

RAIL COACH FACTORY, KAPURTHALA			
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Mech/ Project/ Motorized Bogie Turn Table	Motorized Bogie Turn Table	1 of 15	05.06.2024

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### **IMPORTANT INSTRUCTIONS TO TENDERERS FOR FILLING TECHNICAL BID**

- 1.0 Bidders are required to give clause wise comments on the technical specifications, confirming compliance/non-compliance with details of deviations if any along with their effect on the performance. Back references to be avoided, offers are likely to be ignored in case of non-compliance of these instructions for furnishing the information.
- 1.1 Unless otherwise stated, latest alterations/ revisions of specifications/ standards/ drawings shall be applicable. In respect of safety standards and environmental standards relevant to the machine, the machine manufacturers shall ensure compliance with international (CE/ISO/DIN/JIS)/National standards (IS) (wherever applicable).
- 1.2 Tenderers should offer and quote for all the specified concomitant accessories, as these are considered essential for commissioning and utilization of the machine. Even if bidder does not recommend the purchase any of these accessories, the price must be quoted for comparison purposes and their recommendation/suggestion indicated in the offer.
- 1.3 Tenderers should also quote for optional accessories, spares and consumable spares as asked in the specifications.
- 1.4 In case, any item is required in sets, please specify nos./pieces per set. This is essential for proper technical evaluation of the offer. Offers received without this may be considered as incomplete and liable to be rejected.
- 1.5 The bidder should quote only for the specified make of sub-assemblies and equipment wherever specified. Makes of sub-systems other than the specified ones will normally not be acceptable. In case, some other make is quoted, specific reasons for the same including its features/advantages over specified makes must be brought out in the offer.
- 1.6 In case there is a contradiction in any information provided (some parametric values given in the specification and those given in the brochure or some other document enclosed by the tenderer), unless specifically mentioned in the deviation cum confirmation statement the values as given in the specification shall be taken as confirmed by the tenderer and offer evaluated accordingly.
- 1.7 The Purchaser may accept internationally accepted alternative specifications which ensure equal or higher quality than the specifications mentioned in the Technical Specification. However, the decision of the Purchaser in this regard shall be final.
- 1.8 Purchaser reserves the right to verify the details submitted by the bidder by actual site visits.
- 1.9 Other terms & condition of the contract will be as per Indian Railway Standard conditions of contract.
- 1.10 Tenderer not submitting the requisite information may note that his offer is liable to be ignored.
- 1.11 **Tenderer shall design the arrangement as per RCF requirement and layout of shop enclosed as Annexure-C.**

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## 2.0 PURPOSE FOR WHICH REQUIRED & CAPABILITY:

02 nos. Motorized Turn-tables are **required for transferring DPRS 3-Phase MC Bogies** in 90° segments for transfer from incoming track to outgoing track in RCF, Kapurthala. The Turn- Table shall rotate 360° in either direction to work on T- Junction as well as on Cross Junction.

## 3.0 DESCRIPTION AND SCOPE OF SUPPLY :

3.1 The specification covers design, manufacture, supply and commissioning of the Motorized Turn-tables, including foundations and all civil works on **turnkey basis**, as per the parameters shown in Schedule-I and delivery as per Schedule-II. The scope of supply shall include but not be limited to all necessary fittings, fixtures, ancillaries and set of maintenance tools (details to be furnished with the bid).

**Note:** i) The Electric Motors shall be of reputed make from sources like NGEF/BBL/ABB/KEC/Siemens and Crompton etc.

ii) Limit Switch/Contactors (where used) shall be of reputed make like Siemens/BCH /L&T and Lakshmi etc.

3.2 The supply shall also include all equipments and accessories which the manufacturer considers essential to make the equipment fully functional when installed and put into operation.

3.3 Other concomitant accessories/ equipment which the manufacturer considers essential to make the machine fully operational when installed and commissioned with requirement of utilities, etc if any, should be clearly indicated by tenderer in the offer.

3.4 The total value of the offer will be evaluated on.

i. The cost of the basic machine.

ii. Cost of the concomitant accessories according to tenderer specification.

iii. Cost of any other accessory treated as concomitant accessory.

iv. Application duties and taxes, insurance, freight and installation and Commissioning charges.

v. Cost of CAMC for period 05 years. However, this will not form part of Contract Value.

