

संख्या: COFMOW/IR/M-441/Pt.III/HRE

दिनांक: 25.6.2018

**Sub: Expression of Interest for Hydraulic Re-railing Equipment**

COFMOW has been procuring Hydraulic Re-railing Equipment from a few European manufacturers like M/s. LUKAS & M/s.Hegenscheidt and an Indian Manufacturer M/s. BEMCO through Global tender for the last more than 15 years. There shall be other type of Re-railing Equipment available in the Global as well as Indigenous market, which can be useful in the accident relief operations at the accident site. In order to explore the various other types of Hydraulic Re-railing equipment available in Indian and Global Market, a Global Expression of Interest is required to be floated.

It is, therefore, requested to float a Global Expression of Interest in the subject matter, for which Objective, Scope & Capability, Requirements & Demonstration have been explained in the enclosed Annexure-I.

Submitted please.

**(SANJAY GOEL)**  
**CHIEF MECH.ENGINEER (P)**

**EXPRESSION OF INTEREST FOR HYDRAULIC RERAILING EQUIPMENT (HRE)**

**OBJECTIVE:**

The prime objective of this Expression of Interest is to identify suitable and new generation Hydraulic Re-railing Equipment and their suppliers, both Indian & Global and to be used primarily for re-railing of Railway Rolling Stock such as Coaches, Wagons and Locomotives and all other Rolling Stock on Indian Railways, in the event of an accident, for quick, safe and reliable re-railing operations.

The brief details of existing Hydraulic Re-railing Equipment on use in Indian Railways shall be as per Annexure-II.

The detailed Specification for Hydraulic Re-railing Equipment (Specification no. COFMOW/IR/HRE/2015, Ver.2) is enclosed and can be accessed at COFMOW Website Home Page ([www.cofmow.gov.in](http://www.cofmow.gov.in)).

**SCOPE & CAPABILITY:**

The Hydraulic Re-railing Equipment offered shall be capable of performing re-railing operations of Railway Rolling Stock with improved reliability and performance. Equipment should be capable of erection, re-railing and clearance of any Rolling Stock i.e. Diesel or Electric Locomotives, Passenger Coaches, Goods Wagons including Tank Wagons and all other types of Rolling Stock of all gauges (Broad Gauge, Metre Gauge & Narrow Gauge) in use of Indian Railways.

The equipment shall be capable to perform under severe conditions at an altitude of 2000 meters with temperature ranging from -10°C to 55°C and relative humidity upto 100%. The equipment shall be suitably tropicalized for use under Indian operating conditions so that under high humidity and high temperature conditions, the material used for manufacture of the equipment should not get corroded/rusted or develop fungus. The equipment should be of robust design, portable, light weight and able to withstand manual handling while moving from place to place even on rough terrain. The equipment should not suffer any damage even after being dropped from a height of not exceeding 2 meters. The equipment should be easy to dismantle and key parts easily accessible for repairs and adjustments.

**REQUIREMENTS :**

Bidders should submit complete details of the Hydraulic Re-railing Equipment offered, Technology & Methodology used along with budgetary quote including cost of each element/equipment.

International/Indian standards used in manufacture and safety features provided shall be furnished in the offer. Ease of maintainability of the equipment may also please be explained in the offer. Rate of each item/equipment along with material used,

construction details and its operation, to the extent feasible, may also please be furnished in the offer.

Indian Railways is looking for improved technology superior to the existing HRE equipment detailed in Annexure-II, with suitable improvements in –

- Reduction in Weight
- Ease of operation
- Improved reliability
- Less/ease of maintenance & manoeuverability
- Any new generation equipment

Firms/Bidders participating in the EOI shall clearly bring out the technological improvements from the existing HRE equipment already in use on Indian Railways.

**DEMONSTRATION :**

Bidder may also be called for practical demonstration of their equipment to explain its features as well as to prove out the stated capacity and capability, at a place decided by COFMOW. In the demonstration, RDSO and/or any other agency nominated by COFMOW may also be associated.

