work, an agreement will be drawn up. The agreement shall be prepared based on the master copy available in the office of IROAF and not based on the tender documents submitted by the tenderer. In case of any discrepancy between the tender documents and the master copy, later shall prevail and will be binding on the tenderers. No claim on this account will be entertained.
27.0	<b>DELETED</b>
28.0	<p><b>Maintenance Period :</b></p> <p>The contractor will have to maintain the work for a period of 24 months from the date of completion of work (i.e. date of commissioning of DPC) as certified by Engineer-in-charge of the work.</p>
29.0	<b>Price Variation Clause :- Not Applicable</b>
30.0	<b>Mobilization Advance:</b>
30.1	The tender / contractor may be granted a recoverable interest bearing mobilisation advance up to 10% of the contract value. The rate of interest for mobilization advance will be 10% for FY-2020-21.
30.2	The advance will be granted in two installments viz. 5% of the contract value on signing of the contract agreement and the balance 5% on mobilisation of site establishment, setting up of offices, bringing in equipment and actual commissioning of work. Each installment will be released on submission of an irrecoverable guarantee (Bank Guarantee, FDRs, KVPs/NSCs) of at least 110% of the value of the sanctioned amount. The Bank Guarantee shall be from a Nationalized Bank in India in a form acceptable to the railway. These two guarantees (Bank Guarantee, FDRs, KVPs/NSCs) shall be returned as and when the value of the advance plus interest is recovered from the running bill. However, second/subsequent installments of mobilization advance shall be granted only after obtaining a certificate from contractor along with documentary proof of successful satisfactory utilization of previous installment of mobilization advance.
30.3	The recovery of advance and interest thereon will be made through the on account bills on pro rata basis, commencing when the value of the work executed under the contract reaches 15% of the contract value, and completed when the value of the work executed under the contract reaches 85% of the contract value or the assessed value of work whichever is less.
30.4	<p>Interest will be recovered on the advance outstanding for the period commencing from the date of payment of advance till date of particular on account bill (through which recovery of principle is effected) and adjusted fully against such on account bills along with pro rata principle recovery. The rate of interest will be applicable as circulated by Railway Board &amp; shall be, as effective on the date of approval of payment of Mobilisation Advance by the Competent Authority .</p> <p>The interest rate on Mobilisation Advance as per clause-30 above shall also be applicable to other advance extended by Railways to contractors as per extant rules and instructions.</p> <p>Note: The various Instruments as listed for Performance Guarantee (Clause 5.2) will also be acceptable for Mobilization Advance.</p>
30.5	The Railway Board ACS no 56 to para1264 of IR code for Engineering Department (Third Print) 1999 will be applicable for various advances as mentioned therein.
31.0	System of Measure of work by contractors in works contract (Not Applicable)
32.0	‘Letter of Credit’ as Mode of Payment
32.1	In the subject tender, the contractor shall have the option to take payment from Railways through a letter of credit (LC) arrangement.
32.2	This option of taking payment through LC arrangement has to be exercised in IREPS (Indian Railway Electronic Procurement System- the E-application on which tenders are called by Railways) by the tenderer at the time of bidding itself, and the tenderer shall affirm having read over and agreed to the terms and conditions of the LC option.

32.3	The option so exercised, shall be an integral part of the bidder's offer.
32.4	The above option of taking payment through LC arrangement, once exercised by tenderer at the time of bidding, shall be final and no change shall be permitted, thereafter, during execution of contract.
32.5	<p>In case tenderer opts for payment through LC, following shall be the procedure to deal release of payment through LC:</p> <ul style="list-style-type: none"> <li>(a) The LC shall be a sight LC.</li> <li>(b) The contractor shall select his Advising/Negotiating bank for LC. The incidental cost towards issue of LC and its operation thereof shall be borne by the contractor.</li> <li>(c) SBI, New Delhi, Main Branch will be the nodal branch for issue of LCs based on online requests received from Railway Accounts Units. SBI branches where the respective Railway Accounts Office has its Account (local SBI branch) will be the issuance/reimbursing branch for LC issued under this arrangement. The Bank shall remain same for this tender till completion of contract. The incidental cost @ 0.15% (or as revised from time to time) per annum of LC value, towards issue of LC. and operation thereof shall be borne by the contractor and shall be recovered from his bills.</li> <li>(d) The LC shall be opened initially for duration of 180 to 365 days in consultation with contractor. The LC shall be extended time to time as per the progress of the contract, on the request of the contractor. The value of LC to be opened initially as well as extended thereafter shall be finalized by the engineer in consultation with the contractor on the basis of expected progress of work.</li> <li>(e) The LC terms and conditions shall inter-alia indemnify and save harmless the Railway from and against all losses, claims and demands of every nature and description brought or recovered against the Railways by reason of any act or omission of the contractor, his agents or employees, in relation to the Letter of Credit (LC). All sums payable/borne by Railways on this account shall be considered as reasonable compensation and paid by contractor.</li> <li>(f) The LC terms and conditions shall inter-alia provide that Railways will issue a Document of Authorisation (format enclosed as <b>Annexure P-2</b>) after passing the bill for completed work, to enable contractor to claim the authorized amount from their bank.</li> <li>(g) The acceptable, agreed upon document for payments to be released under the LC shall be the Document of Authorisation.</li> <li>(h) The Document of Authorisation shall be issued by Railway Accounts Office against each bill passed by Railways.</li> <li>(i) On issuance of Document of Authorisation, a copy of Document of Authorisation shall be posted on IREPS for download by the contractor. A digitally signed copy of Document of Authorisation shall also be sent by Railway Accounts Office to Railway's bank (Local SBI Branch).</li> <li>(j) The contractor shall take print out of the Document of Authorisation available on IREPS and present his claim to his bank (advising Bank) for necessary payments as per LC terms and conditions. The claim shall comprise of copy of Document of Authorisation, Bill of Exchange and Bill.</li> <li>(k) The payment against LC shall be subject to verification from Railway's Bank (Local SBI Branch).</li> <li>(l) The contractor's bank (advising bank) shall submit the documents to the Railway's Bank (Local SBI Branch).</li> <li>(m) The railway's bank (issuing bank) shall, after verifying the claim so received w.r.t. the digitally signed Document of Authorisation received from Railway Accounts Office, release the payment to contractor's bank (advising bank) for crediting the same to contractor's account.</li> <li>(n) Any number of bills can be dealt within one LC, provided the sum total of payments to</li> </ul>

	<p>contractor is within the amount for which LC has been opened.</p> <p>(o) The LC shall be closed after the release of final payment including PVC amount, If any, to the contractor.</p> <p>The release of performance guarantee or security deposit shall be dealt directly by railway with the contractor i.e. not through LC.</p>
32.6	For opening of LC, executive department shall make a request letter to concerned Accounts Department on a format, placed as <b>Annexure-P-1</b> .
33.0	<p><b>WARRANTY</b></p> <p>(i) The bidder shall warrant that every equipment supplied is free from defects and faults in design, material, workmanship and manufacture and shall be of highest grade and consistent with the established and generally accepted standards for goods of the type ordered. The bidder shall provide Comprehensive warranty of 24 months from the date of commissioning of the DEMU rakes.</p> <p>(ii) Service Engineering: The Contractor shall provide service engineering in DEMU car sheds, India or wherever the DEMU rakes shall be maintained, with round the clock availability of qualified engineers at the nominated DEMU car shed for first 2 (two) years from the date of commissioning of DEMU rakes and with all the spares, tools and instruments necessary to attend any defects.</p>
34.0	<p><b>TRAINING OF IR PERSONNEL</b></p> <p>The contractor shall arrange the training in design, maintenance and operation for personnel of Indian Railways for minimum 250 working man days .The training should be conducted in Maintenance Depots/nominated sites in India, in metro cities.</p> <p>The training shall cover the equipment under the scope of supply of contractor and shall be broadly for the following areas:</p> <ul style="list-style-type: none"> <li>• Refueling of Hydrogen Fuel Cells including all safety aspects of Hydrogen Handling.</li> <li>• Project logistics, procurement, information on Sources / Makes.</li> <li>• Operation of the various equipments supplied under the contract.</li> <li>• Maintenance, repairing, trouble shooting, testing and programming of various equipment &amp; accessories.</li> <li>• Preventive maintenance practice of various machineries&amp; equipment.</li> <li>• Exposure to card level maintenance with hands-on experience with the help of source code.</li> </ul> <p>Boarding, lodging and travel expenses will be borne by Railways. However no payment will be made by Railways for training material or for honorarium to faculties.</p>

35.0	<p><b>CAMC (Comprehensive Annual Maintenance Contract)</b></p> <p>(i) A Separate Agreement shall be entered into by the nominated Zonal Railway for CAMC, for a period of 3 years. This agreement shall be entered into between the successful bidder &amp; the nominated Zonal Railway well before expiry of the warranty period.</p> <p>(ii) <b>Penalty Clause:</b> Penalty shall be levied on the tenderer for maintaining DEMU up time below the limit of 90% calculated on working days basis, after discounting for preventive maintenance period. Penalty shall be calculated as %age of quarterly payment defined below and will be deducted from the respective quarterly payments. Penalty calculation will be done over quarterly payment period.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <th style="width: 10%;">S.No</th> <th style="width: 30%;">Availability Slab</th> <th style="width: 60%;">Applicable Penalty</th> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">90% to 80%</td> <td>0.5% of the CAMC charges for every 1% (or part there of) reduction in availability of system below 90%.</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">Below 80%</td> <td>1% of the CAMC charges for every 1% (or part there of) reduction in availability of system below 80%.</td> </tr> </table> <p>(iii) A Bank Guarantee equal to <math>\frac{1}{4}</math> of annual value of CAMC will be submitted by the tenderer to the consignee 90 days before the expiry of warranty. This BG will have the validity of 3 years 6 months. The bidder can submit multiple BG for lesser duration to cover the period of 3 year 6 months ensuring the uninterrupted validity of the CAMC BG for 3 year 6 months. The CAMC BG will be returned on completion of CAMC period. In case, the tenderer fails to provide CAMC services successfully, the CAMC BG will be forfeited. This will be in addition to penalty as per clause 35(ii) above.</p> <p>(iv) DEMU up time of less than 60% for two consecutive quarters will constitute complete failure of tenderer to provide the CAMC services successfully and will result in forfeiture of CAMC BG, besides other action like noting adverse performance of the bidder and/or agent for future tenders and their offer in the subsequent tenders will not be considered for placement of any order. This will be in addition to penalty clause 35(ii) above for the period of actual performance.</p>	S.No	Availability Slab	Applicable Penalty	1	90% to 80%	0.5% of the CAMC charges for every 1% (or part there of) reduction in availability of system below 90%.	2	Below 80%	1% of the CAMC charges for every 1% (or part there of) reduction in availability of system below 80%.
S.No	Availability Slab	Applicable Penalty								
1	90% to 80%	0.5% of the CAMC charges for every 1% (or part there of) reduction in availability of system below 90%.								
2	Below 80%	1% of the CAMC charges for every 1% (or part there of) reduction in availability of system below 80%.								
36.0	<p>In case of any legal dispute, Jurisdiction of Courts in Delhi/New Delhi area only shall be applicable.</p> <p style="text-align: right; margin-right: 100px;"><b>Dy. Chief Mechanical Engineer/IROAF</b></p> <p><b>Signature of the Tenderer/s</b></p> <p><b>Address</b>_____</p>									



**Name of the Bank: -----**

President of India,  
 Acting through FA & CAO/NR,  
 Baroda House, Delhi

**Bank Guarantee Bond No.:****Date:-----****PERFORMANCE GUARANTEE BOND**

In consideration of the President of India acting through (Designation & address of Contract Signing Authority), IROAF, ....., Delhi (hereinafter called "The Government") having agreed under the terms and conditions of agreement/Contract Acceptance letter No.-----

-----dt. .... made between.....

(Designation & address of contract signing Authority) and ..... (here in after called "the said contractor(s)" for the work..... (here in after called "the said agreement")

having agreed for submission of a irrevocable Bank Guarantee Bond for Rs.....only as a performance security Guarantee Bond from the contractor (s) for compliance of his/their obligations in accordance with the terms & conditions in the said agreement.