3.5 Technical experts of the manufacturer during commissioning of machine will fully and adequately train the operators/ maintenance staff nominated by the consignee **on Shop floor for minimum of 10 working days.**

## 4.0 BASIC DESIGN FEATURES:

4.1 The basic parameters of the Motorized Turn-tables shall be as per Schedule-I. The bidders are required to submit details as per Schedule-I.

4.2 The Turn-table shall be designed to be mounted in a concrete pit, with the rails at floor level for direct loading and unloading of Bogies from one track to another within a shop and shall be at factory floor level, suitable for free movement of vehicles and other material handling equipment weighing upto 7 MT, when the Turntable is not in use.

4.3 As the DPRS Bogie is rolled on to the turn-table, two pins/lugs by the side of rails at same level shall stop the Bogie near the centre. Simultaneously, another pair of pins/lugs shall rise on the other side to support and hold the Bogie in place while being rotated with Turntable.

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The pins/lugs can be actuated through a proximity switch/electronic sensor or other mechanical device.

- 4.4 Once aligned with the transfer track in the required direction, the lugs shall drop back into the turn table and the rail shall be lifted slightly at one end through a cam arrangement, to eject and rollout the Bogie on to the aligned track.

#### 4.5 **SPECIFIC CHARACTERISTICS:**

- i) The unit shall be provided with suitably positioned individual control, for the Turn-table, at the nearest column.
- ii) The driving unit shall drive the Turn-table on its centre.
- iii) The unit shall be provided with motorized operation for rotation with option of manual mode through clutch system for easy changeover.
- iv) The unit shall have low power consumption.
- v) The Turntable shall have controlled rotation in 90° segments & beyond up to 360°. Rotation shall be in both directions. The Turn-Table shall automatically stop when aligned to the unloading line. The turning operation shall take 5 to 10 seconds. After unloading, the Turntable shall come to original position within 5 to 10 seconds for next Bogie.
- vi) The unit shall have removable covers for access to the lubrication points for centre pivot and the slewing mechanism. However, the bearings, slewing ring rollers, gear box and motor shall be of completely sealed type and should not suffer any damage even if submerged in water while washing the floor or due to rain / flood water.
- vii) The unit shall incorporate all safety devices/features so as to provide complete protection to the operator and the Turn-table.

#### 5.0 **CONCOMITANT ACCESSORIES:**

- 5.1 The tenderer shall supply a list of concomitant accessories, which will be supplied along with the machine. The cost of each listed concomitant accessory should be quoted separately. Wherever for any reason the cost of any concomitant accessory is included in the basic price of the machine the same should be specifically mentioned.
- 5.2 Any other accessory, which in the opinion of the tenderer can contribute to higher performance, should be indicated and quoted separately.
- 5.3 A maintenance tool kit containing hand tools is required to cover all the fasteners of all sub-assemblies of the equipment.

#### 6.0 **SPARES & CONSUMABLES**

- 6.1 The tenderer should furnish details of spares covered under warranty as per Annexure-A.
- 6.2 List of important spare parts and accessories with their part number and costing.
- 6.3 The tenderer should be furnishing the price list of spare parts required for two years normal maintenance of the equipment. Sources of supply of spares used other than that of manufacturer should be furnished by the tenderer.
- 6.4 List of recommended spares for normal maintenance after expiry of warranty period to till useful life of the equipment and these spares should be readily available in the market with your authorised stockists.

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- 6.5 List of recommended consumables for two years shall be quoted separately.
- 6.6 Useful life estimated/expected for each equipment and its sub assembly should be indicated by the tenderers.

#### 7.0 OPTIONAL ACCESSORIES

Any other accessory, which is in the opinion of the tenderer can contribute to higher production rates, should be indicated and quoted separately mentioning prices of each accessory.

### 8.0 INSPECTION OF EQUIPMENT & TESTING AT MANUFACTURERS WORK

- 8.1 Manufacturers must have suitable facilities at their works for carrying out various performance tests on the equipment. The tenderer should clearly confirm that all the facilities exists and shall be made available to the inspecting authority.
- 8.2 A test report from NABL certified LAB should be submitted in respect of accuracies and other detection measurement parameters given in specification. Such a certificate will be provided before installation of the system at Site. Inspecting agency will verify all above parameters indicated in the specification before granting commissioning certificate.
- 8.3 Any precaution & extra care intended in the use of the equipment should be explicitly informed.
- 8.4 A load and functional test must be carried out at the manufacturer's works. Reliability of the equipment shall be demonstrated to the satisfaction of the appointed inspector or inspecting agency.