## ANNEXURE-II

**Brief Details of existing Hydraulic Re-railing Equipment is given below:**

|     |   |  |  |
|-----|---|--|--|
| 1.  | Portable power operated hydraulic pump & Petrol engine                              | Suitable BHP engine to drive hydraulic pump of at least 300 bar pressure. Fuel tank capacity of engine should be sufficient for at least 2 hrs. of working in one fill.  | 60 kg max. (Dry wt. of Engine & Pump assly. mounted on skid with Hyd. oil sump cap of 40 Litres. |
| 2.  | <b>Portable Control Table</b>   | Should accommodate 4 control valves for simultaneous independent operation of lowering of lifting of 4 jacks traversing/displacing jacks   | <b>As low as possible (Currently ~50 kg)</b>   |
| 3   | <b>Portable Hand Pump</b>   | Double stage, radial or axial piston type capable of generating at least 300 bar pressure with suitable output to meet the maximum requirement of the jacks at a time  | <b>As low as possible with oil</b>   |
| 4.  | <b>High pressure hoses &amp; suitable hose connectors</b>                           | Hoses to DIN EN 853 & SAE 100 R2 with suitable couplings & oil retaining valves at both ends for easy connection and disconnection. Test pressure double of operating pressure & burst pressure double of the test pressure.   | --   |
| 5.  | <b>Re-railing Bridges:</b>  | Bridges should be of high quality light metal alloy in hollow body extruded construction designed to ensure couplability of 1 bridge with another Construction height not to exceed 200 mm & Width not exceeding 350mm. Section of the bridges should be so chosen that over a freely supported length of 1.0m, capacity should not be less than 500 kN, when fully supported the bridges should be able to take a load of not less than 1000 kN |  |
| 5.1 | 4.4m length   |  | 180 kg   |
| 5.2 | 3.3 m length  |  | 135 kg   |
| 5.3 | 2.2 m length  |  | 92 kg  |
| 5.4 | 1.1 m length  |  | 50 kg  |
| 6.  | <b>Roller Carriage</b>  | Roller carriage should permit unhindered running on individual & coupled re-railing bridges during lateral transportation. Should be suitable for a load of 100t with construction height upto 115mm.  | As low as possible<br><br>(Currently ~ 70 kg)  |
| 6.1 | With Integrated Top Plate/Sliding Plate,  |  |  |
| 6.2 | Duo Traversing Jack (Push/Pull Capacity: 17t/9t) with Integrated Anchoring Cylinder |  |  |

|       |   |   |  |
|-------|---|---|--|
| 6.3   | <u>Distance Bar</u><br><br><u>Alternatively -</u>                               |   |  |
| 6.1.1 | With Removable Top Plates.  | (If Roller carriage is suitable for use with removable top plate, the construction height including the top plate should be within 140mm).  |  |
| 6.1.2 | Displacing jack (Push/Pull Cap.: 12t/6t)  |   |  |
| 6.1.3 | Counter Supports (Single & Twin).   |   |  |
| 6.1.4 | Distance bar  |   |  |
| 7.    | <b>Lifting Belt:</b> (Equipment required for over-turned or capasized vehicles) | Manufactured out of wire rope (gallvanised steel) of suitable dia, with complete fittings certified for a lifting/carrying capacity of 35 to 40 t   |  |
| 8.    | <b>Telescopic Hydraulic Jack with Claw</b>                                      | Jack shall be produced from a high strength light metal alloy. The cylinder shall be forged to shape from a high-strength AI ALLOY.<br>Height of lifting point above ground level (125mm) | Not specified<br><br>(Currently $\approx$ 61 kg) |
| 9.    | <b>Telescopic Jacks</b>   |   |  |
| 9.1   | <b>Jack (High construction):</b>  | Piston 1: 550 to 600 kN & Piston 2: 250 to 300 kN<br>Closed Ht: 400 $\pm$ 50mm, Lift: 450 $\pm$ 50mm  | 40 kg max.                                       |
| 9.2   | <b>Jack Low construction):</b>  | Piston 1 : 550 to 600 kN & Piston 2: 250 to 300 kN<br>Closed Ht: 225 $\pm$ 25mm, Lift: 200 $\pm$ 25 mm  | 30 kg max.                                       |
| 9.3   | <b>Jack (High construction):</b>  | Piston 1 : 1000 to 1200 Kn & Piston 2: 550 to 600 kN<br>Closed Ht: 400 $\pm$ 50 mm, Lift : 450 $\pm$ 50 mm  | 80 kg max.                                       |
| 9.4   | <b>Jack (Low construction):</b>   | Piston 1 1000 to 1200 kN & Piston 2: 500 to 600 kN<br>ClosedHt: 225 + 25 mm, Lift : 200 + 25 mm   | 40 kg max.                                       |
| 9.5   | <b>Multi Stage Jack support</b>   | Required for lifting loads over a height of 500 mm in steps, Approx. Capacity: 750 – 800 kN<br>ClosedHt: 225 $\pm$ 25 mm, Lift: 200 $\pm$ 25 mm   | 50 kg max.                                       |

|     |                               |  |  |
|-----|-------------------------------|--|--|
| 10. | <b>Pulling Equipment/Jack</b> | Pulling equipment consists of pulling jack of 200 to 250 kN capacity, holding rope and rail attachment suitable for track gauge 1676 mm                        | Not specified<br>(Currently $\approx$ 86 kg)     |
| 11. | <b>Tilting Jack</b>           | Suitable for quick re-railing of a single set of wheels of railway goods wagon<br><br>Capacity : 200 – 250 kN<br>Closed ht. 550 – 600 mm, Stroke : 400 -450 mm | Not specified<br><br>(Currently $\approx$ 15 kg) |