1. We.....( indicate the name of the Bank) hereinafter referred to as the Bank, undertake to pay to the Government an amount not exceeding Rs.....only on demand by the Government.
2. We.....( indicate the name of the bank, further agree that ( and promise) to pay the amounts due and payable under this guarantee without any demur merely on a demand from the Government through the FA & CAO, NR, Baroda House Delhi- 110001, stating that the amount claimed is due by way of loss or damage caused to or would be caused or suffered by the Government by reason of any breach by the said contractor of any of the terms of conditions contained in the said agreement or by reason of the contractor failure to perform the said agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs..... ( Rupees Only).
- 3.(a) We.....( indicate the name of Bank ) further undertake to pay to the Government any money so demanded notwithstanding any dispute or dispute raised by the contractor(s) in any suite or proceeding pending before any court or Tribunal relating to liability under this present being absolute and unequivocal.
  - (b) The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the contractor(s) shall have no claim against us for making such payment.
4. We,..... (indicate the name of bank) to further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged by ..... (Designation & Address of contact signing authority) on behalf of the Government, certify that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee.
- 5.(a) Notwithstanding anything to the contrary contained herein the liability of the bank under this guarantee will remain in force and effect until such time as this guarantee is discharged in writing by the Government or until (date of validity/ extended validity) whichever is earlier and no claim shall be valid under this guarantee unless notice in writing thereof is given by the Government within validity/ extended period of validity of guarantee from the date aforesaid.
  - (b) Provided always that we..... (indicate the name of the Bank) unconditionally undertakes to renew this guarantee on to extend the period of guarantee from year to year before the expiry of the period or the extended period of the guarantee, as the case may be on being called upon to do so by the Government. If the guarantee is not renewed or the period not extended on demand, we..... (indicate the name of the Bank) shall pay the Government

the full amount of guarantee on demand and without demur.

6. We, ..... (indicate the name of Bank) further agree with the Government that the Government shall have the fullest liberty without our consent and without effecting in any manner out of obligations hereunder to vary any of the terms and conditions of the said contract from time to time or to postpone for any time or from time to time any to the powers exercisable by the Government against the said contractor (s) and to forbear or enforce any of the terms and conditions of the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractor(s) or for any bearance act or omission on the part of the Government or any indulgence by the Government to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties for the said reservation would relive us from the liability.
7. This guarantee will not be discharged by any change in the constitution of the Bank or the Contractor(s).
8. We.....(indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the Government in writing.
9. This guarantee shall be valid upto .....(date of Completion plus 60 days ), unless extended on demand by Government. Notwithstanding anything to the contrary contained hereinbefore, our liability under this guarantee is restricted to Rs..... (Rs.....only), (in words) Unless a demand under this guarantee is made on us in writing on or before..... we shall be discharged from our liabilities under this guarantee thereafter.

On.....<sup>th</sup> day of 2021

for ..... (name of Bank)

**Signature of Banks Authorised official**

**(Name )-----**

**Designation with Code No.-----**

**Full Address-----**

**Witness**

1.....

2.....

**FINAL SUPPLEMENTARY AGREEMENT**

1. Articles of agreement made this day \_\_\_\_\_ in the year Two thousand and \_\_\_\_ between the President of India, acting through the \_\_\_\_\_ IROAF Administration having his office at \_\_\_\_\_ herein after called the Railway of the one part and \_\_\_\_\_ of the second part.
2. Whereas the party hereto of the other part executed an agreement with the party hereto of the first part being agreement Number \_\_\_\_\_ dated \_\_\_\_\_ for the performance \_\_\_\_\_ herein after called the 'Principal Agreement'.
3. And whereas it was agreed by and between the parties hereto that the works would be completed by the party hereto of the second part on \_\_\_\_\_ date last extended' and whereas the party hereto of the second part has executed the work to the entire satisfaction of the party hereto of the first part.
4. (A) And whereas the party hereto of the first part already made payment to the party hereto of the second part diverse sums from time to time aggregating to ₹ \_\_\_\_\_ including the Final Bill bearing voucher No. \_\_\_\_\_ dated \_\_\_\_\_ of value \_\_\_\_\_ duly adjusted as per price variation clause, if applicable (the receipt of which is hereby acknowledged by the party hereto of the second part in full and final settlement of all his /its claims under the principal agreement.

And whereas the party hereto of the second part have received sum of ₹ \_\_\_\_\_ through the Final Bill bearing voucher No. \_\_\_\_\_ dated \_\_\_\_\_ duly adjusted as per price variation clause (PVC), if applicable (the receipt of which is hereby acknowledged by the party thereto of the second part) from the party hereto of the first part in full and final settlement of all his/its disputed claims under principal agreement.

Now, it is hereby agreed by and between the parties in the consideration of sums already paid by the party hereto of the first part to the party hereto of the second part against all outstanding dues and claims for all works done under the aforesaid principal agreement excluding the security deposit, the party hereto of the second part have no further dues of claims against the party hereto of the first part under the said Principal Agreement. It is further agreed by and between the parties that the party hereto of the second part has accepted the said sums mentioned above in full and final satisfaction of all its dues and claims under the said Principal Agreement.

(A is Applicable in case Final Supplementary Agreement is signed after release of Final Payment)

Or

- (B) And whereas the party hereto of the first part already made payment to the party hereto of the second part diverse sums from time to time aggregating to ₹ \_\_\_\_\_ through various On Account Bills (the receipt of which is hereby acknowledged by the party hereto of the second part).

And whereas the party hereto of the second part have received sum of ₹ \_\_\_\_\_ through various On Account Bills (the receipt of which is hereby acknowledged by the party thereto of the second part) from the party hereto of the first part and party hereto of the second part have accepted final measurements recorded on Page No. .... to Page No. .... of Measurement Book No. .... and corresponding Final Bill duly adjusted as per price

variation clause (PVC), if applicable, for full and final settlement of all his/its disputed claims under principal agreement.

Now, it is hereby agreed by and between the parties in the consideration of sums already paid through various On Account Bills and sums to be paid through Final Bill duly adjusted as per price variation clause (PVC), if applicable, based on accepted final measurements including the security deposit by the party hereto of the first part to the party hereto of the second part against all outstanding dues and claims for all works done under the aforesaid principal agreement, the party hereto of the second part have no further dues of claims against the party hereto of the first part under the said Principal Agreement.

(B is Applicable in case Final Supplementary Agreement is signed before release of Final Payment)

5. It is further agreed and understood by and between the parties that the arbitration clause contained in the said principal agreement shall cease to have any effect and/or shall be deemed to be non-existent for all purposes.

**Signature of the contractor/s      for and on behalf of the President of India**

**Witness**

1. \_\_\_\_\_

2. \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_



**Constitution of Firm**

1	Constitution of the firm/ concern. (Tick as applicable)	Sole Prop./ Partnership Firm/ Company/ JV/Society/LLP/HUF
2	Full name of the Sole Prop./ Partnership Firm/ Company/ JV/Society/LLP/HUF	
3	Year of formation/ incorporation	
4	(a) PAN No.	
	(b) GST No	
5	Registered Office Address	
6	Address on which correspondence regarding this tender should be done	
7	E- mail id and Contact No of authorized person under whose digital signature key tender document will be signed/uploaded on behalf of the tendering firm	
8	Names of the proprietor/ partners/ JV members etc	

**Signature of Tenderer**

**ANNEXURE – E**  
**DELETED**





**Statement of works executed/completed by the tenderer/s during last seven years ending last day of month previous to the one in which tender is invited**

**(A) Statement of works executed/completed for Govt. Organizations during last 7 years ending last day of the month previous to the one in which tender is invited**

S.No.	Name and place of work	Authority/agency for which work was carried out	Date of award and agreement No. & date
1	2	3	4

Date of completion (Original/actual)	Agreemental cost/completion cost	Principal/ Technical features of the work in brief	S.No. at which relevant certificate / documents are attached
5	6	7	8

**(B) Status of works executed/completed for Public listed companies by the tenderer/s during last 7 years ending last day of the month previous to the one in which tender is invited.**

S. No.	Name and place of work	Name of the Public listed company	Date of award of work and agreement No. & date
1	2	3	4
Date of completion (Original/actual)	Agreemental cost/completion cost	Principal/ Technical features of the work in brief	S.No. at which work copy of experience certificate, work order, bill of quantities, bill wise details duly certified by Chartered Accountant is attached *
5	6	7	8

1. \*It is certified that the above Public listed company/companies mentioned in (B) above is/are:
- Having average annual turnover of Rs.500 crore and above in last three financial years excluding the current financial years;
  - Listed on National Stock Exchange or Bombay Stock Exchange and
  - Incorporated/registered at least 5 years prior to the date of opening of the tender.

2. Copies of the work experience certificate, work orders, bill of quantities, bill wise details of payment received, TDS certificates of all payments received, copy of final bill/last bill paid by the company duly certified are attached.
3. Attached information have been duly certified by Chartered Accountants.
4. I/We understand that in case above details at (B) are not furnished at the time of tendering the work experience certificate shall not be considered for adjudging the Technical Eligibility the tenderer in any case.

**Note:** **Annexure-G** to be signed by tenderer/s and Chartered Accountant, if the credentials from Public listed companies (as in case of B above) are being attached for consideration. There is no need of signature of Chartered Accountant, if credentials of any Government Organization are being attached for consideration and in such case only tenderer/s is required to sign on this **Annexure -G**.

Certified that above details are correct

**Signature of the tenderers      Signature of Chartered Accountant with seal**

**Statement of works being executed/in hand by the tenderer/s**

S No.	Name and place of work	Authority/agency/ client for whom the work is being carried out	Date of award & agreement No. & Date	Date of completion (Original/ext ended)
1	2	3	4	5

Agreemental cost of work /likely cost (upto latest corrigendum)	Payment taken till.	Total Balance amount of the work to be executed	Net balance amount of work to be executed during the period of completion of proposed work i.e. during next 'N' years
6	7	8	9
Total			

N= Total Number of years prescribed for completion of work for which bid has been invited.

\*The above statement should include all on going works with the tenderer / constituents of tendering JV in its individual capacity as well as their portion of work in JV / Consortium.

**Signature of Chartered Accountant**

**Signature of the tenderer / Constituent Member of tendering JV**

**CERTIFICATE OF CONTRACTUAL PAYMENT FROM CHARTERED ACCOUNTANT.**

Details of contractual payments received by the tenderer / constituent of tendering JV during the qualifying period i.e during the current financial year plus previous three financial years.

**Name of the Tenderer / constituent of tendering JV:-** \_\_\_\_\_

Year	<i>Amount of Contractual Payments received</i>		Basis of contractual payment received (Audited Balance Sheet ** or Form 16A /26AS from IT TRACES or Certificates from concerned Department / Client* ) #
3rd Previous financial year	<i>Rs.....</i>	<i>FY/.....</i>	
2nd Previous financial year	<i>Rs.....</i>	<i>FY/.....</i>	
1st Previous financial year	<i>Rs.....</i>	<i>FY/.....</i>	
Current financial year	<i>Rs.....</i>	<i>FY/.....</i>	
Total			

\*Client certificate from other than Govt. Organisation should be duly supported by Form 16A/26AS generated through TRACES of IT Department.

# The Audited Balance Sheet or Form 16A /26AS from IT TRACES or Certificates from concerned Department / Client as referred for contractual payments received should be submitted alongwith the tender failing which payment received shall not be considered.

\*\* In case the figure of contractual payment is not directly available in Audited Balance Sheet, the CA should obtain this figure from the Audited Account based on which the Balance Sheet has been prepared.

**Signature of Chartered Accountant**

- [i] Name :-
- [ii] Address:
- [iii] Phone No:-
- [iv] Membership No.
- [v] e-mail ID:-

**Name and signature of Tenderer / Constituent Member of tendering JV**

FORM NO.E-5

Real Time Gross Saving (RTGS)/National Electronic Fund Transfer(NEFT)  
Model Mandate Form

(Investor/customer's option to receive payments through RTGS/NEFT)

1. Investor/customer's name

2. Particular's of Bank Account:

- A) Name of the Bank:
- B) Name of the Branch.  
Address  
Telephone No.
- C) RTGS/NEFT IFS Code.
- D) Type of the account (S.B. Current or Cash Credit)  
With code (10/11/13).
- E) Ledger and Ledger folio number.
- F) Account number (as appearing on the Cheque book) in lieu of the bank  
certificate to be obtained as under, please attach a blank cancelled cheque or a  
photocopy of a cheque or front page of your savings bank pass book issued by  
your bank for verification of the above particulars)

3. Date of effect

I hereby declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold the user institution responsible. I have read the option invitation letter and agree to discharge the responsibility expected of me as a participant under the scheme.

(.....)

**Signature of the Investor/ Customer**

Date

Certified that he particulars furnished above are correct as per our records.