### 9.0 INSTALLATION, COMMISSIONING AND PROVING TESTS

- 9.1 The contractor or his agent would be required to carry out a joint check at the 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 inspection be done immediately on receipt of the machine by consignee to avoid commissioning delays due to shortages/transit damages.
- 9.2 Installation of the machine would be done under the supervision / direction of firm engineers. The contractor shall arrange commissioning of machine after installation is done. Adequate number of teams of technical experts will be made available so that the commissioning delays are eliminated. Such personnel will be required to be present as soon as the machine has been received.
- 9.3 The contractor or his agent shall commission the machine within 45 days from the date of receipt of machine.
- 9.4 The machine performance shall be demonstrated to the full satisfaction of consignee at the consignee's works.
- 9.5 A load and functional test must also be carried out at the consignee works.
- 9.6 If an assembly/sub-assembly requires to be taken back to the manufacturer's premises for repairs/replacement either before commissioning or during warranty, the manufacturer or his agent would be required to submit a Bank Guarantee.

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9.7 In case the entire machine has to be taken back, a Bank Guarantee would have to be submitted. The Bank Guarantee should be of adequate value so as to cover the cost of the assembly/sub-assembly/paid up cost of the machine.

## 10.0 RESPONSIBILITY OF CONSIGNEE & BIDDER :

### 10.1 RESPONSIBILITY OF CONSIGNEE-

10.1.1 RCF shall provide suitable site for construction of foundation.

10.1.2 RCF will provide electric connection at the column nearest to the Turntable area (within a range of 10 to 15 meters from the pit) and all further arrangements/connections shall be done by bidder at his own cost. However, during installation, electricity shall be provided by RCF on chargeable basis (as per Railways rules) based upon the number of units consumed for which supplier will have to deposit requisite security deposit for taking connection and supplier will also install consumption meter at his own cost. Water will; however, be provided by RCF free of cost to bidder.

10.1.3 In case a road mobile crane has to be arranged by the supplier for material handling, a clear approach for it up to the site shall be provided by RCF.

10.1.4 RCF will provide open space for storage of material/equipment required for working/ construction of foundation and installation of the equipment etc. However, safety and security arrangements for keeping watch on the material will have to be done by bidder at his own cost.

10.1.5 Work Load (including input material, consumables, compressed air, diesel, electricity etc.) for commissioning period and proving out the M&P shall be provided by RCF free of cost.

### 10.2 RESPONSIBILITIES OF SUPPLIER-

10.2.1 Unloading of the M&P and its accessories etc. at RCF shall be done by supplier at his own cost. Supplier will ensure presence of his representative for safe unloading of the M&P. RCF shall not be liable for any damages, demurrages on account of the same. Supplier will intimate, at least 3 days before, the expected time of arrival of M&P at site for information only. Further, internal movement of M&P to the site of installation shall also be done by the supplier.

10.2.2 Supplier shall be responsible for design of the foundation keeping in view the soil conditions at site. Supplier will make his own arrangements for the survey & investigation of soil.

10.2.3 Detailed foundation drawings along with other civil works (if any) including structural, reinforcement details and Bill of Materials required should be submitted within 30 days of issue of LOA. However, all civil and electrical works including arrangement of all technical and unskilled manpower and material for the same shall also be done by the Supplier. ~~The supplier shall also submit Assembly Drawings, Detail Drawings, Exploded Views, Schematic Diagrams, Wiring Diagrams, Isometric Drawings, Orthographic Views, Piping and Instrumentation Diagrams (P&IDs), GA drawing, foundation drawing, 3D CAD Model or simulation drawing of machines~~ Details of such civil works shall be mentioned by the supplier in the Technical cum Commercial offer (Packet 1) and cost for doing the same shall be mentioned in Price Schedule (Packet 2 as Annexure I-A). Construction of foundation is to be completed before arrival of the consignment at site.

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10.2.4 All facilities required for the Installation & Commissioning such as manpower, material handling equipment like cranes, lifting arrangement etc., tools & tackles, welding or cutting machine, first fill of all lubricants/oils etc. shall also be the responsibility of the supplier.

10.2.5 Any other resources/facilities required as deemed necessary by supplier.

10.2.6 The supplier shall depute his authorized experienced erection/commissioning team immediately on receipt of material at site at his own cost. The supplier shall arrange to keep all civil works including foundation & other electrical works ready prior to arrival of equipment at site so that precious time is not wasted after arrival of the M&P at site and the work of installation can start immediately.