## IMPORTANT FEATURES OF THE TENDER

### 1 INSTRUCTIONS TO TENDERERS FOR FILLING TECHNICAL BID

- 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 of any of these accessories, the price must be quoted for comparison purposes and their recommendation/suggestion **to be** indicated in the offer. Tenderers should also quote for optional accessories, spares and consumable spares as asked in the specifications.
- 1.3 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.
- 1.4 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.
- 1.5 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 under Annexure A of Section VI, the values as given in the specification shall be taken as confirmed by the tenderer and offer evaluated accordingly.
- 1.6 Bidder or his authorized agent, in their own interest, should visit the consignees listed in clause 3 Section-IV with prior appointment with Controlling Officer and acquaint themselves with existing process of manufacturing/remanufacturing, site conditions, availability of crane facility etc.
- 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. A copy of the alternative specifications offered should be sent along with the offer. The Tenderer should also furnish "Statement of Deviations" from tender specifications (as per Annexure A, Section-VI) along with the offer.

## 2 DESCRIPTION:

2.1 Hydraulic re-railing equipment as per specification COFMOW/IR/HRE/2015, Ver-2 to be used primarily for re-railing railway rolling stock such as coaches, wagons and locomotives in the event of accident. The equipment shall have specific characteristics as per clause 1 of section-V.

### 2.2 Leading parameters

The equipment shall conform to basic design features / parameters as clause 1 of specification (section-V).

### 2.3 Performance Standards:

---

2.3.1.1 High pressure hoses should conform to DIN-EN853 and SAE 100 R2

2.3.1.2 The minimum burst pressure of the hoses shall be at least four times the maximum operating pressure as required by SAE J517

2.3.1.3 Hydraulic circuit diagram of the equipment prepared in accordance with ISO R1219 shall be incorporated in the offer.

#### 2.3.2 Prove out at firm's premises:

Final inspection and acceptance test

1. Dimensional check.
2. Mechanical functioning test.
3. Rated load and over load test etc.

#### 2.3.3 Prove out at consignee's works:

The equipment performance shall be demonstrated by contractor or his agent after successful commissioning at the consignee's works. The manufacturer is required to prove out the claimed capability at the consignee's premises also after commissioning.

## 3 QUANTITY & CONSIGNEE

| SL. | CONSIGNEE   | Key No. (COFMOW ID) | QUANTITY REQUIRED |
|-----|---|---------------------|-------------------|
| 1   | SSE/C&W/SATNA                                       | 216046              | 1 set             |
| 2   | SSE/C&W/ MOTIBAGH                                   | 216323              | 1 set             |
| 3   | SSE/C&W/GONDIA                                      | 216398              | 1 set             |
| 4   | SSE/C&W/BHILAI                                      | 216399              | 2 sets            |
| 5   | SSE/C&W/BILASPUR                                    | 216424              | 2 sets            |
| 6   | DIRECTOR, SUPERVISOR<br>TRAINING CENTRE<br>BANGLORE | 216425              | 1 set             |
| 7   | Sr. DE/TRS/ KALYAN                                  | 216427              | 1 set             |

Total = 9 sets

## 4 SCOPE OF SUPPLY.

4.1 The scope of supply shall include design, manufacturing supply, installation, testing, commissioning and proving of equipment. It includes all the concomitant accessories/ equipments as detailed in the specification and other concomitant accessories/ equipment, which the manufacturer considers essential to make the equipment fully operational, when installed and commissioned. It shall also include installation and commissioning of related equipment, training of personnel in operation and maintenance of equipment and supply of technical documentation.

**4.2** Bidder should quote per set price and one set of re-railing equipment shall consist of the following items whose cost shall be quoted individually also.

