

Summary of Modifications in EOI

Sl.No.	Page No.	Heading/ Clause	Existing	Updated
1	All	Header	Expression of Interest (Eoi) for Hydrogen Fuel cell based Trainsets	Expression of Interest (Eoi) for Hydrogen Fuel cell based Rolling Stock
2	1	EOI Ref and Date	Ref No: ID/TBSG/22-23/FC/EOI/01 Dated: 30th Mar'2023	Ref No: ID/TBSG/22-23/FC/EOI/01/Rev01 Dated: 2nd Nov'2023
3	All	Footer	EOI for Hydrogen Fuel cell based Trainsets	EOI for Hydrogen Fuel cell based Rolling Stock
4	1	Title	Hydrogen Fuel cell based Trainsets	Hydrogen Fuel cell based Rolling Stock for Rail Applications
5	5	Clause 4.4	The intent of this Expression of Interest hereinafter referred to as the "EOI" is to invite applications from interested OEMs / companies who are willing to Partner with BHEL for submitting a joint consortium bid as per the Tender requirements and as per the following broad scope for execution of contracts.	The intent of this Expression of Interest hereinafter referred to as the "EOI" is to invite applications from interested OEMs / companies who are willing to Partner with BHEL for submitting a joint consortium bid as per the requirements of Indian Railways or any other Rolling Stock Customer and as per the following broad scope for execution of contracts.
6	5	Clause 4.5 Sl. No. 1	Partner shall be responsible for design, manufacture, Installation, Commissioning, Inspection, testing/trials and third party safety audit certification of trainset in line with the requirement of Hydrogen Trainset Project. BHEL may set-up the facilities for the local manufacturing of the Trainset in India in case desired by the Mechanical Partner.	Partner shall be responsible for design, manufacture, Installation, Commissioning, Inspection, testing/trials and third party safety audit certification of rolling stock in line with the customer requirement. BHEL may set-up the facilities for the local manufacturing of the Rolling Stock in India in case desired by the Mechanical Partner.
7	5	Clause 4.5 Sl. No. 2	Partner shall be responsible for design, manufacture, Installation, Commissioning, Inspection, testing/trials and third party safety audit certification of On Board Fuel Cell, On Board Battery and Battery Management System & On Board Hydrogen Storage System for the Trainset in line with the requirements of Hydrogen Trainset Project.	Partner shall be responsible for design, manufacture, Installation, Commissioning, Inspection, testing/trials and third party safety audit certification of On Board Fuel Cell, On Board Battery and Battery Management System & On Board Hydrogen Storage System for the Rolling Stock in line with the future opportunity requirements.
8	5	Clause 4.5 Sl. No. 3	Partner shall be responsible for design, manufacture, installation, commissioning, inspection, testing/ trials and third party safety audit certification and operation of on ground infrastructure and supply of Hydrogen in line with the requirement of Hydrogen Trainset Project.	Partner shall be responsible for design, manufacture, installation, commissioning, inspection, testing/ trials and third party safety audit certification and operation of on ground infrastructure and supply of Hydrogen in line with the requirement of future Hydrogen Rolling Stock opportunity.
9	5	Clause 4.5 Sl. No. 4	Partner for System Integration	Partner for System Integration and Propulsion System

10	5	Clause 4.5 Sl. No. 4	<p>Partner shall be responsible for system design and system integration of propulsion system of the Trainset in line with the requirement of Hydrogen Trainset Project and</p> <p>Partner shall be responsible for design, manufacture, installation, commissioning, inspection, testing/trials Train Communication & Management System (TCMS) for the Trainset in line with the requirement of Hydrogen Trainset Project.</p>	<p>Partner shall be responsible for system design and system integration of propulsion system of the Rolling Stock in line with the future requirement of Hydrogen rolling stock and</p> <p>Partner shall be responsible for design, manufacture, installation, commissioning, inspection, testing/trials IGBT based Traction Convertor, Auxiliary Convertor and Train Communication & Management System (TCMS) for the Trainset in line with the requirement of Hydrogen Rolling Stock.</p>
11	6	Clause 4.7	BHEL shall select suitable partner(s) who meet Pre-Qualification Criteria (PQR) of the forthcoming Indian Railways Hydrogen Based Fuel Cell Trainset tender.	BHEL shall select suitable partner(s) who the Pre-Qualification Requirement. The chosen partner(s) shall also be required to enter into mutually exclusive pre-bid tie up arrangement with BHEL to jointly bid for the Indian Railways Hydrogen Based Fuel Cell Trainset tender or any other Hydrogen Fuel Cell based Rolling Stock opportunity from other customers in consortium mode. The selected bidder cannot quote directly or enter into any kind of joint arrangement with any other party for the above mentioned business in India.
12	6	Clause 4.8	The chosen partner(s) shall also be required to enter into mutually exclusive pre-bid tie up arrangement with BHEL to jointly bid for the Indian Railways Hydrogen Based Fuel Cell Trainset tender customers in consortium mode. The selected bidder cannot quote directly or enter into any kind of joint arrangement with any other party for the above mentioned tender.	deleted
13	6	Clause 5.2	<p>Mr. Pramod Khanduri, Additional General Manager pramodk@bhel.in Phone: +91 9871800410</p>	<p>Mr. Rakesh Vishnoi, Additional General Manager rakeshvishnoi@bhel.in Phone: +91 9425604975</p>

14	9	Sl. No. 4 of Pre-Qualification Requirements	<p>D) Partner for System Integration</p> <p>The bidder must have experience of design, manufacture, supply, testing and commissioning of minimum 50 sets of Microprocessor based Train Control & Management System (TCMS) based on IEC 61375 (where TCMS for locomotive shall be counted as one unit sets for each locomotive and TCMS for EMU based Train-set shall be counted as one Unit for each motor car (one motor car equivalent to 4 powered axles) forming part of such trainset) during the last 10 years ending on 31st March'2023.</p> <p>Provided that 25% of the quantity specified above must have completed satisfactory revenue operation of three years or more as on 31st March'2023</p>	<p>D) Partner for System Integration</p> <p>The bidder must have experience of design, manufacture, supply, testing and commissioning of minimum 50 sets of following propulsion equipment of EMU based trainsets and/or locomotives during the last 10 years ending on 31st October'2023:-</p> <p>i) IGBT based traction converter sets, each unit set of rating 1000 (or 2*500) KVA or more</p> <p>ii) Microprocessor based Train Control & Management System (TCMS) based on IEC 61375 where TCMS for locomotive shall be counted as one unit sets for each locomotive and TCMS for EMU based Train-set shall be counted as one Unit for each motor car(one motor car equivalent to 4 powered axles) forming part of such trainset.</p> <p>Provided that 25% of the quantity specified above must have completed satisfactory revenue operation of three years or more as on 31st Oct'2023.</p>
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