Bank's Stamp

**GUIDELINES' FOR PARTICIPATION OF JOINT VENTURE (JV) FIRMS  
(THE JV firms are allowed to participate only in the tenders of value more than Rs.10 crores).**

1. Separate identity/name shall be given to the Joint Venture firm.
2. Number of members in a JV shall not be more than three if the work involves only one department (say Civil or S&T or Electrical or Mechanical) and shall not be more than five, if the work involves more than one department. One of the members of the JV shall be its Lead Member who shall have a majority (at least 51%) share of interest in the JV. The other members shall have a share of not less than 20% each in case of JV with upto three members and not less than 10% each in case of JV with more than three members. In case of JV with foreign member(s), the Lead Member has to be an Indian firm/company with a minimum share of 51%.
3. A member of JV firm shall not be permitted to participate either in individual capacity or as a member of another JV firm in the same tender.
4. The tender form shall be purchased and submitted only in the name of the JV and not in the name of any constituent member. The tender form can however be submitted by JV or any of its constituent member or any person authorized by JV through Power of Attorney to submit tender.
5. Bid Security declaration shall be submitted by authorised person of JV on IREPS (Refer detailed instructions at **Annexure-T**) OR Earnest Money Deposit (EMD) shall be deposited by authorised person of JV through e-payment gateway or as mentioned in tender document, as applicable.
6. A copy of Memorandum of Understanding (MOU) duly executed by the JV members on a stamp paper, shall be submitted by the JV firm along with the tender. The complete details of the members of the JV firm, their share and responsibility in the JV firm etc. particularly with reference to financial, technical and other obligations shall be furnished in the MOU. (The MOU Format for this purpose is enclosed as **Annexure K1**).
7. Once the tender is submitted, the MOU shall not be modified/alterd/terminated during the validity of the tender. In case the tenderer fails to observe/comply with this stipulation, the full Earnest Money Deposit (EMD) shall be forfeited.
8. Approval for change of constitution of JV firm shall be at the sole discretion of the Employer (Railways). The constitution of the JV firm shall not be allowed to be modified after submission of the tender bid by the JV firm, except when modification becomes inevitable due to succession laws etc. provided further that there is no change in qualification of minimum eligibility criteria by JV after change of composition. However, the Lead Member shall continue to be the Lead Member of the JV Firm. Failure to observe this requirement would render the offer invalid.
9. Similarly, after the contract is awarded, the constitution of JV firm shall not be allowed to be altered during the currency of contract except when modification become inevitable due to succession laws etc. and in any case the minimum eligibility criteria should not get vitiated. Failure to observe this stipulation shall be deemed to be breach of contract with all consequential penal action as per contract conditions.
10. On award of contract to a JV firm, a single Performance Guarantee shall be submitted by the JV Firm as per tender conditions. All the Guarantee like performance Guarantee, Bank Guarantee for Mobilization Advance, Machinery Advance etc shall be accepted only in the

name of the JV Firm and no splitting of guarantees amongst the members of the JV Firm shall be permitted.

11. On issue of LOA (Letter of Acceptance), the JV entity to whom the work has been awarded, with the same share holding pattern as was declared in the MOU/JV Agreement submitted along with the tender, shall be got registered before the Registrar of the Companies under 'The Companies Act 2013' (in case of Company) or before the Registrar/Sub-Registrar under the 'The Indian Partnership Act, 1932' (in case of Partnership Firm) or under 'The LLP Act 2008' (in case of LLP). A separate PAN shall be obtained for this entity. The documents pertaining to this entity including its PAN shall be furnished to the Railways before signing the contract agreement for the work. In case the tenderer fails to observe/comply with this stipulation within 60 days of issue of LOA, contract is liable to be terminated. In case contract is terminated railway shall be entitled to forfeit the full amount of the Earnest Money Deposit and other dues payable to the Contractor under this contract. The entity so registered, in the registered document, shall have, inter-alia, following Clauses:

11.1 **Joint And Several Liability:** Members of the entity to which the contract is awarded, shall be jointly and severally liable to the Employer (Railways) for execution of the project in accordance with General and Special Conditions of the Contract. The members of the entity shall also be liable jointly and severally for the loss, damages caused to the Railways during the course of execution of the contract or due to non-execution of the contract or part thereof.

11.2 **Duration of the Registered Entity:** It shall be valid during the entire currency of the contract including the period of extension, if any, and the maintenance period after the work is completed.

11.3 **Governing Laws:** The Registered Entity shall in all respect be governed by and interpreted in accordance with Indian Laws.

12. **Authorized Member:** Joint Venture Members shall authorize one of the members on behalf of the Joint Venture Firm to deal with the tender, sign the agreement or enter into contract in respect of the said tender, to receive payment, to witness joint measurement of work done, to sign measurement books and similar such action in respect of the said tender/contract. All notices/correspondences with respect to the contract would be sent only to this authorized member of the JV Firm.

13. No member of the Joint Venture firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other members and that of the Employer (Railways) in respect of the said tender/contract.

14. Documents to be enclosed by the JV firm along with the tender:

14.1 In case one or more of the members of the JV firm is/are partnership firm(s), following documents shall be submitted:

(a) A notarized copy of partnership deed.

(b) A copy of consent of all the partners or individual authorized by partnership firm, to enter into the Joint Venture Agreement on a stamp paper

(c) A copy of Power of Attorney (**Notarised/Registered**) in favour of the individual to sign the MOU/JV Agreement on behalf of the partnership firm and create liability against the firm.

**Note:** Authorisation given in POA only will be considered irrespective of any authorization that may have given in Partnership Deed. In case of non-submission of POA or invalid POA, offer is liable to be rejected.

14.2 In case one or more members is/are Proprietary Firm or HUF, the following documents shall be enclosed:

A copy of notarized affidavit on Stamp Paper declaring that he who is signing the affidavit on behalf of HUF is in the position of 'Karta' of Hindu Undivided Family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF.

14.3 In case one or more members is/are limited companies, the following documents shall be submitted :

- (a) A copy of resolutions of the Directors of the Company, permitting the company to enter into a JV agreement,
- (b) The copies of **MOA (Memorandum of Association)** / **AOA (Articles of Association)** of the company
- (c) A copy of Certificate of Incorporation
- (d) A copy of Authorization/copy of Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender, sign MOU/JV Agreement on behalf of the company and create liability against the company

14.4 In case one or more member(s) of JV firm is/are LLP firm(s) following document shall be submitted:

- (a) A notarised copy of certificate of incorporation and LLP agreement.
- (b) A notarised copy of resolution of the partners of LLP, permitting the LLP to enter into a JV agreement, authorising one of the partners of LLP to sign JV MOU/agreement and such other documents required to be signed on behalf of the LLP and to create liability against the LLP and/or to do any other act on behalf of LLP
- (c) A copy of authorisation/copy of power of attorney issued by the LLP (backed by resolution of partners) in favour of individual to sign the tender, sign MOU/JV agreement on behalf of the LLP and create liability against the LLP.

14.5 All the members of the JV shall certify that they are not black listed or debarred by Railways or any other Ministry/ Department/PSU (Public Sector undertaking) of the Govt. of India/State Govt. from participation in tenders/contract on the date of opening of bids either in their individual capacity or as a member of the JV firm in which they were/are members.

## **15. Credentials & Qualifying criteria**

Technical, financial eligibility and Bid capacity of the JV shall be adjudged based on satisfactory fulfillment of the following criteria:

### **15.1 Technical eligibility criteria ('a' or 'b' mentioned hereunder):**

a) For Works without composite components

The technical eligibility for the work as per para 2.3.2A(v) above, shall be satisfied by either the 'JV in its own name & style' or 'any member having min 26% share. Each other member of JV shall have technical capacity of minimum 10% of the cost of work. i.e.,each JV member must have satisfactorily completed during the last 07 (seven) years, ending last day of month previous to the one in which tender is invited, one similar single work for a minimum of 10% of advertised value of the tender.

(b) For works with composite components

(i) The technical eligibility for each component of work as per para 2.3.2A(v) above,



shall be satisfied by either the 'JV in its own name & style' or any member of JV having min 26% share. Each other member of JV shall have technical capacity of minimum 10% of the cost of any component of work i.e., each JV member must have satisfactorily completed during the last 07 (seven) years, ending last day of month previous to the one in which tender is invited, one similar single work for a minimum of 10% of cost of any component of work.

**OR**

(ii) The technical eligibility for major component of work as per para 2.3.2A(v) above, shall be satisfied by either the 'JV in its own name & style' or 'any member of JV having min 26% share and technical eligibility for other components of work as per para 2.3.2A(v) above, shall be satisfied by either the 'JV in its own name & style' or 'any member of the JV'. Each other member of JV shall have technical capacity of minimum 10% of the cost of any component of work i.e., each JV member must have satisfactorily completed during the last 07 (seven) years, ending last day of month previous to the one in which tender is invited, one similar single work for a minimum of 10% of cost of any component of work.

Note: for Clause 15.1:

- (a) The Major component of the work for this purpose shall be the component of work having highest value. In cases where value of two or more component of work is same, any one work can be classified as Major component of work.
- (b) Value of a completed work done by a Member in an earlier JV shall be reckoned only to the extent of the concerned member's share in that JV for the purpose of satisfying his/her compliance to the above mentioned technical eligibility criteria in the tender under consideration

#### **15.2 Financial eligibility criteria:**

The JV shall satisfy the requirement of "Financial Eligibility" mentioned at para 2.3.2(B) above. The "financial capacity" of the lead partner of JV shall not be less than 51% of the financial eligibility criteria mentioned at para 2.3.2(B) above. The "financial capacity" of each of other partners (excluding lead partner) shall not be less than 10% of the financial eligibility criteria mentioned at para 2.3.2(B) above.

The arithmetic sum of individual "financial capacity" of all the members shall be taken as JV's "financial capacity" to satisfy this requirement

**NOTE:** Contractual payment received by a Member in an earlier JV firm shall be reckoned only to the extent of the concerned member's share in that JV firm for the purpose of satisfying compliance of the above mentioned financial eligibility criteria in tender under consideration. 16. Bid Capacity

The JV shall satisfy the requirement of "Bid Capacity" requirement mentioned at para 2.3.2(B) (viii) above. The arithmetic sum of individual "Bid capacity" of all the members shall be taken as JV's "Bid capacity" to satisfy this requirement

FORMAT FOR JOINT VENTURE MEMORANDUM OF UNDERSTANDING/ AGREEMENT.

THIS JOINT VENTURE MEMORANDUM OF UNDERSTANDING (MOU) AGREEMENT EXECUTED AT ..... on this..... day of

..... 202 between M/s ..... Registered office at .....as the first party M/s ..... Registered office at ..... as the second party M/s ..... Registered office at..... as the Third party (The expression and words of the first and second and third party shall mean and include their heirs successors, assigns, nominees execution, administrators and legal representatives respectively.)

WHEREAS all the parties are engaged mainly in the business of execution of Civil Engineering and General Contracts for various Government Departments and organizations.

WHEREAS the parties herein above mentioned are desirous of entering into a Joint Venture for carrying on Engineering and/or contract works in connection with ..... and other works mentioned in Tender Notice No..... dated ..... of Northern Railway or any other work or works, as mutually decided between the parties to this Joint Venture.

WHEREAS all the parties are desirous of recording the terms and conditions of this Joint Venture to avoid future disputes.

NOW THIS MOU/AGREEMENT WITNESSETH AS UNDER:

1. That in and under this Joint Venture agreement the work will be done jointly by the First party and Second party in the name and style of M/s .....  
.....(Joint Venture of M/s ..... M/s.....  
..... and M/s .....)
2. That all the parties shall be legally liable, severally and or jointly responsible for the satisfactory/successful execution/completion of the work in all respects and in accordance with terms and conditions of the contract.
3. That the role of each constituent of the said Joint Venture in details shall be as under:  
The first party shall be responsible for .....  
The second party shall be responsible for .....  
The third party shall be responsible for .....
4. The share of profit and loss of each constituent of the said Joint Venture shall be as under :
  2. Lead partner share =-----% (At least 51%)
  3. 2nd Joint Venture Partner share = -----%
  4. 3rd Joint Venture partner share = ----- %
  5. 4<sup>th</sup> Joint Venture partner share = -----% ] in case of
  6. 5<sup>th</sup> Joint Venture partner share = ----- % ] composite tender

5. That all the parties of this Joint Venture shall depute their experienced staff as committed commensurating with their role and responsibility and as required for the successful completion of the works in close consultation with each other.
6. That the investment required for the works under this Joint Venture shall be brought in by the parties as agreed to between them from time to time.
7. That all the Bank Guarantee shall be furnished jointly by the parties in the name of Joint Venture.
8. That the party number ..... to this Joint Venture shall be the prime (lead) contractor and will be responsible for timely completion of work and to co-ordinate with the Railways to receive payments and also to make all correspondence on behalf of this Joint Venture.
9. That all the above noted parties i.e.....not to make any change in the agreement without prior written consent of the Railway.