| <b>S. NO.</b>           | <b>ITEM DESCRIPTION</b>  | <b>QTY.</b>          |
|-------------------------|--|----------------------|
| 1.                      | Pump set with petrol engine<br>(refer clause 1.2.2 of section V)               | 1 No.                |
| 2.                      | Portable control table<br>(refer clause 1.2.3 of section-V)                    | 1 no.                |
| 3.                      | Portable Hand pump<br>(refer clause 1.2.4 of section-V)                        | 1 No.                |
| 4.                      | High pressure hose<br>(as defined in clause 1.2.5 of section-V)                | 1 set                |
| 5.                      | Rerailing bridges (refer clause 1.2.6 of section-V)                            |                      |
| 5.1                     | 4.4 mtr. length  | 1 no.                |
| 5.2                     | 3.3 mtr. length  | 1 no.                |
| 5.3                     | 2.2 mtr. length  | 1 no.                |
| 5.4                     | 1.1 mtr. length  | 1 no.                |
| 5.5                     | Bridge coupling for joining two<br>re-railing bridges                          | 1 set                |
| 6.                      | Roller carriage (refer clause 1.2.7 of section-V)                              |                      |
| 6.1                     | Roller carriage with integrated stainless steel<br>Top plate and sliding plate | 2 nos                |
| 6.2                     | Traversing jack with integrated anchoring<br>Cylinder (with duo traversing)    | 1 no + 1 spare       |
| 6.3                     | Distance bar   | 1 pair (2 nos.)      |
| <b>Or Alternatively</b> |  |                      |
| 6.1                     | Roller carriage with removable top plate                                       | 2 nos.               |
| 6.2                     | Displacing jack along with other accessories                                   | 2 sets + 1 spare set |
| 6.3                     | Counter support (Single and Twin)  | 1 set + 1 spare      |
| 6.4                     | Distance bar   | 1 no.                |
| 6.5                     | Any other accessories required in the system                                   | 1 set                |
| 7.0                     | Lifting belt and step jack with accessories (Refer Clause 1.2.8 of section-V)  |                      |
| 7.1                     | Lifting belt   | 2 nos.               |
| 7.2                     | Step jack with claw  | 3 nos.               |
| 7.3                     | Complete set of accessories to be<br>used with step jack and lifting belt      | 3 sets               |
| 8.                      | Telescopic jacks (refer clause 1.2.9 of section-V)                             |                      |
| 8.1                     | Telescopic jack 600/300 KN.<br>closed height 400mm $\pm$ 50mm                  | 4 nos .              |
| 8.2                     | Telescopic jack 600/300 KN<br>closed height 225 $\pm$ 25mm                     | 2 nos.               |
| 8.3                     | Telescopic jack 600/1200 KN<br>closed height 400 $\pm$ 50mm                    | 4 nos.               |
| 8.4                     | Telescopic jack 600/1200 KN<br>closed height 225 $\pm$ 25mm                    | 2 nos.               |

|      |   |        |
|------|---|--------|
| 8.5  | Multistage jack 750/800 KN<br>closed height 225 ± 25mm<br>(if jack offered against 8.4 can be used as multi stage jack<br>tenderer may quote for only 2 support sets suitable for<br>using with jacks as at 8.4. In that case multistage jack at 8.5<br>with support sets may not be quoted.) | 2 nos. |
| 9.   | Pulling Equipment (refer clause 1.2.10 of section-V)  |        |
| 9.1  | Pulling jack  | 1 no.  |
| 9.2  | Holding rope  | 1 no.  |
| 9.3  | Pulling rope  | 1 no.  |
| 9.4  | Rail attachments suitable for track gauge (BG) 1676 MM  |        |
| 10.  | Hydraulic tilting jack (refer clause 1.2.11 of section-V)   |        |
| 10.1 | Tilting jack 200 to 250 KN<br>closed height 550 to 600 mm   | 1 no.  |
| 11.  | Distributor valve (Refer clause 1.2.12 of section-V)  | 1 no.  |
| 12.  | Axle pusher   | 1 no.  |
| 13.  | Hose connector  | 6 nos. |
| 14.  | Tool box  | 1 no.  |
| 15.  | First fill of Hydraulic oil, Lubricating oil & Fuel oil.  |        |

The above items will comprise one set of equipment and total cost shall be indicated. It is also compulsory to quote individual price of each of the above items failing which the offer will be suitably loaded for the price of item not quoted.

4.2.1 Any other accessory/ equipment, which the manufacturer considers essential to make the equipment fully operational, when installed and commissioned and proved out.

#### 4.3 **OPTIONAL ACCESSORIES:**

Following optional accessories will be quoted by the tenderer. Cost of optional accessories shall be quoted separately and shall not be included in the basic price of the equipment. Cost of optional accessories will not be taken for commercial evaluation of the firms.

4.3.1 Comprehensive Annual Maintenance Contract as per clause 17 of section V.

4.3.2 Wheel set trolley as per clause no. 1.2.13 of section-V. - 1no.

4.3.3 Any other accessory which can improve the productivity, performance, reliability, efficiency, or enhance the capability of the equipment as a whole or part thereof, should be quoted as optional accessory duly explaining its advantages and limitations.