10.2.7 If an assembly/sub-assembly requires to be taken back to the manufacturer's premises for repairs/replacement either before commissioning or during warranty, the manufacturer or his agent would be required to submit an Indemnity Bond. In case the entire M&P has to be taken back, a Bank Guarantee would have to be submitted. The Indemnity Bond/Bank Guarantee should be of adequate value so as to cover the cost of the assembly /sub-assembly/paid up cost of the equipment.

10.2.8 The tenderer will be required to Install, Commission & Prove out the Motorised Turntable(s) as per the time line given in Schedule-II.

## **11.0 TECHNICAL LITERATURE**

11.1 One copy of the printed illustrative catalogue showing technical features of the machine and its elements must be enclosed with each copy of the bid.

11.2 The successful tenderer will have to furnish, for each machine 4 copies of spare parts catalogue giving the part list number of each component with exploded views and assembly drawings of major assemblies, maintenance manual, safety manual, trouble shooting guide, operational manual of the machine and all electrical and hydraulic circuit diagrams to the consignee directly within 3 months of the placement of order. The bidders should provide a list of literature, they will supply along with the machine. The technical literature shall be provided for complete machine including imported and indigenously purchased components/sub-assemblies.

## **12.0 SPECIAL FEATURES**

Special features incorporated in the equipment, if any, shall be indicated separately by the tenderer, clearly indicating advantages of the features.

## **13.0 MAKE**

13.1 The supplier shall clearly mention whether the system quoted is Indian make or imported. If Indian make, the tender should be accompanied by duly sanctioned factory license & relevant documents & also produce records of installation & satisfactory after sales service performance of their equipment from at least one govt. Institution of similar or large size for duration at least 3 Years duration.

13.2 If imported item, the OEM firm should be registered for operations in India for a minimum period of last 3 years. In case this is not so, the dealer should be authorised regional supplier & service provide for the late 3 years. He should also produce installation & satisfactory after sales service record of duration at least last 3 years from at least one govt. Institution for a system of similar or larger size. Further the tender should be accompanied by authorisation certificate from OEM.

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13.3 The supplier shall furnish the complete details of Model No. Make & Manufacturer's details/ address, Country and authorization details of Dealership.

13.4 ~~The supplier shall furnish list of Bought out items along with make of all the items. OEM Authorization Certificate should be provided by the reputed make of all the Bought Out Items.~~ The supplier shall purchase components or parts of machines exclusively from an authorized OEM or OEM-authorized dealer, excluding those manufactured by the seller. Adherence to the standard list of makes and models to the applicable items as specified below is mandatory. The supplier shall provide proof of compliance upon request.

S.No.	ITEM	MAKE
1	Motors	ABB / CROMPTON / SIEMENS / KIRLOSKAR / MARATHON/ HAVELLS/WEG
2	Cables	KEI/LAPP /SIEMENS / POLYCAB /FINOLEX / UNIVERSAL / ICC/BELDEN/ PRYSMIAN
3	Contactors	L&T / SCHNEIDER / C&S / SIEMENS / BCH/EATON/ ALLEN BRADLEY
4	Time relays	SIEMENS / BCH / L&T / SCHNEIDER / C&S/ OMRON/EATON
5	Limit Switches	CCE / ELECTROMAG / C&S / ANAND SYSTEM/ HONEYWELL/ OMRON
6	<del>Master controller</del>	<del>CCE / ELECTROMAG /C&amp;S / ANAND SYSTEM/SCHNEIDER ELECTRIC/ABB</del>
7	Overload relays	SIEMENS / BCH / L&T / SCHNEIDER / C&S/ EATON/ FUJI ELECTRIC
8	Moulded case circuit breakers	L&T / SCHNEIDER / C&S/SIEMENS / HAVELLS / BCH / ABB/ EATON/ MITSUBUSHI ELECTRIC
9	Resistors	ELECTROMAG /CCE / C&S / ANAND SYSTEM/ OHMITE/ VISHAY
10	<del>Drag Link Chain system</del>	<del>IGUS / RS COMPONENTS &amp; CONTROL / SILVERLINE / CKS/ TSUBAKI/ REXNORD</del>
11	<del>Safe shrouded DSL conductors wherever applicable</del>	<del>INSUL-8 / SAFE TRACK / SAFE LINES / SILVER LINE / SAFE LINK/ CONDUCTIX WAMPFLER/ DUCT O WIRE</del>
12	<del>Thrustor brakes</del>	<del>CCE / ELECTROMAG / GALVI / KATEEL / ANAND SYSTEM/ HINDUSTAN ELECTRIC MOTORS/ STROMAG</del>
12	<del>Electrical isolators</del>	<del>SIEMENS / L&amp;T / BCH / C&amp;S/ SCHNEIDER ELECTRIC/ LEGRAND</del>
14	<del>VVVF Drive</del>	<del>ABB / L&amp;T / YASKAWA / SCHNEIDER / MITSUBISHI ELECTRIC / DANFOSS / FUJI ELECTRICS / TOSHIBA INDIA / CROMPTON- GREAVES/ SIEMENS/ ALLEN BRADLEY/ DELTA /ROCKWELL- AUTOMATION</del>
15	Bearings	NBC / SKF / FAG / NORMA / NRB / NTN / KOYO/TIMKEN/ NSK/ INA
16	<del>Wire Rope</del>	<del>USHA MARTIN/ BHARAT WIRE</del>