NOW, the parties have joined hands to form this Joint Venture on this.....Day of ..... two thousand.....with reference to and in confirmation of their discussions and understanding brought on record on .....

IN WITNESS THEREOF, all /both the above named parties have set their respective hands on .....the day ..... and year ..... First above mentioned in the presence of the following witness:

**Name & Signature of Parties**

**WITNESSES:**

1. First party.
2. Second party

**Guidelines for submitting tenders by Partnership Firms and their Eligibility Criteria**

1. The Partnership Firms participating in the tender should be legally valid under the provisions of Indian Partnership Act.
2. The partnership firm should have been in existence or should have been formed prior to submission of tender. Partnership firm should have been registered with the Registrar of firms and the partnership deed should have been notarized prior to date of tender opening as per the Indian Partnership Act. Tenderer shall upload document(s) in support of registration of firm with registrar of firms viz which includes Certificate of registration and copy of Register of firm (Form No. may vary from State to State) (as applicable) etc. issued by Registrar of firms.
3. Separate identity/name should be given to the partnership firm. The partnership firm should have PAN/ TAN number in its own name and PAN/TAN number in the name of the any of the constituent partners shall not be considered. The valid constituents of the firm shall be called partners.
  - 4.1. Once the tender has been submitted, the constitution of firm shall not normally be allowed to be modified/alterd/terminated during the validity of the tender as well as the currency of the contract except when modification becomes inevitable due to succession laws etc, in which case prior permission should be taken from Railway and in any case the minimum eligibility criteria should not get vitiated. The reconstitution of firm in such cases should be followed by a notary certified Supplementary Deed. The approval for change of constitution of the firm, in any case, shall be at the sole discretion of the Railways and the tenderer shall have no claims what so ever. Any change in the constitution of Partnership Firm after opening of tender shall be with the consent of all partners and with the signatures of all partners as that in the Partnership deed. Failure to observe this requirement shall render the offer invalid and full EMD shall be forfeited.
  - 4.2 If any partner/s withdraw from the firm after opening of the tender and before the award of the tender, the offer shall be rejected and EMD of the tenderer will be forfeited. If any new partner joins the firm after opening of tender but prior to award of contract, his/her credentials shall not qualify for consideration towards eligibility criteria either individually or in proportion to this share in the previous firm. In case the tenderer fails to inform Railway beforehand about any such changes/modification in the constitution which is inevitable due to succession laws etc. and the contract is awarded to such firm, then it will be considered a breach of contract conditions, liable for determination of contract under Clause 62 of General Condition of Contract.
  - 4.3 A partner of the firm shall not be permitted to participate either in his individual capacity or as a partner of any other firm in the same tender.
- 4.4 The tender form shall be submitted only in the name of partnership firm. Bid Security Declaration shall be submitted on IREPS (Refer detailed instructions at **Annexure-T**) OR the EMD (Earnest Money Deposit) shall be deposited by partnership firm through e payment gateway along with the tender in terms of the provisions contained in clause 3.0 (Earnest Money) of tender document, as applicable.
5. One or more of the partners of the firm or any other person(s) shall be designated as the authorized person(s) on behalf of the firm, who will be authorized by all the partners to act on behalf of the firm through a “Power of Attorney”, specifically authorizing him/them to submit & sign the tender, sign the agreement, receive payment, witness measurements, sign measurement books, make correspondences, compromise, settle, relinquish any claim(s) preferred by the firm, sign “No Claim Certificate”, refer all or any dispute to arbitration and to take similar such action in respect of the said tender/contract. Such “Power of Attorney” should be Notarized/Registered submitted/uploaded along with tender.

6. On issue of Letter of Acceptance (LOA) to the partnership firm, all the guarantees like Performance Guarantee, Guarantee for various Advances to the Contractor shall be submitted only in the name of the partnership firm and no splitting of guarantees among the partners shall be acceptable
7. On issue of Letter of Acceptance (LOA), contract agreement with partnership firm shall be executed in the name of the firm only and not in the name of any individual partner.
8. In case, Letter of Acceptance (LOA) is issued to a partnership firm, the following undertakings shall be furnished by all the partners through a notarized affidavit, before signing of contract agreement:-
  - (a) Joint and several liabilities – The partners of the firm to which the Letter of Acceptance (LOA) is issued, shall be jointly and severally liable to the Railway for execution of the contract in accordance with general and special conditions of the contract. The partners shall also be liable jointly and severally for the loss, damages caused to the Railway during the course of execution of the contract or due to non-execution of the contract or part thereof.
  - (b) Duration of the partnership deed and partnership firm agreement – The partnership deed/partnership firm agreement shall normally not be modified, altered, terminated during the currency of contract and the maintenance period after the work is completed as contemplated in the conditions of the contract. Any change carried out by partners in the constitution of the firm without permission of Railway, shall constitute a breach of contract liable for determination of contract under clause 62 of General Conditions of Contract.
  - (c) Governing Laws – The partnership firm agreement shall in all respect be governed by and interpreted in accordance with the Indian laws.
  - (d) No partner of the firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other partner and that of the Railway.
9. The tenderer shall clearly specify that the tender is submitted on behalf of a partnership concern. The following documents shall be submitted by the partnership firm, with the tender-
  - (a) Tenderer shall upload document(s) in support of registration of firm with registrar of firms which includes Certificate of registration and Register of firm (Form No. may vary from State to State)(as applicable) etc. issued by Registrar of firms. Tenderer shall also upload Notary certified of Partnership Deed-
  - (b) A copy of Power of Attorney (**Notarized or Registered**) in favour of the individual to tender for the work, sign the agreement etc. and create liability against the firm.
  - (c) An undertaking by all the partners of the partnership firm that they are not black listed or debarred by Railways or any other Ministry/Department of the Govt of India/any State Govt from participation in tenders/contract as on the date of opening of bids either in their individual capacity or in any firm in which they were/are partners. Concealment/wrong information in regard to above shall make the contract liable for determination under clause 62 of General Conditions of Contract.

#### 10.0 **Evaluation of eligibility of a partnership firm:**

Technical and financial eligibility of the firm shall be adjudged based on satisfactory fulfillment of the eligibility criteria laid down in Clause 2.3.2A(v) & 2.3.2(B) of eligibility criteria by the partnership firm.

**DECLARATION BY AN EXISTING PARTNERSHIP FIRM**  
**(Fill the relevant para (1.1, 1.2 & 1.3) and strike off the para which is not relevant under Partnership Firm)**

- 1.0 I.....S/o Shri....., the authorized signatory of partnership firm M/s..... do hereby solemnly affirm and declare as under:
- 1.1 That, we are an existing Partnership Firm in the name and style of M/s -----, since -----(MM/YY), having GST Registration no -----, PAN/TAN No.----- . There has been no change in the Partner(s) of our firm during last 07 (Seven) years ending last day of the month previous to the one in which tender is invited.
- OR
- 1.2 That, we are an existing Partnership Firm in the name and style of M/s -----, since -----(MM/YY), having GST Registration no -----, PAN/TAN No. ----- . Following of our partner(s) has/have quit the Partnership firm during last 07 (Seven) years ending last day of the month previous to the one in which tender is invited with details as under:

S.No.	Name of quitting Partner(s)	Share of Partner(s) who has/have quitted	Date of quitting (MM/YY)

AND / OR

- 1.3 That, we are an existing Partnership Firm in the name and style of M/s -----, since -----(MM/YY), having GST Registration no -----, PAN/TAN No.----- . Following partner(s) has/have joined our Partnership Firm during last 07 (Seven) years ending last day of the month previous to the one in which tender is invited with details as under:

S.No.	Name of joining Partner(s)	Share of joining Partner(s)	
		In the present firm	In the previous firm from where he/they has/have quit and joined the present firm

- 1.4 In case of Para 1.2 and 1.3 , following documents as applicable are required to be submitted alongwith bid:-

- (i) Copy of previous Partnership Deed(s).  
(ii) Copy of Dissolution Deed(s) of previous partnership deed(s).  
(iii) Proof of surrender of PAN No(s) (in case of dissolution of previous partnership firm).

Declaration by the Tenderer:-

I hereby declare that the information given above are true. If any of the above information is found to be wrong at any time, my tender will be liable to be rejected.

**Name and Signature of tenderer**

**along with Seal**

**DECLARATION BY NEWLY FORMED PARTNERSHIP FIRM**

I.....S/o Shri....., the authorized signatory of partnership firm  
M/s ..... do hereby solemnly affirm and declare as under:

1. That, we are the newly formed partnership firm in the name and style of M/s.....Registered with Registrar of firm vide Registration No....., dated .....
2. In this newly formed Partnership Firm, we are .....no. of partners. The details of the previous proprietary firm or previous dissolved partnership firm or previous splitted partnership firm(s) wherein any of the partners of the present firm was a proprietor / partner and proposed to use credentials obtained in such previous propriety firm (s) / partnership firm(s) is as under:-

S.N.	Name of person in the newly formed partnership firm	Details of Previous proprietary/ Partnership Firm	Share in newly formed partnership firm	Share in previous partnership firm	Remarks
1.					
2.					
3.					

3. That, following relevant documents are Annexed with bid:-

- (i) Copy of previous Partnership Deed(s).
- (ii) Copy of previous Dissolution/splitting Deed(s) of previous partnership deed(s).
- (iii) Proof of surrender of PAN No(s) (in case of dissolution of partnership firm).

**Declaration by the Tenderer:-**

I hereby declare that the information given above are true. If any of the above information is found to be wrong at any time, my tender will liable to be rejected.

**Name and Signature of tenderer**

**along with Seal**

**IROAF**  
(Standard Format)  
**COMPLETION CERTIFICATE**

The work of “----- (Full name of the work) -----” has been  
Completed with following details:-

1	Name & complete address of the contractor.	
2	Nature of entity (sole prop/ partnership firm/ company / JV)	
3 (a)	In case of Sole proprietorship, the name of sole proprietor	
(b)	In case of partnership firm/JV, the names & shares of various partners/ members.	
4	Date of Acceptance/LOA	
5	Agreement No. & date	
6 (i)	Original Agreement Cost	
(ii)	Final Agreement Cost	
7	Total payment made along with financial year-wise break-up	
8	Original date of completion (DOC)	
9	(a) Actual date of completion (b) Whether extension to DOC given with penalty or without penalty	
10	Brief description of nature & scope of work	
11	Performance of contractor (Satisfactory/unsatisfactory)	

It is certified that the above work has been completed successfully in accordance with provisions of contract.

(\_\_\_\_\_)

**Name & Signature**

**Issuing authority with seal**

**Date of issue of certificate:-----**

**Case File No.:**.....



**FORMAT FOR CERTIFICATE TO BE UPLOADED BY TENDERER ALONGWITH THE TENDER DOCUMENTS**

I..... (Name and designation)\*\* appointed as the attorney/authorised signatory of the tenderer (including its constituents),

M/s..... (hereinafter called the tenderer) for the purpose of the Tender documents for the work of..... as per the tender No..... of IROAF, do hereby solemnly affirm and state on the behalf of the tenderer including its constituents As under:

1. I/we the tenderer (s), am/are signing this document after carefully reading the contents.
2. I/We the tenderer(s) also accept all the conditions of the tender and have signed all the pages in confirmation thereof.
3. I/we hereby declare that I/we have downloaded the tender documents from Indian Railway website [www.ireps.gov.in](http://www.ireps.gov.in). I/we have verified the content of the document from the website and there is no addition, no deletion or no alteration to the content of the tender document. In case of any discrepancy noticed at any stage i.e. evaluation of tenders, execution of work or final payment of the contract, the master copy available with the railway Administration shall be final and binding upon me/us.
4. I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
5. I/We also understand that my/our offer will be evaluated based on the documents/credentials submitted alongwith the offer and same shall be binding upon me/us.
6. I/We declare that the information and documents submitted along with the tender by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.
7. I/we understand that if the certificates regarding eligibility criteria submitted by us are found to be forged/false or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender EMD besides banning of business for a period of upto five year. Further, I/we (insert name of the tenderer)\*\*..... and all my/our constituents understand that my/our offer shall be summarily rejected.