#### 5 **EVALUATION CRITERIA**

Total value of the offer will be calculated based on

- (i) The cost of basic equipment as per clause 4.2
- (ii) Cost of any other accessory treated as concomitant accessory essential for working of equipment.
- (iii) Cost of Installation & commissioning of equipment.
- (iv) Spares for two years normal operation and maintenance as per clause 5 of section-V
- (v) Duties, taxes, insurance, freight, packing charges etc

#### 6 **OTHER ITEMS TO BE QUOTED**

- (i) Optional accessories with break up of individual items as specified in clause 4.3 of section-IV
- (ii) Break-up of spares offered against clause 5 of section-V
- (iii) Cost of comprehensive AMC for five years after the warranty as per clause 17
- (iv) Consumables as per clause 6 of section V with break up of individual items as applicable

**7 DELIVERY SCHEDULE CHART:**

In the event of acceptance of the offer, the equipment shall be supplied as per the following Milestone Chart:

Name of equipment : Hydraulic Re-railing Equipment

Specification No. COFMOW/IR/HRE/2015, Ver-2

| S. No. | Activity   | Activity Code | Outer Limit of Time Schedule expected by COFMOW                                   | Time Schedule offered by bidder   | Remarks (if any)                   |
|--------|--|---------------|---|---|------------------------------------|
| 1.     | Issue of LOA   | D1            | -   |   |                                    |
| 2.     | Submission of PBG By Successful Bidder                               | D2            | D1+30 days  |   | (Cl.0701 Sec-II Of Bid. Doc. Pt I) |
| 3.     | Issue of AT / Contract By COFMOW (after verification of PBG)         | D3            | D2+30 days  |   |                                    |
| 4.     | Opening of LC by COFMOW (for foreign suppliers)                      | D4            | D3+30 days  |   |                                    |
| 5      | Delivery of equipment (FOB for foreign suppliers)                    | D5            | D4 + 180 days for the equipment under the order (for imported portion supplies)   | D4 + ___ days for the equipment under the order (for imported portion supplies)   |                                    |
|        |  |               | D3 + 180 days for the equipment under the order (for indigenous portion supplies) | D3 + ___ days for the equipment under the order (for indigenous portion supplies) |                                    |
|        | Delivery of equipment at site (for indigenous suppliers)             | D5            | D3 + 180 days   | D3 + ___ days   |                                    |
| 6.     | Installation, commissioning and proving out of equipment by supplier | D6            | 60 days after receipt of equipment at site  | ___ days after receipt of equipment at site                                       |                                    |
| 7      | Issue of PTC by consignee  | D7            | D6 + 30 days  | D6 + 30 days  |                                    |
| 8      | Warranty by supplier   | D8            | D6 + 2 years  | D6 + 2 years  |                                    |
| 9      | AMC  | D9            | D8 + 5 years  |   | If applicable                      |

Notwithstanding the delivery period indicated elsewhere in the tender document, the delivery indicated in this schedule shall be taken as overriding and final.

## Section-V

### TECHNICAL SPECIFICATION

#### ABBREVIATIONS

|                   |  |
|-------------------|--|
| A-1,A-2, A-3, A-4 | Standard paper sizes   |
| AMC               | Annual Maintenance Contract  |
| AT                | Acceptance of Tender   |
| BG                | Bank Guarantee   |
| CME               | Chief Mechanical Engineer  |
| CME/PCM           | Chief Mechanical Engineer/Post Contract Management                           |
| COFMOW            | Central Organisation for Modernisation of Workshops                          |
| COS               | Controller of Stores   |
| Db                | Decibel  |
| FA&CAO            | Financial Advisor & Chief Accounts Officer                                   |
| GA (Drawing)      | General Arrangement (Drawing)  |
| HRC               | Hardness Rockwell 'C' Scale (value)  |
| JCN               | Joint Commissioning Note   |
| JRI               | Joint Receipt Inspection   |
| LC                | Letter of Credit   |
| LD                | Liquidated Damages   |
| LOA               | Letter of Acceptance   |
| NIT               | Notice Inviting Tenders  |
| PBG               | Performance Bank Guarantee   |
| PDF               | Portable Document Format   |
| PTC               | Proving Test Certificate   |
| PU                | Production Unit (Any of the six Railway Production Units e.g. RCF, ICF etc.) |
| RDSO              | Research Design & Standards Organisation                                     |
| SS                | Stainless Steel  |
| WBG               | Warranty Bank Guarantee  |
| BHP               | Brake Horse Power  |
| MM                | Milimeter  |
| BG/MG/NG          | Broad Gauge / Meter Gauge / Narrow Gauge                                     |
| J&K               | Jammu & Kashmir  |
| Kg                | Kilogram   |
| KN                | Kilo Newton  |
| T                 | Tonnes   |

## Specification No. COFMOW/IR/HRE/2015, Ver-2

### 1. BASIC DESIGN FEATURES:

#### 1.1 Safety features:

Adequate safety devices to prevent bursting /failure of equipment in service must be provided. Full details of all the safety features provided should be furnished in the offer.

