

## **Technical Specifications of Light Weight Wheel Skate Trolley**

### **Note:**

#### **(A) Eligibility Criteria:**

- (i) The bidder/manufacturer must have supplied at least 02 nos. of Light Weight Wheel Skate Trolley in last 5 years (to be reckoned from the original date of tender closing) to Indian Railway (or) any other Central (or) State organizations (or) PSUs of Central or State Govt. undertakings. Statement of past supplies along with purchaser's name and address, email address and phone/fax number of purchaser, purchase order number and date along with the copies of purchase order, quantity supplied, date of supply and their commissioning details with date shall be submitted along with the offer. Copies of POs submitted shall also indicate the parameters/specification of subject equipment to prove same aspect of the machine.
- (ii) The tenderer shall, in their offer, submit performance certificate for a quantity of 01 no in respect of the equipment supplied by them which meets the criteria specified in Para (i) above and the equipment covered by these certificate must have been working satisfactorily for at least one year from the date of commissioning. The certificate shall not be older than one year from the original date of closing of tender. To this effect, the performance certificate submitted by the tenderer must have been issued by the actual user organization of the equipment, with their clear signature and address therein, in whose premises the equipment is installed and commissioned.
- (iii) The tenderer should provide satisfactory evidence, acceptable to the purchaser to show that he is a regular manufacturer and has adequate plant and manufacturing capacity and has a "Quality Assurance Program". The manufacturer should have valid ISO 9001:2015 certificate (or latest) on the original date of closing of Tender and a copy of same should be submitted along with the bid. The Light Weight Wheel Skate Trolley should be in the scope of ISO certificate.
- (iv) All necessary information/ documents required for establishing reference requirement as per Para (i) & (ii) above should be submitted by the bidder along with original offer itself. No clarification/ correspondence will be sought/ entertained

in this regard. In case no information or incomplete information is furnished by the bidder, their offer will be summarily rejected.

**(B) Special Conditions**

- (i) The tenderer must submit the Technical offer as per the format given in **Annexure-A**. All the information as asked for, in the format must be given accordingly e.g. wherever a parametric value is asked it should be furnished, if a write up is asked for this should be provided and if a brochure or drawing or sketch is expected this should be provided. In case of incomplete/sketchy/illegible information, the technical offer will be considered as incomplete and is liable to be rejected.
- (ii) Railways reserve the right to verify at any time, the details submitted by the Bidder/Tenderer by actual site visit. If the information furnished in the bid is found to be incorrect during verification, the bid shall be considered invalid and their EMD shall be forfeited and necessary action will be initiated against the bidder/Tenderer.
- (iii) **Delivery period:** The equipment shall be supplied and commissioned within **04 (Four) months** from the date of issue of Purchase Order.

**1.0 Description of Item:** Supply, commissioning, testing and Prove out of Light Weight Wheel Skate Trolley as per this Technical Specification.

**2.0 Make and Model:** M/s. BEMCO Make, Model no: WST-30-R1 (or) BOYD SMITHS (or) Equivalent

**3.0 Purpose and capability:**

- I. The Wheel Skate Trolley shall be fitted under all types of rolling stock (Locos, coaches, wagons of Indian Railways including Vande Bharat Coaches and WAG-12 locos) whenever wheel set/axle was locked due to seized roller bearing. The equipment shall be capable and facilitate to connect around the defective/seized wheel set of bogie of rolling stock and move along with the train/formation to desired location as per the requirement.
- II. The connection of Light Weight Wheel Skate Trolley to the locked axle/wheel set (due to seized bearing) shall be done without lifting the whole bogie.

III. The equipment shall be able to be assembled within 45 minutes after removal of infringement and lifting the axle by 50-60 mm and disassembled within 20-30 minutes after lifting the axle.

#### 4.0 Scope of supply of the Firm:

4.1 Scope of supply covers supply, commissioning, testing and Prove out of the equipment. The Light Weight Wheel Skate Trolley consists of the following major parts/equipments/standard accessories are included in the scope of supply:

S. No	Description	Quantity
i.	Trolley Wheel assembly	04 Sets
ii.	Square bar (Cross connecting bar)	02 Nos
iii.	Square bar (Cross connecting bar) with offset to deal with traction motor lug infringement	01 No
iv.	Trolley wheel bracket	04 Nos
v.	Trolley wheel bracket for locomotives which have spring arms infringement with brackets	02 Nos
vi.	Lock Nut	04 Nos
vii.	Screw (tie rods)	04 Nos
viii.	Anti rotation plate-I	02 Nos
ix.	Anti rotation plate-II	02 Nos
x.	Bracket Holding plates	08Nos
xi.	Wheel rest pad	04 Nos
xii.	Wheel stoppers	04 Nos
xiii.	Suitable Spanner with Ratchet	02 Nos
xiv.	Suitable Box spanner	02 Nos
xv.	Suitable Spanner for maintenance	01 No
xvi.	Tool kit with box for assembling and disassembly of equipment at site. Each tool kit with box consists of the following items	04 Sets
a	M16 cap screws with washer	06 Nos per set
b	08 mm Allen key	01No per set
c	14 mm Allen key	01No per set
d	M16X220 mm grip Handle	01No per set
e	M16 Plain washer	03 Nos per set
f	M16 Spring washer	06 Nos per set
g	M10 plain washer	03 Nos per set
h	25(OD)X2(thick)X270 length pipe	01 No per set

i	Grease EHT-100	01 kg per set
j	Rubber pads size 155mmX65mmX12mm	04 Nos per set
k	Any other tools required for successful assembly & disassembly of wheel skate trolley at site	Shall be provided
xvii.	Transport cum Storage box for components of Wheel Skate Trolley	Three side open storage container cum organize box shall be provided

- 4.2 The scope of supply shall also cover any other accessories/equipment, which the manufacturer considers essential to make the equipment fully operational, when supply and commissioned. It shall also include commissioning of related equipments, training of personnel in operation and maintenance of equipment & supply of technical documentation.
- 4.3 Successful tenderer/contractor shall supply and commissioning of the equipment at **“The Chief Workshop Manager, Wagon Workshop Guntupalli, Vijayawada, Andhra Pradesh - 521241 or DME/DSL/BZA, Office of the Divisional Mechanical Engineer Diesel Loco Shed- Vijayawada, Khuddusnagar, Andhra Pradesh-520019.** Receipt challan, Joint receipt inspection certificate and commissioning certificates certified by the consignee and nominated end users in original shall be submitted to CWM/RYPs for payment.
- 4.4 After commissioning, the equipments will be utilized at the following locations/units over South Central Railway and the Contractor shall provide the warranty services to the individual end users at these locations only:

S.No	End User Details	Qty (No)
1	SSE/ART/KZJ, Office of Senior Divisional Mechanical Engineer, Diesel Loco Shed, Kazipet, Hanumakomda District, Telangana, 506003. Contact No: 9701371490	1
2	SSE/C&W/BPA, Office of Senior Section Engineer, C&W Depot - Bellampalli, Near Railway function hall, Bellampalli, Mancherial District, Telangana – 504251. Contact No: 9701371466	1
3	SSE/C&W/BTTR, Office of Senior Section Engineer, C&W Depot- Beside Officers Rest House, Bitragunta Railway station, Bitragunta, SPSR Nellore District, Andhra Pradesh- 524142. Contact No: 9701373462	1
Total		3

## 5.0 Technical Parameters Of the Equipment

The tentative technical parameters of Light Weight Wheel Skate Trolley are as follows:

S No.	Description	Parameter
5.1	Loading capacity (Axle load)	Minimum 30 T. Load test certificate shall be submitted along with the supply.
5.2	Lifting of Rolling Stock required above rail level	50 mm approx. (50 mm spacer to be supplied)
5.3	Maximum towing speed	20-25 Kmph on Straight track 10 Kmph in Curvature/points & crossing
5.4	Trolley Wheel	Forged to shape & Heat Treated, Ultrasonically tested & tempered Alloy Steel material EN-19 / EN-24/IS std, hardened to 350 to 380 BHN. Material and Ultrasonic Test certificates from any Govt approved lab/NABL accredited laboratory shall be submitted along with the supply.
5.5	Gauge	1676 mm
5.6	Trolley wheel diameter (Tread)	245 ± 5 mm
5.7	Trolley wheel diameter (with flange)	302 ± 5 mm
5.8	Wheel width	140 ± 5 mm
5.9	Admissible wheel diameter of damaged rolling stock	Wheel diameter from 780 mm to 1250 mm of all types of main line railway rolling stock.
5.10	Length of Tie rods (screw)	1530 mm (minimum)
5.11	Threading on Tie rods	Trapezoidal threads (TR) with work-hardened and smooth finish shall be supplied (Machined threads will not be accepted)
5.12	Protection against weatherization	Cadmium/Zinc plated
5.13	Maximum height of the equipment from Rail level	320 ± 5 mm
5.14	Minimum Clearance between trolley lower part to Rail top surface	63.5 mm

5.15	Maximum dimension of equipment across the track	2260 mm
5.16	Weight of the trolley set	500 kg approx
5.17	Weight of the individual component	60 kg +/- 10%
5.18	Wheel support material	EN-24 or equivalent
5.19	Type of bearing of trolley wheel	Spherical (As per RDSO drawing No. SK VL 218 or better)
5.20	Number of bearings in a wheel	02 Nos
5.21	Fasteners	All fasteners used shall be of ISI quality
5.22	Test certificates required along with the supply	Manufactured test certificates for bearings, Material certificates of the components wherever specified.