I/we also understand that if the certificates submitted by us are found to be false/forged or incorrect at any time After the award of the contract, it will lead to termination of the contract, alongwith forfeiture of EMD/SD and Performance guarantee besides any other action provided in the contract including banning of business for a period of upto five year

**SEAL AND  
SIGNATURE OF  
THE TENDERER**

Place:

Dated:

\*\*The contents in Italics are only for guidance purpose. Details as appropriate, are to be filled in suitably by tenderer.

**CERTIFICATE OF CONTRACTUAL PAYMENT FROM CHARTERED ACCOUNTANT.**

For evaluation of Bid Capacity (Maximum value of Contractual payment received in any one year during the last three years and current financial year)

Details of contractual payments received by the tenderer / constituent of tendering JV during the qualifying period i.e during the current financial year plus previous three financial years.

Name of the Tenderer / constituent of tendering JV: \_\_\_\_\_

Year	Amount of Contractual Payments received		Basis of contractual payment received (Audited Balance Sheet ** or Form 16A /26AS from IT TRACES or Certificates from concerned Department / Client* ) #
3rd Previous financial year	Rs.....	FY/.....	
2nd Previous financial year	Rs.....	FY/.....	
1st Previous financial year	Rs.....	FY/.....	
Current financial year	Rs.....	FY/.....	
Total			

\*Client certificate from other than Govt. Organisation should be duly supported by Form 16A/26AS generated through TRACES of IT Department.

# The Audited Balance Sheet or Form 16A /26AS from IT TRACES or Certificates from concerned Department / Client as referred for contractual payments received should be submitted alongwith the tender failing which payment received shall not be considered.

\*\* In case the figure of contractual payment is not directly available in Audited Balance Sheet, the CA should obtain this figure from the Audited Account based on which the Balance Sheet has been prepared.

**NOTE: Vide clause 2.3.2 (B) viii,**

**Available Bid Capacity with Bidder = Rs. \_\_\_\_\_**

**Signature of Chartered Accountant**

[i] Name :-

[ii] Address:

[iii] Phone No:-

[iv] Membership No.

[v] e-mail ID:-

**Name and signature of Tenderer / Constituent Member of tendering JV**

**UNDERTAKING BY SOLE PROPRIETORSHIP FIRM**

I.....S/o                      Shri                      .....aged                      about.....years  
R/o.....do hereby solemnly  
affirm and declare as under:

1. That I am running a business in the name and style of M/S..... which is a sole proprietorship firm and which has got GST registration No.....
2. That I am the sole proprietor of the said firm M/S .....
3. That the Head office of the above named firm is situated at.....
4. That I/ my Firm ..... is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which he was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.

**Signature of tenderer**

**POWER-OF-ATTORNEY FOR SIGNING OF BID ON BEHALF OF PARTNERSHIP FIRM**

**(to be executed non judicial stamp paper of appropriate value as per law of state concerned-  
Non Judicial stamp paper should be purchased in the name of partners of the firm)**

KNOW ALL MEN BY THESE PRESENTS: WHEREAS WE

- (1)..... S/oShri..... R/o.....  
(2)..... S/oShri..... R/o.....  
(3)..... S/o Shri..... R/o.....  
(4)..... S/o Shri..... R/o.....

all are the partners of a partnership firm namely M/S.....  
(Name of firm) hereinafter referred to as 'firm', which is registered at Registration  
No.....by Registrar of Firms..... The firm is having its head office  
at..... (hereinafter to be  
referred as the 'Firm').

AND WHEREAS we all the above named partners have on.....(date) given our  
consent on behalf of firm to participate in the tender No. ....  
issued by Northern Railway for the work namely  
“ .. ”

We the above named partners of above named firm do hereby irrevocably constitute, nominate,  
appoint and authorize Mr./ Ms. .... S/o  
Shri.....(address).....& Mr./ Ms. .... S/o  
Shri.....(address).....as our true and lawful attorney (hereinafter  
referred to as “Attorney”) of the firm to jointly or severally exercise all or any of the following  
powers for and on behalf of M/S .....  
..... (name of firm) in connection with aforesaid bid:

1. To sign and submit Tender and participate in the aforesaid bid of the Northern Railway on behalf of the firm.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc. on behalf of firm.
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the firm in connection with completion of aforesaid tender work and to enter into liability against the firm.
4. To sign, execute the contract with Northern Railway for and on behalf of the firm.
5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

We on behalf of firm undertake that it shall not cancel or amend this power of Attorney without obtaining previous written consent of Northern Railway.

We on behalf of firm hereby agree that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the firm and we hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

That we/our Firm ..... is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which he was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract

Specimen signatures of the Attorney are appended below.

IN WITNESS WHEREOF this deed has been signed and sealed by us the under named, on this..... day of..... 20.... , in presence of:

WITNESSES:

1. Signature Name: Address:	Executants Partners (Name ) ( Signature) 1..... 2. .... 3. .... 4. ....
2. Signature Name: Address:	

Specimen Signatures of Attorney Holder(s) in token of acceptance:

(1) Name..... Signature.....

(2) Name..... Signature.....

Executed and Signed before me on this.....day of ..... At  
.....(place).

**(seal and signature of Notary Public)**

Notes:

1. In this format space has been provided for entering details of four partners& two attorney holders however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document).
3. Each page of the document should be signed by executants.
4. The power of attorney should be Notarized/ Registered.

**POWER-OF-ATTORNEY ON BEHALF OF THE JOINT VENTURE**

**(to be executed non judicial stamp paper of appropriate value as per law of state concerned-  
Non Judicial stamp paper should be purchased in the name of the members of Joint Venture)**

KNOW ALL MEN BY THESE PRESENTS THAT WE THE PARTIES whose details are given here under:

1. ....(name of constituent).....(address) as the first party.
2. ....(name of constituent).....(address) as the second party.

Have entered into a Joint Venture agreement for the purpose of securing the work advertised by Northern Railway vide NIT No.....details of works are as under:  
“.....”

The aforesaid Joint Venture shall be known by the name “.....” (Hereinafter called the Joint Venture which Expression shall unless repugnant to the context or meaning thereof, include its successors, administrators and assigns.

We the above said parties, through this power of Attorney do hereby irrevocably constitute, nominate, appoint and authorize Mr./ Ms. ....S/o Shri.....(address) who is presently holding the position of ..... in .....the firm/ company as our true and lawful attorney (hereinafter referred to as “Attorney”) of the Joint Ventureunder whose digital signature key the tender document shall be uploaded on behalf of JV. to jointly or severally exercise all or any of the following powers for and on behalf of “..... (name of JV) in connection with aforesaid bid:

1. To sign and submit Tender and participate in the aforesaid bid of the Northern Railway on behalf of the Joint Venture.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc. on behalf of Joint Venture
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the Joint Venture in connection with completion of aforesaid tender work and to enter into liability against the Joint Venture.
4. To sign, execute the contract with Northern Railway for and on behalf of the Joint Venture.
5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above on behalf of Joint Venture.

The Joint Venture agrees and undertakes that in the event of any change in the constitution of the Joint Venture the rights and obligations of the Joint Venture shall continue to be in full force without any effect thereof.

We all the members of Joint Venture undertake that we shall not cancel or amend this Power of Attorney unilaterally and without prior written consent of Northern Railway.

AND the Joint Venture hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the Joint Venture and the Company hereby undertakes to confirm and ratify all and

whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

IN WITNESS WHEREOF the members constituting the Joint Venture as aforesaid have executed these present, on this..... day of..... 20.... , under the common seal(s)/seals of their companies and/or firms(s), in presence of:

WITNESSES:

1. Signature

Name:

Address:

**Signature of authorized signatories & their  
Seals:**

1. First Party (signature)

Name:

Seal

2. Signature

Name:

Address:

2. Second Party (signature)

Name:

Seal

Specimen Signatures of Attorney Holder in token of acceptance:

Name.....Signature.....

Executed and Signed before me on this.....day of ..... At  
.....(place).

**(seal and signature of Notary Public)**

**Notes:**

1. In this format space has been provided for entering details of two constituents of the JV however if the number vary the details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document)..
3. Each page of the document should be signed by executants.

**CONSENT OF PARTNERS OF PARTNERSHIP FIRM FOR SIGNING JOINT VENTURE**  
**(to be executed on non-judicial stamp paper as per tender conditions-Non Judicial stamp**  
**paper should be purchased in the name of partners of the firm)**

KNOW ALL MEN BY THESE PRESENTS: WHEREAS WE :

(1)..... S/o Shri..... R/o.....  
 (2)..... S/oShri..... R/o.....  
 (3)..... S/oShri..... R/o.....  
 (4)..... S/o Shri..... R/o.....

all are the partners of a partnership firm namely M/S .....(Name of firm) hereinafter referred to as 'firm', which is registered at Registration No ..... by Registrar of Firms..... The firm is having its head office at.....

AND WHEREAS it has come to our knowledge that NIT No. .... has been issued by Northern Railway for the work namely

“ .....

We all the above named partners on behalf of the above named firm hereby give our consent to participate in the above tender in Joint Venture.

Further we all the above named partners on behalf of the above named firm hereby give our consent to enter in to Joint Venture agreement, with M/S .....& M/S .....(name of other constituent(s) of joint venture) and to participate in tender as Joint Venture aforesaid.

Date:

Place:

Executants Partners

(Name )

( Signature)

1.....	.....
2. ....	.....
3. ....	.....
4. ....	.....

**(seal and signature of Notary Public)**

Notes:

1. In this format space has been provided for entering details of four partners and two JV constituents however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document).
3. Each page of the document should be signed by executants.



**POWER-OF-ATTORNEY FOR SIGNING JOINT VENTURE AGREEMENT ON BEHALF  
OF PARTNERSHIP FIRM**

**(to be executed non judicial stamp paper of appropriate value as per law of state concerned-  
Non Judicial stamp paper should be purchased in the name of partners of the firm)**

KNOW ALL MEN BY THESE PRESENTS: WHEREAS WE

(1)..... S/o Shri..... R/o.....  
 (2)..... S/oShri..... R/o.....  
 (3)..... S/o Shri..... R/o.....  
 (4)..... S/o Shri..... R/o.....

All are the partners of a partnership firm namely M/s. ....Name of firm) hereinafter referred to as 'firm', which is registered at Registration No.....by Registrar of Firms.....The firm is having its head office at.....(hereinafter to be referred as the 'Firm').

AND WHEREAS we all the above named partners have on.....(date) given our consent on behalf of firm to participate in the tender No.\_ issued by Northern Railway for the work namely "....." in Joint Venture with M/S .....& M/S.....

We the above named partners of above named firm do hereby irrevocably constitute, nominate, appoint and authorize Mr./ Ms. ....S/o Shri.....(address).....& Mr./ Ms. ....S/o Shri.....(address).....as our true and lawful attorney (hereinafter referred to as "Attorney") of the firm to jointly or severally exercise all or any of the following powers for and on behalf of M/S ..... (name of firm) in connection with aforesaid bid:

1. To enter into and execute and sign JOINT VENTURE agreement, on behalf of our firm with M/S.....& M/S.....
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc. in connection with aforesaid bid.
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the firm in connection with completion of aforesaid tender work and to enter into liability against the firm.
4. To sign, execute the contract with Northern Railway for and on behalf of the firm.
5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above and to enter into liability against the firm.

We on behalf of firm undertake that it shall not cancel or amend this power of Attorney without obtaining previous written consent of Northern Railway.

We on behalf of firm hereby agree that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the firm and we hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

Specimen signatures of the Attorney are appended below.

IN WITNESS WHEREOF this deed has been signed and sealed by us the under named, on this..... day of..... 20.... , in presence of:

WITNESSES:

1. Signature	Executants Partners	
Name:	(Name )	( Signature)
Address:		
	1.....	
	2. ....	
	3. ....	
	4. ....	

1. Signature  
    Name:  
    Address:

Specimen Signatures of Attorney Holder(s) in token of acceptance:

(1) Name.....Signature.....  
(2) Name.....Signature.....

Executed     and     Signed     before     me     on     this.....day     of..... At  
.....(place).

**(seal and signature of Notary Public)**

Notes:

- 1. In this format space has been provided for entering details of four partners, two constituents of JV and two attorney holders, however if the number vary the details may accordingly be entered.
- 2. The document should be notarized at its place of execution.
- 3. Each page of the document should be signed by executants.