#### 1.2 SPECIFIC CHARACTERISTIC

1.2.1.1 The equipment should be capable of erection, re-railing and clearance of any rolling stock i.e diesel or electric locomotives, passenger coaches, goods wagons including tank wagons and all other type of rolling stock of all gauges (BG/MG/NG)

1.2.1.2 The equipment should be suitable for working up to an ambient temperature of 55 degree c and 100% relative humidity.

1.2.1.2.1 **The equipment offered for Budgam/Srinagar/J&K (if required) should be designed & suitably tropicalised to work under severe cold conditions (temperature ranging up to -10 degree C) without any adverse effect on their performance.**

1.2.1.3 The equipment should be tropicalised for use under Indian operating conditions. Under high humidity and high temperature conditions the material used for manufacture of the equipment should not get corroded/rusted or develop fungus.

1.2.1.4 The equipment should be of robust design and able to withstand manual handling while moving it from place to place on rough terrain. The equipment should not suffer any damage after being dropped from a height of not exceeding 2 meters.

1.2.1.5 The petrol engine powered re-railing equipment shall be of a modern design, extremely reliable and robust, meant to be used at the site of accident and it is required to be light weight and portable. The equipment should be such that it can be transferred by minimum of manual labour.

1.2.1.6 The equipment shall readily admit dismantling for repairs and adjustments and have features incorporated to protect the drive and control instrument to the maximum extent possible from heavy rain and dust prevalent in the area of operation.

1.2.1.7 Adequate safety devices to prevent bursting /failure of equipment in service must be provided. Full details of all the safety features provided should be furnished in the offer.

1.2.1.8 A sketch of each of the item indicating major dimensions and technical details shall be submitted with the offer.

#### 1.2.2 PORTABLE POWER OPERATED HYDRAULIC PUMP & PETROL ENGINE:

1.2.2.1 The hydraulic pump shall be of portable, double stage, radial or axial piston type capable of generating at least 300 bar pressure with suitable output to meet the maximum requirement of the jacks at a time. The pump should be tested at 30% higher pressure at the manufacturer's work. For speed of work, it shall be provided with a pressure by-pass valve and other safety valves as required to ensure safe working. Pump should preferably be inside the oil sump. In case, pump is not placed inside the sump it should be suitably protected from dust and damage from external hit by stone/ballast etc

1.2.2.2 The pump should be fitted with light weight petrol driven engine which should develop sufficient power required for driving the hydraulic pump to develop the working pressure & oil output as required as per design of the equipment The engine should have an automatic speed regulation device.

1.2.2.3 The petrol engine selected shall be proven and reliable in service in tropical countries. Light weight, robust construction and low maintenance costs are of particular importance.