#### **6.0 Prove out at firm's premises:**

Assembled wheel skate shall be subjected to 30 MT of static load for 10 minutes under test rig with the help of wheels of minimum 1000 mm diameter. After the load test, the wheel skate shall be dis-assembled to ascertain no deformation, no dent on wheel tread, wheel bracket rest, threaded tie rods, lock nut etc. This test shall be demonstrated by the firm to the inspection agency during inspection at his own cost.

#### **7.0 Prove out at consignee's works**

Wheel Skate Trolley should be run tested at consignee place up to the satisfaction of the consignee during commissioning of the equipment.

#### **8.0 Technical Literature:**

The successful tenderer will have to furnish, 02 sets of the technical literatures of complete equipment including imported and indigenously purchased components/ sub-assemblies to the consignee along with the equipment. One set of technical literature should cover the following details in English language:

- A. Operational & Maintenance manual of the Equipment.
- B. Spare Parts list of the equipment with all technical details.
- C. Diagnostic and troubleshooting guide

## **9.0 Approval of GA drawings**

- 9.1 The successful tenderer/contractor shall submit the 03 copies of General Arrangement (GA) drawing of the equipment to Chief Workshop Manager, Wagon workshop, Guntupalli, South Central Railway for the approval within 15 days of issue of Purchase order before manufacturing of the equipment.
- 9.2 The Consignee shall either approve the GA drawings or if necessary return them to the supplier for corrections within 15 days of its receipt to the supplier under clear dated signatures. The consignee shall ensure that all deficiencies in the drawings shall be pointed for clarifications to the firm together at one time only instead of piecemeal multiple references.
- 9.3 The manufacturing and supply of the equipment shall be as per the approved GA drawing.

## **10.0 Inspection:**

Inspection of the equipment shall be conducted by RITES/TPI as per terms and conditions of purchase order and approved GA drawings at firm's premises before supply of the equipment. Inspection certificate should be supplied along with the supply of the equipment. The costs of the inspection charges will be paid as per standard norms specified by Railway Board to the Inspection agency by Railways. Hence, No separate inspection charges will be paid by the railway to the firm.

## **11.0 Training:**

Necessary Training is to be imparted to the operators and maintenance crew of end user in operation, maintenance and trouble shooting of the equipment during commissioning. This training shall be provided to adequate number of staff nominated by the consignee, for a period of 03 days on free of cost. The training shall be provided to nominated staff at Wagon Workshop, Guntupalli or Diesel Loco Shed, Vijayawada.

**Note:** All training should be imparted in English/Hindi only.

## **12.0 Installation and Commissioning**

- 12.1 Joint Check** – The contractor or his agent would be required to carry out a joint check at consignee's end, along with the consignee, before unpacking is done, to

avoid subsequent complaints regarding short shipment/transit damages. It is necessary that this joint receipt inspection be done immediately on receipt of the machine by consignee & contractors representative to avoid commissioning delays due to shortages/transit damages. After receipt of the machine as above a Joint Receipt Inspection note (JRI) as per **Annexure-B** shall be prepared by the consignee and the firms representative indicating the tentative time schedule for various activities of installation and commissioning.

12.2 The supplier shall have to commission the equipments as per the PO conditions in the premises of consignee. Commissioning charges are included in the basic price of the machine. Hence, No separate commission charges will be paid by the railway.

12.3 The supplier shall demonstrate the machine performance and prove out the claimed capability for successful commissioning at the consignee's works as specified. The equipment shall be deemed to be "commissioned" at consignee premises on the date when it is tested and meets with the specified capabilities/functions according to the technical specifications. A Joint Commissioning Note (JCN) to this effect shall be made by consignee as per the format at **Annexure-C**.

### **13.0 Comprehensive Warranty:**

13.1 The Equipment should be offered with minimum **36 months** of comprehensive warranty from the date of commissioning. The equipment will be utilized at various locations and consignees over South Central Railway indicated at **clause no 4.4** after commissioning. Hence the contractor has to provide the warranty services at each end user location during warranty period.

13.2 10% of the P.O value shall be pledged with Railways as Warranty Bank Guarantee (WBG) against the Warranty Period.