**AFFIDAVIT BY SOLE PROPRIETORSHIP FIRM WHEN PARTICIPATING IN JOINT VENTURE**

**(to be executed non judicial stamp paper of appropriate value as per law of state concerned-  
Non Judicial stamp paper should be purchased in the name of proprietor of the firm)**

I.....S/o Shri.....aged about .....years  
R/o.....do hereby solemnly affirm and declare as under:

1. That I am running a business in the name and style of M/s.....which is a sole proprietorship firm and which has got GST registration No.....
2. That I am the sole proprietor of the said firm M/S .....
3. That the Head office of the above named firm is situated at.....
4. That I through my above named firm shall participate in the tender No.....issued by IROAF for the work namely “.....” in Joint Venture and for the purpose shall enter into and execute joint venture agreement with M/S.....& M/S.....(name of other constituent(s) of joint venture).

DEPONENT

Verification:

Verified at.....on this .....day of..... that the contents of my above affidavit are true and correct to the best of my knowledge and belief and nothing material has been concealed there from.

DEPONENT

**(seal and signature of Notary Public)**

- Notes: 1. In this format space has been provided for entering details of two constituents of the JV however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document)..
3. Each page of the document should be signed by executants.

**Board's Resolution of company for entering into Joint Venture (To be printed on Company's letter head)**

EXTRACT OF THE RESOLUTION PASSED AT THE MEETING OF THE BOARD OF DIRECTORS OF (Company Name) \_\_\_\_\_ (CIN \_\_\_\_\_) (hereinafter referred to as company) HELD ON (Date) \_\_\_\_\_ AT (Address) \_\_\_\_\_

Whereas the Board has been described about NIT No. \_\_\_\_\_ issued by Northern Railway for the work namely “ \_\_\_\_\_ ”.

Board discussed the matter and after discussion following resolution was passed:

RESOLVED THAT the company (company name) shall participate in the above tender in Joint Venture and for the purpose the company shall enter into and execute joint venture agreement, with M/S \_\_\_\_\_ & M/S \_\_\_\_\_ (name of other constituent(s) of joint venture).

Resolved further that the Board authorizes, Mr./ Ms. \_\_\_\_\_ & Mr./ Ms. \_\_\_\_\_ (name and designation) of the company, to jointly or severally, sign joint venture agreement, and to sign such other documents and to do any other act and complete requisite formalities on behalf of the company in connection with completion of aforesaid tender work and to enter into liability against the company.

Resolved further that Board authorizes Mr./Ms. \_\_\_\_\_ (name and designation) of the company to execute Power of Attorney in terms of this resolution in favour of Mr./Ms. \_\_\_\_\_ & Mr./Ms. \_\_\_\_\_ the person(s) above named.

The acts done and documents executed by such above named authorized person(s) shall be binding on the company.

For the Organization,

**(Seal of company & Signature of authorized person)**

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Place:

Dated:

Executed and Signed before me on this .....day of ..... At .....(place).

**(seal and signature of Notary Public)**

Notes: 1. In this format space has been provided for entering details of two constituents of the JV and two authorized persons however if the number vary details may accordingly be entered.

2. The document should be notarized at its place of execution (Place of signing the document).

3. Each page of the document should be signed by authorized signatory(s).

4. Any person / director should not be authorized to execute Power of Attorney in his own favour.

**POWER-OF-ATTORNEY BY A COMPANY (incorporated under companies Act) for  
entering into JOINT VENTURE AGREEMENT.**

**(to be executed non judicial stamp paper of appropriate value as per law of state concerned-  
Non Judicial stamp paper should be purchased in the name of the company)**

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/S .....  
..... (name of company & CIN number) is a  
Company registered under the Companies Act, 2013, and having its registered office  
at..... (Hereinafter called the 'Company').

AND WHEREAS by its resolution No..... passed in the meeting held  
on..... of the Board of directors of the company the company (company name) has  
decided to participate in the tender No. \_\_\_\_\_ issued by  
Northern Railway for the work namely  
“ \_\_\_\_\_ ”

in Joint Venture and for the purpose the company shall enter into and execute joint venture  
agreement with M/S \_\_\_\_\_ & M/S \_\_\_\_\_ (name  
of other constituent(s) of joint venture) AND THAT M/S \_\_\_\_\_ (name of  
the lead member of joint venture) shall act as the lead member of above mentioned joint venture.

I.....(name and designation) the authorised  
representative of M/S ..... (name  
of company) duly authorized in this behalf by aforesaid resolution do hereby irrevocably constitute,  
nominate, appoint and authorize Mr./ Ms.  
\_\_\_\_\_ (designation) \_\_\_\_\_ (address) & Mr./ Ms. Mr./ Ms.  
\_\_\_\_\_ (designation) \_\_\_\_\_ (address) who is/are presently  
holding the above mentioned position in the company as our true and lawful attorney (hereinafter  
referred to as “Attorney”) of the company to jointly or severally exercise all or any of the following  
powers for and on behalf of M/S .....  
..... (Name of company & CIN number) in  
connection with aforesaid bid:

1. To enter into and execute and sign JOINT VENTURE agreement, draft of which has been approved by the company, on behalf of the company with above named constituents for participating in the aforesaid bid of the Northern Railway on behalf of the company.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc.
3. To do any other act and complete requisite formalities on behalf of the company in connection with completion of aforesaid tender work and to enter into liability against the company.
4. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

The company agrees and undertakes that in the event of any change in the constitution of the company the rights and obligations of the company shall continue to be in full force without any effect thereof.

The company undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of Northern Railway.

AND the Company hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the Company and the Company hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

IN WITNESS WHEREOF this deed has been signed and sealed by  
Shri.....(name and designation), on this ..... day  
of .....20... , in presence of:

WITNESSES:

1. Signature  
Name:  
Address:

**Executants' Signature& Seal of  
company:**

Name:  
Designation:

2. Signature  
Name:  
Address:

Specimen Signatures of Attorney Holder in token of acceptance:

(1)Name .....Signature.....

(2)Name .....Signature.....

Executed and Signed before me on this.....day of ..... At  
.....(place).

**(Seal and signature of Notary Public)**

Notes: 1. In this format space has been provided for entering details of two constituents of the JV and two authorized persons/attorney holders however if the number vary the details may accordingly be entered.

2. The document should be notarized at its place of execution (Place of signing the document)..

3. Each page of the document should be signed by executants.

4. Executant and Power of Attorney holder should not be the same person.

**POWER-OF-ATTORNEY FOR SIGNING OF BID (when Tenderer is company incorporated under companies Act)**

**(to be executed non judicial stamp paper of appropriate value as per law of state concerned-  
Non Judicial stamp paper should be purchased in the name of the company)**

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/s .....  
..... (name of company & CIN number) is a  
Company registered under the Companies Act, 2013, and having its registered office  
at..... (hereinafter called the 'Company').

AND WHEREAS by its resolution No..... passed in the meeting held  
on..... of the Board of directors of the company the company (company name) have  
decided to participate in the tender No. .... issued by  
Northern Railway for the work namely  
“ .. ”

I.....(name and designation) the authorised  
representative of M/S..... (name  
of company) duly authorized in this behalf by aforesaid resolution do hereby irrevocably constitute,  
nominate, appoint and authorize Mr./ Ms.  
.....(designation).....(address) & Mr./ Ms. Mr./ Ms.  
.....(designation).....(address) who is/are presently  
holding the above mentioned position in the company as our true and lawful attorney (hereinafter  
referred to as “Attorney”) of the company to jointly or severally exercise all or any of the following  
powers for and on behalf of M/S .....  
..... (name of company & CIN number) in  
connection with aforesaid bid:

1. To sign and submit Tender and participate in the aforesaid bid of the Northern Railway on behalf of the company.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc.
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the company in connection with completion of aforesaid tender work and to enter into liability against the company.
4. To sign, execute the contract with Northern Railway for and on behalf of the company.
5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

The company agrees and undertakes that in the event of any change in the constitution of the company the rights and obligations of the company shall continue to be in full force without any effect thereof.

The company undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of Northern Railway.

AND the Company hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the Company and the Company hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.



That our Company is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which the Company was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.

IN WITNESS WHEREOF this deed has been signed and sealed by  
Shri.....(name and designation), on this ..... day  
of..... 20.... , in presence of:

WITNESSES:

1. Signature  
Name:  
Address:

Executants' Signature& Seal of company:

Name:  
Designation:

2. Signature  
Name:  
Address:

Specimen Signatures of Attorney Holder(s) in token of acceptance:

(1) Name ..... Signature.....

(2) Name..... Signature.....

Executed and Signed before me on this.....day of ..... At  
.....(place).

**(seal and signature of Notary Public)**

Notes:

1. In this format space has been provided for entering details of two authorized persons/attorney holders however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document)..
3. Each page of the document should be signed by executants.
4. Executant and Power of Attorney holder should not be the same person.

**Board's Resolution of company incorporated under companies Act for submitting Tender by company (To be printed on company's letter head)**

EXTRACT OF THE RESOLUTION PASSED AT THE MEETING OF THE BOARD OF DIRECTORS OF \_\_\_\_\_ (Company Name) \_\_\_\_\_ (CIN \_\_\_\_\_) (hereinafter referred to as \_\_\_\_\_ company) HELD ON \_\_\_\_\_ (Date) \_\_\_\_\_ AT \_\_\_\_\_ (Address) \_\_\_\_\_

Whereas the Board has been described about NIT No. \_\_\_\_\_ issued by Northern Railway for the work namely "\_\_\_\_\_"". Board discussed the matter and after discussion following resolution was passed:

RESOLVED THAT the company (company name) shall participate in the above tender .

Resolved further that the Board authorizes, Mr./ Ms. \_\_\_\_\_ & Mr./ Ms. \_\_\_\_\_ (name and designation) of the company, to jointly or severally sign and submit all the necessary papers, letters, forms, quotes, bids etc, negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the company in connection with completion of aforesaid tender work and to enter into liability against the company.

Resolved further that Board authorizes Mr./Ms. \_\_\_\_\_ (name and designation) of the company to execute Power of Attorney in terms of this resolution in favour of Mr./Ms. \_\_\_\_\_ & Mr./Ms. \_\_\_\_\_ the person(s) above named.

The acts done and documents executed by such above named authorized person(s) shall be binding on the company.

For the Organization,

**(Seal of company & Signature of authorized person)**

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Place:

Dated:

Executed and Signed before me on this.....day of ..... At .....(place).

**(Seal and signature of Notary Public)**

Notes: 1. In this format space has been provided for entering details of two authorized persons however if the number vary details may accordingly be entered.

2. The document should be notarized at its place of execution (Place of signing the document)..

3. Each page of the document should be signed by authorized signatory(s).

4. Any person / director should not be authorized to execute Power of Attorney in his own favour.

**POWER-OF-ATTORNEY FOR SIGNING OF BID (when Tenderer is LLP Firm incorporated under LLP Act)**

**(to be executed non judicial stamp paper of appropriate value as per law of state concerned- Non Judicial stamp paper should be purchased in the name of the LLP Firm)**

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/S .....  
..... (name of LLP & LLPIN number) is a LLP Firm  
registered under the LLP Act, 2008, and having its registered office  
at..... (hereinafter called the 'LLP').  
AND WHEREAS by its resolution No..... passed in the meeting held  
on..... of the Partners of the LLP the LLP..... (LLP name) have  
decided to participate in the tender No. .... issued by  
Northern Railway for the work namely  
“ .. ”

I.....name and designation) the authorised  
representative of M/S ..... (name  
of LLP) duly authorized in this behalf by aforesaid resolution do hereby irrevocably constitute,  
nominate, appoint and authorize Mr./Ms.  
.....(designation).....(address).....& Mr./ Ms./Mr./Ms.  
.....(designation).....(address).....who is/are presently holding  
the above mentioned position in the LLP as our true and lawful attorney (hereinafter referred to as  
“Attorney”) of the LLP to jointly or severally exercise all or any of the following powers for and on  
behalf of M/S ..... (name of LLP  
& LLPIN number) in connection with aforesaid bid:

1. To sign and submit Tender and participate in the aforesaid bid of the Northern Railway on behalf of the LLP.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc.
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the LLP in connection with completion of aforesaid tender work and to enter into liability against the LLP.
4. To sign, execute the contract with Northern Railway for and on behalf of the LLP.
5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

The LLP agrees and undertakes that in the event of any change in the constitution of the LLP, the rights and obligations of the LLP shall continue to be in full force without any effect thereof.

The LLP undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of Northern Railway.

AND the LLP hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the LLP and the LLP hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

That our LLP is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or

as a member of JV in which the LLP was / is a member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.