- 1.2.2.4 Total dry weight of the engine and pump assembly when mounted together on a skid should not be more than 60 Kg with a minimum hydraulic oil sump capacity of 40 liters.
- 1.2.2.5 The fuel tank capacity of the engine should be sufficient for at least 2 hours of working in one fill.
- 1.2.2.6 Operation of all the re-railing devices should be possible from the same pump unit through a multi-position valve. Details of the arrangement provided should be explained in the offer.
- 1.2.2.7 Hydraulic circuit diagram of the equipment prepared in accordance with ISO R1219 shall be incorporated in the offer.
- 1.2.2.8 The tenderer shall explain in the offer how cooling of the hydraulic oil pump is achieved.
- 1.2.2.9 The hydraulic system shall have automatic overload relief valve to overcome excessive pressure due to surges etc. In case of rupture of high pressure hoses and/or hydraulic pump failure, the equipment shall be provided with suitable locking arrangement.
- 1.2.2.10 Manufacturer should ensure that indigenously available hydraulic oil can be used.
- 1.2.2.11 The successful bidder will have to provide adequate quantity of hydraulic, lubricating and fuel oil as first fill during commissioning as well as "one time" after prove out. The quantity offered with brand name etc. shall be indicated in the bid.
- 1.2.3 PORTABLE CONTROL TABLE**
- 1.2.3.1 Portable one piece control table should be provided. The control table should accommodate FOUR control valves (hand lever) for simultaneous/independent operation of lowering and lifting of FOUR jacks. The table should be suitable for lifting and lowering of four jacks including traversing / displacing and should be provided with pressure gauge, safety valve/s wherever necessary.
- 1.2.3.2 Control levers shall be of sufficient length to ensure extremely sensitive control of each lifting movement. A dead man's control shall be available on the control block to ensure that each control valve goes to neutral position as soon as the same is released by the operator.
- 1.2.3.3 Suitable filter shall be employed in the control panel to protect all components from dirt.
- 1.2.4 PORTABLE HAND PUMP**
- 1.2.4.1 The hydraulic hand pump shall be of two stage, portable type suitable for two connections for operation of two jacks with an oil container. The weight of hand pump with oil should be as low as possible to facilitate handling and should be indicated.
- 1.2.4.2 The hydraulic oil capacity of the hand pump shall be sufficient to operate two jacks at maximum capacity and stroke.
- 1.2.4.3 The hand pump is essentially required for operating two units at inaccessible and difficult location as such small size and low weight pump would be preferred.
- 1.2.5 HIGH PRESSURE HOSES**
- 1.2.5.1 High pressure hose pipes are to be fitted with suitable couplings and oil-retaining valves at both ends for easy connection and disconnection by hand without any loss of oil. The hose pipe should be capable of withstanding a test pressure equivalent to double the operating pressure. The high pressure hoses should be wire braid reinforced hydraulic type. The hoses will be provided with dust caps.
- 1.2.5.2 The coupling points of hoses on the power operated hydraulic pump, the hand pump and all the re-railing devices shall be clearly marked and colour coded, for pressure and return lines.
- 1.2.5.3 The coupling should have safety valve which will be actuated if there is any sudden change of pressure in the system say due to bursting of hose so that jack under operation does not retract suddenly to avoid any damage. High pressure hoses should conform to DIN-EN853 and SAE 100 R2 and of 10 M length each type (inclusive of couplings). The hoses will have to be tested at double the operating pressure. The burst test shall be at double the test pressure. The hoses will be tested for impulse test also.
- 1.2.5.4 The coupling details should be explained in the offer.

1.2.5.5 A catalogue of hose manufacturer should accompany the offer which should indicate the relevant details of the hoses to be used. The minimum burst pressure of the hoses shall be at least four times the maximum operating pressure as required by SAE J517.

1. The number of high pressure hose pipes required to fulfill requirements indicated in (i) through (v) below will constitute a high pressure hose pipe set.
  - i) Connections from power pack to control table.
  - ii) Connections for simultaneous operation of 2 (Two) lifting jacks and 1(One) displacing /traversing jack.
  - iii) Connections for operation of 2(Two) additional jacks through distributor valve connected to control table.
  - iv) Connections for anchor pin (if required in the system)
  - v) Spare hose pipe as per scale shown in table below:

| S. No. | Description  | Hose Pair   | Single Hose |
|--------|--|-------------|-------------|
| 1.     | If system design requires only use of hose pairs                 | 1(One pair) | -           |
| 2.     | If system design requires use of both hose pairs and single hose | 1(One pair) | 1 (One)     |

2. The bidder shall furnish the following information giving break-up of total no. of hose pairs and single hoses required for each high pressure hose pipe set (as defined in para 1 above).
  - i) Hose pipe pairs required as per design including spare hose pair -----Nos.
  - ii) Single hoses required as per design including spare single hose -----Nos.
3. The bidder should offer for one complete high pressure hose pipe set.

The hoses should be capable of coupling together to increase the length of hoses.

## 1.2.6 EQUIPMENT REQUIRED FOR HORIZONTAL DISPLACEMENT OF VEHICLES

1.2.6.1 Re-railing bridges should be manufactured out of high quality light metal alloy in hollow body extruded construction designed to ensure couplability of one bridge with another to the following dimensions:

- i) Construction height not exceeding 200 mm
- ii) Width not exceeding 350 mm
- iii)
 

|    | <u>Length</u> | <u>Weight</u> | <u>Qty required (nos).</u> |
|----|---------------|---------------|----------------------------|
| a) | 4.4 M         | 180 kg.       | 1                          |
| b) | 3.3 M         | 135 kg.       | 1                          |
| c) | 2.2 M         | 92 kg.        | 1                          |
| d) | 1.1 M         | 50 Kg.        | 1                          |
- iv) Bridge coupling for joining together two re-railing bridges - 1 set.

1.2.6.2 The section of the bridges should be so chosen that over a freely supported length of 1.0M capacity should not be less than 500 KN when fully supported the bridges should be able to take a load of not less than 1000 KN.

1.2.6.3 The load carrying capacity of the re-railing bridges should be tested at 1.25 times the stated capacity.

1.2.6.4 The weights of different sizes of the bridges are based on the length indicated and Max. height and Max. width. In case bridges offered are of lower height and/or width the weights should be correspondingly reduced.