13.3 During warranty the supplier or his agent should attend the break down within 03 days from the time of reporting (through phone, fax, mail or any other means) failure by the consignee. This period of 3 working days shall be treated as grace period which shall not count towards machine down time.

13.4 Penalty will be levied on the contractor for breakdown period on hour's basis (including holidays) after discounting for the grace period. Penalty will be calculated



with full/partial deduction of amount of WBG, which shall be deducted from the WBG deposited with the Railways:

Breakdown period	Applicable penalty
Up to 750 hours in entire duration of warranty of 03 years	Nil
Exceeding 750 hours to 1800 hours in entire duration of warranty of 03 years	25% of apportionate WBG amount
Exceeding 1800 hours to 3150 hours in entire duration of warranty of 03 years	50% of apportionate WBG amount
Exceeding 3150 hours in entire duration of warranty of 03 years	Apportionate Full encashment of Warranty Bank Guarantee 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 for next 02 years.

#### 14.0 Service Facility in India and Technical Support

14.1 The tenderer will clearly spell out in the offer the facilities available with him or his agent for providing adequate after-sales service in India during warranty period.

14.2 After the warranty period, if any, the manufacturer or his agent shall agree to provide service supports for trouble shooting and obtaining spare parts. The manufacturer shall be obliged to provide spare parts required by the Purchasers for a period up to expected life of the equipment from the date of delivery of the machine at the ultimate destination to safeguard against obsolescence.

14.3 Tenderer who are OEM, shall undertake to supply spare parts for a period of expected life of machine. Other tenderers shall submit undertaking from OEM for supply of spare parts for a period of expected life of the machine.

#### 15.0 PAYMENT TERMS AND CONDITIONS

100% payment shall be made against the supply and commissioning of the Equipment. For release of payment, the documents such as Inspection certificate issued by RITES/TPI, Joint receipt note, Joint Commissioning Note and 10% of Warranty Bank Guarantee against the Warranty Period shall be submitted.



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S.S.E./M & P

मालडिवा कारखाना/WAGON WORKSHOP

द.म.रे./S.C.R./गुंटुपल्ली/GUNTUPALLI.



उप मुख्य यंत्रक इंजीनियर  
Dy. Chief Mechanical Engineer  
मालडिवा कारखाना, द.म.रेलवे, गुंटुपल्ली  
Wagon Workshop, S.C. Railway, Guntupalli

## ANNEXURE-A

### FORMAT FOR SUBMISSION OF TECHNICAL BID

1. a) We, M/s.....offer our.....Equipment, model No.....as per the description given in Technical Specifications.
- b) We state that, except for the following, for which clause wise brief description and justification for deviation has been indicated, our Equipment fully complies with all the clauses as given in technical specifications.

S No	Clause/Item	Brief description of Deviation	Justification for deviation

**Note 1:** The bidder shall mention all technical deviations only in the format enclosed above

**Note 2:** The deviation mentioned elsewhere in the bid shall not be considered and the bid shall be evaluated based on the information provided against this Annexure-A of Technical specifications.

**Note 3:** In case tenderer offers internationally accepted alternative specifications, complete details of alternative specification, apart from filling above deviation statement, shall be enclosed.

2. We further certify that we are meeting the reference clause as
  - (A) We are the regular manufacturer/supplier of this type of Equipment
  - (B) We have made the following past supplies of Equipments as per Eligibility Criteria and special conditions during last 05 years:-

S.No	Name of the purchaser with address	Purchaser's Phone, email, Address, Name of the contract person	Purchase / supply order number and date (along with a copy of the PO)	Quantity supplied (with proof of supply)	Date of Supply of M/c	Date of commissioning of the Equipment	Type and capacity of Equipment

**Note:** Please attach copies of relevant documents in support of above

- (A) We are submitting following performance certificate from past users as per Terms and Conditions:

S. No	Name of the Purchaser with address	Purchase/ supply order number and date (along with a copy of the PO) (it should be the one(s) which are	Quantity Supplied	Date of Supply	Date of Installation and /or commissioning	Date of issue of Performance certificate (Certificate to be enclosed)

		enlisted at clause Note above)				

**Note:** Performance certificate shall be submitted as per **Annexure-D**

3. We are having following facilities available with us or our agent for providing adequate after sales service in India during warranty period. Complete details of after sales service, availability of technically competent engineers and warehousing facilities for spares is indicated below:
  - After sales service centers
  - Availability of technically competent engineers
  - Warehousing facilities for spares
4. We have quoted for following recommended perishable and non-perishable spares required for normal maintenance to cover complete range of mechanical, hydraulic and electrical equipment(s) including controls on double shift working basis.