#### 14.0 DEVIATIONS:

The tenderer should clearly certify that the machine offered fully meets the specification various design features incorporated in the machine to fulfil different technical performance



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requirements should be fully explained in the offer. However, minor deviations from this specification, which do not affect or in any way interfere with the stipulated performance standards, or would result in improved safety/reliability or would reduce recurring maintenance/operating cost of the machine, can be considered for acceptance.

#### **15.0 SERVICING FACILITIES:**

- 15.1 Service facility in Punjab, Address and contract details including phone and fax no. to be provided. The facility should have the necessary equipments recommended by the manufacture to carry out preventive maintenance test as per guideline provided in the service / maintenance manual. Firm should provide list of equipment available for providing calibrations and routine maintenance support as per manufacturer.
- 15.2 Supplier will undertake for service repairs & replacement of any needed part as & when needed.
- 15.3 Maintenance contract to be quoted after the expiry of maintenance period quoted above with details of scheduled visits, part covered under contract & cost of parts not covered as well.
- 15.4 The tenderer shall clearly spell out in the offer about the facility available with him or his agent/dealer for providing adequate after sales service in Punjab during warranty period.
- 15.5 The contractor shall give a comprehensive spare part list with OEM details and price for all the sub systems.
- 15.6 The tenderer/contractor shall provide list of spares, consumables required for maintenance for 7 years after completion of warranty period as per annexure A.
- 15.7 Tenderer shall provide expected life for the components of the system and provide the maintenance schedule required for 10years for as per annexure -
- 15.8 Total up time of the system should be at least 90%. Up time shall be counted in following manner:-
- 15.9 Total breakdown of less than 8 hours shall be ignored for the purpose of this calculation.
- 15.10 Penalty may be imposed if the down time is more than 10% without any valid reasons. The levy of token penalty as deemed fit based on the merit of the case may also be considered.
- 15.11 Tenderer shall provide the service charges /per day/per man for deputing service engineer on the machine on requirement separately for Indian and Foreign engineer.

#### **16.0 WARRANTY**

- 16.1 As per IRS conditions or as quoted by the tenderer whichever is longer.
- 16.2 Warranty period for part or machine shall be extended after completion of warranty period by the duration under which the part or machine remains under breakdown during warranty.

#### **17.0 COLOUR :**

- 17.1 All steel surfaces shall be thoroughly cleaned by disc grinding/sanding or shot/sand blasting and then immediately painted (except mechanical mating surfaces) with two coats of red oxide-zinc chromate primer as per IS: 2074. All weld joints shall be cleaned of slag and spatters before painting. The paint surfaces of bought out items shall not be disturbed generally.

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17.2 The machine/equipment accessories shall be painted with two coats of synthetic enamel paint in Golden Yellow colour as per IS : 5-1978 (if any specific colour and code standardized by BIS is in vogue, the same should be mentioned by the bidder). The total dry film thickness on the steel surfaces shall be about 100 microns.

#### 18.0 PAYMENT TERMS

80 % on receipt of machine and balance 20% after successful commissioning of machine and submission of Bank guarantee equivalent to 10% of P.O value valid up to the warranty period of the machine.