IN WITNESS WHEREOF this deed has been signed and sealed by Shri.....(name and designation), on this ..... day of..... 20.... , in presence of:

WITNESSES:

1. Signature  
Name:  
Address:

**Signatures of authorized representative & Seal of LLP:**

**Name of authorized representative(Executant): Designation:**

2. Signature  
Name:  
Address:

Specimen Signatures of Attorney Holder(s) in token of acceptance:

(1)Name ..... Signature.....

(2Name).....Signature.....

Executed and Signed before me on this.....day of ..... At .....(place).

**(seal and signature of Notary Public)**

Notes:

1. In this format space has been provided for entering details of two authorized persons/attorney holders however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document).
3. Each page of the document should be signed by executants.

**Partner's Resolution of LLP Firm incorporated under LLP Act for submitting Tender by LLP firm (To be printed on Firm's letter head)**

EXTRACT OF THE RESOLUTION PASSED AT THE MEETING OF THE PARTNERS OF \_\_\_\_\_ (LLP

Name) having LLPIN \_\_\_\_\_ of 20..... (hereinafter referred to as LLP) HELD ON

(Date) \_\_\_\_\_ AT (Address) \_\_\_\_\_

Whereas the Board has been described about NIT No. \_\_\_\_\_ issued by Northern Railway for the work namely " \_\_\_\_\_".

Partners discussed the matter and after discussion following resolution was passed:

RESOLVED THAT the LLP (LLP name) shall participate in the above tender .

Resolved further that the LLP/Partners authorize(s), Mr./ Ms. \_\_\_\_\_ & Mr./ Ms. \_\_\_\_\_ (name and designation) of the LLP, to jointly or severally sign and submit all the necessary papers, letters, forms, quotes, bids etc., negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the LLP in connection with completion of aforesaid tender work and to enter into liability against the LLP.

Resolved further that LLP/Partners authorize(s) \_\_\_\_\_ ) Mr./Ms. \_\_\_\_\_ (name and designation) of the LLP to execute Power of Attorney in terms of this resolution in favour of Mr./Ms. \_\_\_\_\_ & Mr./Ms. \_\_\_\_\_ the person(s) above named.

The acts done and documents executed by such above named authorized person(s) shall be binding on the LLP.

For the Organization,

(Seal of LLP& Signature of authorized person)

Name of authorized person: \_\_\_\_\_

Designation: \_\_\_\_\_

Place:

Dated:

Executed and Signed before me on this.....day of ..... At .....(place).

**(Seal and signature of Notary Public)**

Notes:

1. In this format space has been provided for entering details of two authorized persons however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document)..
3. Each page of the document should be signed by authorized signatory(s).

**Partner's Resolution of LLP Firm for entering into Joint Venture (To be printed on LLP Firm's letter head)**

EXTRACT OF THE RESOLUTION PASSED AT THE MEETING OF THE PARTNERS OF \_\_\_\_\_ (LLP Name) having LLPIN \_\_\_\_\_ of 20.....)(hereinafter referred to as LLP) HELD ON (Date) \_\_\_\_\_ AT (Address) \_\_\_\_\_

Whereas the Partners have been described about NIT No. \_\_\_\_\_ issued by Northern Railway for the work namely “ \_\_\_\_\_”.

Partners discussed the matter and after discussion following resolution was passed:

RESOLVED THAT the LLP..... (LLP name) shall participate in the above tender in Joint Venture and for the purpose the LLP shall enter into and execute joint venture agreement, with M/s \_\_\_\_\_ & M/s \_\_\_\_\_ (name of other constituent(s) of joint venture).

Resolved further that the LLP/Partners authorize(s), Mr./ Ms. \_\_\_\_\_ & Mr./ Ms. \_\_\_\_\_ (name and designation) of the LLP, to jointly or severally, sign joint venture agreement, and to sign such other documents and to do any other act and complete requisite formalities on behalf of the LLP in connection with completion of aforesaid tender work and to enter into liability against the LLP.

Resolved further that LLP/Partners authorize(s) Mr./Ms. \_\_\_\_\_ (name and designation) of the LLP to execute Power of Attorney in terms of this resolution in favour of Mr./Ms. \_\_\_\_\_ & Mr./Ms. \_\_\_\_\_ the person(s) above named.

The acts done and documents executed by such above named authorized person(s) shall be binding on the LLP.

For the Organization,

(Seal of LLP & Signature of authorized person)

Name of authorized person: \_\_\_\_\_

Designation: \_\_\_\_\_

Place:

Dated:

Executed and Signed before me on this.....day of ..... At .....(place).

**(seal and signature of Notary Public)**

Notes:

1. In this format space has been provided for entering details of two constituents of the JV and two authorized persons however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document).
3. Each page of the document should be signed by authorized signatory(s).

**POWER of ATTORNEY BY A LLP Firm (incorporated under LLP Act) for entering into  
JOINT VENTURE AGREEMENT.**

**(to be executed non judicial stamp paper of appropriate value as per law of state concerned-Non  
Judicial stamp paper should be purchased in the name of the LLP)**

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/S .....  
..... (name of LLP & LLPIN number) is a LLP  
registered under the LLP Act, 2008, and having its registered office at..... (Here in  
after called the 'LLP').

AND WHEREAS by its resolution No..... passed in the meeting held  
on..... of the Partners of the LLP, the LLP..... (LLP name)  
has decided to participate in the tender No. .... issued by  
Northern Railway for the work namely  
“ .. ”

in Joint Venture and for the purpose the LLP shall enter into and execute joint venture agreement  
with M/S ..... & M/S ..... (name of other  
constituent(s) of joint venture) AND THAT M/S ..... (name of the lead  
member of joint venture) shall act as the lead member of above mentioned joint venture.

I.....(name and designation) the authorised  
representative of M/S ..... (name  
of LLP) duly authorized in this behalf by aforesaid resolution do hereby irrevocably constitute,  
nominate, appoint and authorize Mr./ Ms.  
..... (designation) ..... (address) & Mr./ Ms. Mr./ Ms.  
..... (designation) ..... (address) who is/are presently  
holding the above mentioned position in the LLP as our true and lawful attorney (hereinafter  
referred to as “Attorney”) of the LLP to jointly or severally exercise all or any of the following  
powers for and on behalf of M/S .....  
..... (Name of LLP & LLPIN number) in connection  
with aforesaid bid:

1. To enter into and execute and sign JOINT VENTURE agreement, draft of which has been approved by the LLP, on behalf of the LLP with above named constituents for participating in the aforesaid bid of the Northern Railway on behalf of the LLP.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc.
3. To do any other act and complete requisite formalities on behalf of the LLP in connection with completion of aforesaid tender work and to enter into liability against the LLP.
4. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

The LLP agrees and undertakes that in the event of any change in the constitution of the LLP, the rights and obligations of the LLP shall continue to be in full force without any effect thereof.

The LLP undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of Northern Railway.

AND the LLP hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the LLP and the LLP hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.



IN WITNESS WHEREOF this deed has been signed and sealed by  
Shri.....(name and designation), on this..... day  
of .....20... , in presence of:

WITNESSES:

1. Signature

Name:

Address:

**Signatures of authorized representative &  
Seal of LLP:**

**Name of authorized  
representative: Designation:**

2. Signature

Name:

Address:

Specimen Signatures of Attorney Holder in token of acceptance:

(1)Name .....Signature.....

(2)Name .....Signature.....

Executed and Signed before me on this.....day of ..... At  
.....(place).

**(Seal and signature of Notary public)**

Notes:

1. In this format space has been provided for entering details of two constituents of the JV and two authorized persons/attorney holders however if the number vary the details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document).
3. Each page of the document should be signed by executants.

**AFFIDAVIT BY HUF**

**(to be executed non judicial stamp paper of appropriate value as per law of state concerned-  
Non Judicial stamp paper should be purchased in the name of HUF**

I.....S/o                      Shri                      .....aged                      about.....years  
R/o.....and as Karta of my  
Hindu Undivided Family (HUF) affirm on oath and declare as under:-

1. That I am Karta of our HUF which is known as ----- (HUF)
2. That as on today, name of coparceners (including name of Karta) of our above said HUF, their father name and their addresses are as under:-

S.No.	Name of Coparceners	Name of Father	Address
1.			
2.			
3.			
4.			
5.			

3. That the above said HUF is in existing since----- (Date of incorporation of HUF).
4. That I, in the position of KARTA of Hindu Undivided Family (HUF) am submitting the tender on behalf of HUF and declare that the acts done and documents executed by me shall be binding on the HUF, M/s.....
5. That I/HUF Firm ..... is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which he was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.

DEPONENT

Verification:

Verified at.....on this .....day of..... that the contents of my above affidavit are true and correct to the best of my knowledge and belief and nothing material has been concealed therefrom.

DEPONENT

Karta of HUF-M/s.....

**(seal and signature of Notary Public)**

Notes:

1. The document should be notarized at its place of execution (Place of signing the document).
2. Each page of the document should be signed by executants.

**Request letter from Executive branch to Accounts Office for opening of LC**

Office of..... Railway

No. \_\_\_\_\_

Dated \_\_\_\_\_

The FA&CAO/NR  
Baroda House, New Delhi

Sub: Opening of LC  
Ref: Supply Order/Contract Agreement No.

\*\*\*\*

It is requested to open a sight LC against the above referred Order/Agreement in favour of  
\_\_\_\_\_. The details of beneficiary are as under:

- (i) Name of Contractor/Supplier
- (ii) Vendor Code
- (iii) Address
- (iv) Tender No.
- (v) Contract Agreement No.
- (vi) Description of Goods/Service
- (vii) Value of Contract
- (viii) Stages of payment
- (ix) Expected payment within 6 months (LC Amount)
- (x) Beneficiary bank details
  - a) Bank name
  - b) Address
  - c) Account No.
  - d) IFSC code
- (xi) Validity/Period for which LC is to be opened:

It is certified that the supplier/contractor has exercised the option of taking payment due against the tender, through LC arrangement in IREPS portal at the time of bidding itself and the option has been flagged in the IREPS. This has the approval of \_\_\_\_\_.

(Signature)  
Name \_\_\_\_\_  
Designation \_\_\_\_\_  
(Official Seal)

LCDA No. (18 DIGIT IPAS GENERATED NO.)

Dated: \_\_\_\_\_

## DOCUMENT OF AUTHORIZATION

Reference : (i) Works Contract/supply Contract No. \_\_\_\_\_ Dated \_\_\_\_\_  
 (ii) Inland Letter of Credit No. \_\_\_\_\_ Dated \_\_\_\_\_

This document is issued against contract No. .... (FROM IREPS) ----- Dated ----- for supply/work of..... (DESCRIPTION OF GOODS/WORKS FROM IREPS) -----  
 -----

The beneficiary of the aforementioned Letter of Credit M/s..... (NAME AND VENDOR CODE)..... (Vender Code..... as per IRPES.....) is entitled to receive payment aggregating INR----\$\$\$----- (FROM ABSTRACT OF BILL PASSED). Out of a total LC amount of INR..... (FROM MASTER TABLE OF LC OPENED)..... Against the first/second\* commercial Invoice No. (FROM IPAS) \_\_\_\_\_ dated \_\_\_\_\_ FROM IPAS \_\_\_\_\_ for INR (FROM IPAS ----- raised against the above contract from State Bank of India----- (branch- FROM LC MASTER TABLE)----- on the strength of this Certificate.

The details of payments already made to the beneficiary under this Letter of Credit are as follows:

S.No.	Invoice No.	Invoice Date	Invoice Amount(INR)	LCDA No.	LCDA date	Amount paid (INR)
Total Paid						

THE PAYMENT: -INR \_\_\_\_\_ \$\$\$ \_\_\_\_\_

LC BALANCE AFTER THIS PAYMENT: \_\_\_\_\_ -

(Signature of authorised Railway authority)

**Name & Designation**  
**Official Seal**

**DECLARATION/UNDERTAKING**

I/We .....(Name and Designation of tenderer/Authorized Person of tender) do hereby declare as under :

1. That I/We are an individual/ Partnership firm/Company/ Society/JV and :
  - (a) That I/We are not a retired Engineer of the gazetted rank or any other gazetted officer working before retirement, whether in the executive or administrative capacity or whether holding a pensionable post or not, in the Engineering or any other department of any of the railways owned and administered by the President of India for the time being,
  - (b) That I/We being partnership firm / company / joint venture (JV) / registered society / registered trust etc have none of our partners a retired Engineer or retired gazetted officer as aforesaid.
  - (c) That I/We being an incorporated company have not any such retired Engineer or retired officer as one of directors.
  - (d) That I/We do not have in our employment any retired Engineer or retired gazetted officer retired from government service (at least 1 year prior to the date of submission of the tender)
  - (d) That I/We being an individual contractors, do not have a Member (s) of family or in the case of partnership firm/ company / joint venture (jv) / registered society / registered trust etc. have one or more of partner(s) /shareholder(s) or member(s) of family of the partner(s) /shareholder(s) employed in gazetted capacity in the Engineering or any other department of the railway.