**Perishable Spares**

S. No	Description of the spares	Part Number	Quantity (in Nos)	Rate	Shelf life (in months)

**Non-Perishable Spares**

S. No	Description of the spares	Part Number	Quantity (in Nos)	Rate	Shelf life (in months)

5. \*We hereby confirm that we are the OEM and undertake to supply spare parts for a period of expected life of Equipment.

(OR)

\*We hereby confirm that we are not the OEM, but are submitting undertaking from OEM for supply of spare parts for a period of expected life of the Equipment to provide maintenance spares (as and when ordered) after the expiry of the Warranty period including the maintenance spares required for the bought out sub-assemblies and parts.

(\*Strike out whichever is not applicable)

6. It is certified that we are having suitable facilities at our works for carrying out various performance tests on the sub-assembly/assembly/Equipment and these shall be made available to the inspecting authority.
7. We further submit the following information about the offered Equipment as per the technical specifications. We understand that any omission of any of the below mentioned information will render our offer incomplete to that extent. The Bidder shall offer their comments against each clause of Technical Specifications as per the format below:

Clause no. Technical Spec.	Description & Information required	Compliance	Value / write up / brochure (as offered)

Signature of the authorized representative  
of the bidder with company stamp

## JOINT RECEIPT INSPECTION NOTE

DATE.....

Sub: Receipt of consignment of the machine.....

Ref: Purchase order No.....

1	Name of consignee/railway	
2.	Machine name	
3.	Quantity	
4	Name of the supplier	
5	Consignment of the machine received on	

It is certified that, the consignment of the machine has been received complete and in good condition as per specification shown in the Purchase Order.

Tentative plan for installation and commissioning of the machine is as under:

1	Date of clear site provided	
2	Contract	Turnkey/Non-turnkey
3	Status of readiness of foundation	
3 (a)	Already construction on	
3 (b)	Under construction & likely date of its completion	
3 (c)	Construction yet to be started from.....and likely date of its completion	
4.	Status of availability of electrical power, water and compressed air etc.	Available/Not-available
5	Number of components to be proved out on the machine	
6	Likely date for start of erection	
7	Likely date for switch –on the machine	
8	Likely date of completion of commissioning of the machine	

Representative of the firm  
Designation

Representative of consignee  
Designation

Signature of Officer  
(with seal & stamp)

**ANNEXURE-C****JOINT COMMISSIONING NOTE**

DATE.....

Sub: Commissioning of (name of the machine).....

Ref: Purchase order No.....

1	Name of consignee/railway	
2.	Machine name	
3.	Quantity	
4	Name of the supplier	
5.	Consignment of the machine received on	

6. All the parameters of the machine are found okay. The proving test on the machine was conducted from ..... to ..... and machine is working satisfactorily.
7. Machine has finally been commissioned on..... . The machine has been handed over for regular use and kept under one month observation to watch its performance.
8. Following minor deficiencies (if any) found during joint observation trials are to be attended/rectified by the firm during one month observation and before issuing the PTC for the machine:
- (a)
- (b)
- (c)

Representative of the firm  
Designation

Representative of consignee  
Designation

Signature of Officer  
(with seal & stamp)



## Annexure-D

**Important Note:** i) The certificate shall not be older than one year from the original date of closing of tender. The performance certificate issued after original date of closing of tender (in cases where tender closing date has been extended) are also acceptable. However the machine must have completed one year of satisfactory working after date of commissioning as on original date of closing of tender.  
ii) Performance certificate shall contain following information.

### PERFORMANCE CERTIFICATE

Date of Issue:

#### TO WHOMSOEVER IT MAY CONCERN

Sl. No.	Head	Details
1.	Name of the Supplier	
2.	Consignee details	
3.	Name of the machine/ description of machine	
4.	Purchase/ Supply Order Number	
5.	Date of Purchase/ Supply Order	
6.	Date of Supply of machine(s)	
7.	Quantity Supplied	
8.	Manufacturer's Serial Number(s) of machine(s) or Plant/System etc. number (or some mode of identify the machine)	
9.	Date of Commissioning	
10.	Performance of the machine	Satisfactory/Unsatisfactory
11.	Any other information which user intends to append, for example a) Aspects bringing out similar nature of machine. b) Major/ leading parameter of the machine	<b>Leading / Major Parameter</b>
		Maximum loading capacity
		Gauge
		Maximum Towing Speed
		Time required for assembling and disassembling
		Lifting of Rolling stock above rail
		Trolley wheel diameter (Tread)
		Maximum dimension of the equipment across the track

Name & Designation

Contact Number

Signature of the issuing authority

Email id

(Seal of the organization)