#### 19.0 DOCUMENTS TO BE UPLOADED FOR TECHNICAL EVALUATION

Following documents must be submitted by the tenderer along with the offer:

- 12.1.1.1 Clause wise comments on technical specification
- 12.1.1.2 Documentary evidence of previous supplies to other Railways
- 12.1.1.3 Authorisation certificate of OEM in case of Authorised dealer
- 12.1.1.4 Detailed list of spares covered under warranty. (Annexure-A)
- 12.1.1.5 Details of deviations from specification if any as per Annexure-B

Tenderer not submitting the above information may note that his offer is liable to be ignored.

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### **SCHEDULE - I**

S.No	Description	Required Specification
1.	Capacity (max.)	14 Ton
2.	MEMU DMC/ TC Bogie Dimensions	Length: 4288mm Width: 2950mm Height: 955mm Weight: 11.5 MT Wheel Base: 2896mm
3.	Application	For turning of DPRS 3-Phase MC Bogies in assembled condition
4.	Track Gauge	1676mm
5.	Turn Table Diameter	5400mm $\pm$ 10mm
6.	Speed of turn Table	0.25 rpm
7.	Main Pivot Bearing	The main pivot of the turn table shall be made of from heavy duty pipe with heavy base and should be anchored to the central foundation. The top rotating portion should be fixed to the platform deck to rotate about the main pivot with the help of Rollers rotating on anti-friction bearing to take care of horizontal loadings.
8.	Platform Deck	The Frame of the Platform Deck should be constructed out of RSJ Sections wide flange beam, Standing 'I' Beam of reinforced beam fabricated from structural selections. Two BG Rails of 60 Kg/ 52 Kg per meter should be layed parallel to each other on the platform deck. The turntable should be covered with Chequered plate (min.8 mm thick) to cover the whole circular frame with flush covers. Provision for locking & unlocking of the turntable at 90° should be provided.
9.	Circular Track	A circular track of rail/ bent sq. bar should be welded on circular thick plate ring with leveling bolts and anchor bolts and should be provided inside the pit for circular movement of the turn table.
10.	Motorized Slew Drive Mechanism	4 wide tread wheels (2 drive + 2 idle) with fixed axles and rotating on anti friction bearings should be provided at the bottom portion of the main platform. Diametrically opposite drive wheels shall provide & should be driven with the help of geared motor fitted on the wheel assemblies. The current collection shall be provided from the centre of the Central pivot with the help of Slip rings. Spotting of the pre-set location shall be achieved through limit switches and its locking shall be achieved through the manual movement of

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		the locking lever. Slew Motor- 2 X 0.75 HP Sq. cage Type
7.	<b>Operation &amp; Rotation</b>	Motorized with manual mode option. 360° rotation in the segments of 90°.
8.	<b>Clutch System</b>	<b>Suitable for easy changeover to manual mode.</b>
9.	<b>Electric Motor</b>	<b>Suitable capacity as per requirement.</b>
10.	<b>Lubrication</b>	<b>Suitable lubrication system to be provided</b>

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## **SCHEDULE-II**

### **SCHEDULE OF DELIVERY:**

S N	Activity	Activity Code	Time Schedule (to be accepted by firm)
1	Issuance of PO	D1	NA
2	Submission of General Arrangement drawing to Consignee	D2	D1+30
3	Approval of General Arrangement Drawing By Consignee	D3	D2+30 days
4	Confirmation of availability of clear site by consignee.	D4	By D3 i.e at the approval of GA drawing
5	Completion of Foundation	D5	D4+90 days or latest by D6
6	Supply of Machine	D6	D3+90 days
7	Power Connection for the machine and other on site requirement to be provided by railways.	D7	D6+7 days
8	Installation of Machine Commissioning and Prove Out of machine	D8	D6+45 days
9	Warranty	D9	D12+24 months

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#### **ANNEXURE-A**

Tenderer shall provide list of spares, consumables required for maintenance for 7 years after completion of warranty period as below:

S.N.	ITEM	PART NO.	SERVICE LIFE	PRICE

#### **ANNEXURE –B**

DEVIATION STATEMENT ( IF ANY)

S.N.	Specification Clause No.	Deviation ( If Any)
1.		
2.		
3.		
4.		
5.		

RAIL COACH FACTORY, KAPURTHALA			
Specification No.	Description	Page No.	Date
Mech/ Project/ Motorized Bogie Turn Table	Motorized Bogie Turn Table	15 of 15	05.06.2024

**ANNEXURE –C**

**Tentative layout drawing to be provided by User Shop**