**OR**

- 2 (a) That I am a Retired Engineer of the Gazetted rank participated in the tender in individual capacity as ..... (Name of the firm) with following details :

Name	Date of retirement	Post held, Place and Railway unit from which retired	Details of permission taken if such retired Engineer or Gazetted Officer had not retired from Govt. Office at least 1 year prior to the date of submission of tender

**OR**

- 2 (b) That I/We are a Partnership firm/Company/Registered Society/JV/Registered Trust and have following retired Railway Gazetted Officer as our Partner(s)/Director(s)/Employee:

S. No.	Name	Position in tendering entity i.e. Partner/Director Employee	Date of Retirement, Post held, Place and Railway unit from which retired	Details of permission taken if such Retired Engineer or Gazetted Officer had not retired from Govt. Office at least 1 year prior to the date of submission of tender

- 2 (c) That I/We are an individual, have member(s) of his family or in the case of partnership firm/ company / joint venture (JV) / registered society / registered trust etc. one or more of his partner(s)/shareholder(s) or member(s) of the family of partner(s)/shareholder(s) having

share of more than 1% in the tendering entity employed in gazetted capacity in the Indian Railways.

S. No.	Name of the gazetted railway Officer who is/are partner(s) /Share Holder(s) or member(s) of family of Share Holder(s) of tenderer	Post held and Place of Posting	Railway / Unit	Details of Share holding or Relationship with individual/ share holder of the tenderer

**Note :**

- (i) Strike Off (1) or (2) as applicable.
- (ii) In case (1) is applicable and any of the 2(a), (b) or (c) is not applicable NIL may be filled.

Place:-

( Signatures of Authorized signatory)

**Name of the tendering firm**

Dated:

DELETED

**FORMAT FOR CERTIFICATE TO BE UPLOADED BY TENDERER  
ALONGWITH THE TENDER DOCUMENTS**

I/we..... (*Name and designation*)\*\* appointed as the attorney/authorised signatory of the tenderer (including its constituents), have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I/we including any of its constituent certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority ( Appropriately modify the wording as per applicability) .

I/we including any of its constituent further certify that this bidder will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority.

I/we including any of its constituent hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered.

[Where applicable, evidence of valid registration by the Competent Authority shall be attached.]

**Signature of the tenderer**

**Place:**

**Dated:**

\*\*The contents in Italics are only for guidance purpose. Details as appropriate, are to be filled in suitably by tenderer.



**Instructions for Bid Security Declaration to be uploaded on IREPS by Tenderer  
alongwith the Tender Documents**

*(Authority:- Railway Board Letter no. 2020/CE-I/CT/3E/GCC/Policydt.30.12.2020)*

1. Ministry of Finance vide OM No. F.9/4/2020-PPD, dated 12.11.2020 and Railway Board letter No. 2020/CE-I/CT/3E/GCC/Policy dated 30.12.2020 as referred above has advised to take from bidders Bid Security declaration in lieu of Bid Security/Earnest Money Deposit, except wherever there are compelling circumstances to ask for Bid Security/Earnest Money Deposit.
2. The above instructions are to be complied with by all concerned.
3. Accordingly, following changes have been made in the IREPS:
  - a) At the time of creation of any new tender in IREPS works module, an option has been provided to the tendering authority for obtaining Bid Security Declaration in lieu of Bid Security/Earnest Money Deposit. In case this option is selected, the Bid Security/Earnest Money Deposit amount for the tender shall be NIL.
  - b) If the tendering authority decides to take Bid Security/Earnest Money Deposit, it shall be mandatory for the tendering authority to provide reasons, and upload the approval of competent authority for the same. The Competent Authority shall be the next higher authority to the authority competent to finalise the particular tender.
  - c) In case Bid Security Declaration in lieu of Bid Security/Earnest Money Deposit is allowed against a tender, the provision has been made in IREPS for the bidder to mandatorily submit the following declaration alongwith his offer:
 

**Bid Security Declaration:** *I/We, M/s (Name of bidder) am/are aware that I/We have been exempted from submission of Bid Security/Earnest Money Deposit in lieu of this Bid Security Declaration. I/We understand and accept that if I/We withdraw my/our bid within bid validity period or if awarded the tender and on being called upon to submit the Performance Guarantee/Performance Security fail to submit the same within the stipulated time period mentioned in tender documents or on being called upon to sign the contract agreement fail to sign the same within stipulated period mentioned in tender documents, I/We i.e. the bidder shall be banned from submission of bids in any Works/Service Tender issued by Indian Railways for a period of 12 months from the date of such banning done on e-platform IREPS.*
  - d) The provision has been made in IREPS for banning such defaulting bidders. Provision has also been made in IREPS to upload details of banned bidders – unregistered as well as registered bidders on IREPS.
  - e) Whenever a bidder is banned or banning is revoked, a system generated SMS as well as e-mail shall be sent to bidder. Full details related to banning will also be available to IREPS registered firms through their IREPS account.
4. The competent authority to take decision on ‘banning the bidder from submission of bids’ shall be the authority competent to finalise the particular tender or the SAG level, whichever is higher. Once the decision on ‘banning the bidder from submission of bids’ is taken, the authority competent to ban the bidder from submission of bids shall inform IREPS ‘Department Admin’ of the Headquarters office of the Zonal/PU/Other Units like CORE, COFMOW, RDSO, CTIs etc., as the case may be, to ban the bidder on IREPS. ‘Department Admin’ shall ban such bidder/s on IREPS. The banning shall be effective w.e.f. the date and time when the same is done on IREPS by above ‘Department Admin’.

5. In case partnership firm/JV is banned, all members of partnership firm including firm/all constituents of JV including JV shall be banned from submission of bids and details of all shall be uploaded on IREPS.
6. Once the above system of taking Bid Security Declaration is in force, Tender Committee or in case of Direct Acceptance Direct Accepting Authorities — both for tenders invited on IREPS or otherwise — shall check up on IREPS whether the bidder is banned or not from bidding on the date of closing of tender. For the above purpose, search facility has been provided on IREPS.
7. If the bidder is banned for submission of bids on the date of closing of tender, such bid, even if received, shall be treated as invalid while evaluating the bids.
8. If a bidder is banned for submission of bids, on the request of bidder in writing to tender calling authority, ban can be revoked by the authority who had banned the bidder earlier, on submission to Railways by bidder (including Start-ups, 100% Govt. Owned PSUs & Labour Co-operatives) an amount equivalent to FULL Earnest Money Deposit that would have been worked out by Railways for that tender as per existing instructions on the date of inviting tenders if Earnest Money Deposit would have been taken in place of Bid Security Declaration while inviting tenders.
9. On receipt of request from bidder for revocation of ban on submission of bids, the authority who had banned the bidder from submission of bids, shall intimate in writing to bidder the amount the bidder has to deposit with Railways. Bidder in turn shall deposit the required amount in Railway earnings and submit the receipt for the same. The railway authority that had banned the bidder will upload (i) the bidder's request, (ii) railway letter asking bidder to deposit required amount with railways ,and (iii) the receipt of the same, in IREPS and inform Department Admin through a letter to revoke the banning. The Department Admin will upload such letter and revoke the banning on IREPS.
10. Revocation shall be automatic on expiry of banned period. However, in case revocation is done before expiry of banned period, the banning shall stand revoked w.e.f. date & time when the same is done on IREPS by Department Admin.
11. The above instructions shall be followed for all works & service tenders on Indian Railways, published on or after 18:00 hrs of 16.01.2021 and shall be valid for all the tenders issued till 31.12.2021 (including 31.12.2021).

**Note:-** The contents of the annexure are general instructions. Details as appropriate are to be filled in suitably by tenderer on IREPS e-platform.

**PROFORMA FOR STATEMENT OF DEVIATIONS  
FROM TENDER CONDITIONS**

The following are the particulars of deviations from the requirements of the Special Conditions of Contract, General Conditions of Contract and Technical Specifications:

<b><u>CLAUSE</u></b>	<b><u>DEVIATION</u></b>	<b><u>REMARKS</u></b> (Including justification)
----------------------	-------------------------	----------------------------------------------------

(Authorized signatory of the Bidder with stamp)

**NOTE:** Where there is no deviation, the statement should be returned duly signed with an endorsement indicating “No Deviations”.

**PERFORMA FOR DECLARATION OF LOCAL CONTENT**

This is to certify that the percentage of local content in Tender No. IROAF/FUEL CELL/DEMU/P1/2021 for “**Hydrogen Fuel cell based DPRS with regenerative braking system 1200 KW DEMU**” by M/s \_\_\_\_\_ is not less than \_\_\_\_\_ (%) of the quoted cost in items A+B+C of Annexure-3 (i.e. Financial Bid)

**(Signature of certifier)\***

**(Signature of Authorized Signatory)**

**Seal & Name of Certifying Firm:**

**Name of Tendering Firm:**

**Date:**

**Place:**

\* Certification by Statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

# **Annexure C**

# **PACKET - II**

## **Packet II**

### **Financial Bid\***

**Tender Notice No.** IROAF/FUEL CELL/DEMU/P1/2021

**Name of Work:-** Hydrogen Fuel cell based DPRS  
with regenerative braking system 1200 KW DEMU

\* To be uploaded separately from Technical Bid

## Packet II

### Financial Bid

**Tender Notice No. IROAF/FUEL CELL/DEMU/P1/2021**

**Name of Work:-** Hydrogen Fuel cell based DPRS with regenerative braking system 1200 KW  
DEMU

S. No.	1	2	3	4	5	6
	Item	(in Rs.) Cost per DPC	(in Rs.) Taxes per DPC	(in Rs.) Cost for one DPC with Taxes	Quantity	(in Rs.) Total Cost with Taxes (4 x 5)
A	On Board Equipment for DEMU as per RDSO Specification No. R2/347/Fuel Cell-1 including Design, Development, Supply, Installation, Commissioning & Static Load Box testing				02 DPCs	
	Total A					
B	On Ground Stationary Hydrogen Storage and filling station at site as per RDSO specification no. R2/347/Fuel Cell-1 complete with Design, Development, Supply, Installation, Commissioning, Inspection and third party safety audit certification	Cost of B	Taxes	Cost of B with Taxes	Quantity	Total Cost with Taxes (4 x 5)
					01 no. Hydrogen filling station	
	Total B					
C	Cost of Hydrogen (60 tonne) Technical Specification of Hydrogen as per Fuel Cell requirement	Cost of Hydrogen per tonne	Taxes	Cost of Hydrogen per tonne with Taxes	Quantity	Total Cost with Taxes (4 x 5)
					60 Tonne	
	Total C					
	Total cost (A+B+C) inclusive of taxes (in figures)_____					
	Total cost (A+B+C) inclusive of taxes (in words)_____					
D	Comprehensive Annual Maintenance Contract for 3 years (CAMC)	CAMC cost per year	Taxes	CAMC cost per year with Taxes	Total Period	Total Cost with Taxes (4 x 5)
					03 years	
	Total D					
Grand Total cost (A+B+C+D) inclusive of taxes etc (in figures)_____						
Grand Total cost (A+B+C+D) inclusive of taxes etc (in words)_____						

(Authorized signatory of the Bidder with stamp)

**Note:**

- Taxes includes all applicable taxes, duties, levies etc. to be considered as on bid due date.
- The bidder may note that the contract by IROAF will be awarded for items at S. No. A, B & C above; however cost of item at S. No. D (i.e. CAMC) shall be added for the purpose of determining inter-se ranking of bidders. Moreover, cost of CAMC is over & above the estimated cost.
- Bidders may also note that the agreement for item at S. No. D above, shall be entered into by nominated Zonal Railways.
- A&B above shall be required to be executed on turn-key basis.
- The quoted price shall be all inclusive of packing, forwarding, freight, insurance, training charges and warranty charges.
- The quoted price shall be complete in all respect and no price variation/adjustment is payable.
- Any discount/rebate should be clearly mentioned in the Financial Bid.
- Reverse Auction is applicable in this tender, as per clause no. 2(C) of Special Tender Conditions and Instruction to Tenderer(s).
- Reduction in price in e-Reverse Auction will be applied on Pro-rata basis on all items at S. No. A,B,C & D above.

(Authorized signatory of the Bidder with stamp)