## 1.2.7 ROLLER CARRIAGE

- 1.2.7.1 Roller carriage should permit unhindered running on individual and coupled re-railing bridges during lateral transportation. It should be suitable for a load of 100T, with construction height of up to 115 mm. If Roller Carriage are suitable for use with a removable top plate, the construction height including the top plate should be within 140 mm. The sliding and pivoting top plate should enable to follow one circle which is described by the lifted end of the vehicle during horizontal displacement. The Roller carriage shall be equipped with four lateral guiding pins to assure a linear displacement of the rolling stock during traversing. Also the system should be able to prevent unrolling of roller carriage during re-railing operation. The control of traversing shall be only from control table, so that during traversing process the rescue workers are outside the danger zone. It would be preferable if the whole traversing process is possible without any manual resetting under elevated load. Arrangement may be provided to couple two carriages through a distance bar with length adjustable from 800mm to 1500 mm..

Requirement would be as under:

- |    |  |                 |
|----|--|-----------------|
| a) | Roller carriage with integrated top plate/ sliding plate                                 | 2 nos.          |
| b) | Duo traversing jack (Push / Pull capacity : 17T / 9T) with integrated anchoring cylinder | 1 no. + 1 spare |
| c) | Distance bar.  | 2 nos. (1 pair) |
| d) | Any other accessory required for the system  | 1 set           |

### Alternatively -

- |    |   |                  |
|----|---|------------------|
| a) | Roller carriage with removable top plates         | 2 nos.           |
| b) | Displacing jack (Push /Pull capacity : 12 T/ 6 T) | 2 sets + 1 spare |
| c) | Counter Support (Single and Twin)                 | 1 set + 1 spare  |
| d) | Distance bar                                      | 1 no.            |
| e) | Any other accessory required in the system        | 1 set            |

## 1.2.8 EQUIPMENT REQUIRED FOR OVER-TURNED OR CAPSIZED VEHICLES

- 1.2.8.1 Lifting belt manufactured out of wire rope (galvanised steel) of suitable diameter with complete fittings certified for a lifting/carrying capacity of 35 to 40 tonne, with adequate factor of safety.  
- 2 nos.

- 1.2.8.2 Hydraulic step jack with claw having lifting point of the claw 125 mm above ground level, and length of the claw 150 mm from center line of jack body.

|                     |   |                      |          |
|---------------------|---|----------------------|----------|
| Construction height | : | 1100 mm $\pm$ 100 mm |          |
| Total stroke        | : | 800 to 850 mm        |          |
| Compressive force   | : | 35 to 40 tonne       | - 3 nos. |

Note: Jacks with detachable claw are also acceptable.

- 1.2.8.3 Complete set of accessories to be used in conjunction with step jack and lifting belt - 3 set

## 1.2.9 HYDRAULIC JACKS

Telescopic Hydraulic jacks as per configurations given below shall be offered.

- 1.2.9.1 The jacks shall be produced from a high strength light metal alloy. The cylinder shall be forged to shape from a high-strength aluminium alloy. Special heat treatment shall be employed to ensure complete homogeneous structure & rigidity. The piston shall preferably be made of same alloy or steel and an extremely hard surface treatment shall be employed to achieve long service life & superior wear resistance.

Material used for pistons and the treatment given to pistons for protection against wear shall be explained in the offer.

- 1.2.9.2 Overload protection provided shall be indicated in the offer.
- 1.2.9.3 Hydraulic jacks shall incorporate all safety measures like relief valves, flame proof protection, hydraulic locking against bursting of pipes, protection against slipping of jacks and load from top of jacks etc.
- 1.2.9.4 Inlet and outlet of jacks should preferably have suitable filters at coupling points to prevent ingress of dust from dirty hose connections.
- 1.2.9.5 The extended pistons of the lifting jacks should be repressed very quickly back to their initial position with full operating pressure, either by a motor driven suction unit fitted on the pump or by re-pressure system, thus making the jacks immediately ready for a new operation.
- 1.2.9.6 Each jack should be provided with hydraulically releasable return valve for securing the piston of the lifting jacks against accidental lowering in case of a possible failure/bursting of a hose pipe.

**1.2.9.7 TELESCOPIC JACKS**

| Approx Cap. Range                | Closed height  | Lift           | Weight        | Qty.  |
|----------------------------------|----------------|----------------|---------------|-------|
| a) Piston 1<br>550 to 600 KN     | 400 mm ± 50 mm | 450 mm ± 50 mm | With in 40 Kg | 4 nos |
| Piston 2<br>250 to 300 KN        |                |                |               |       |
| b) Piston 1<br>550 to 600 KN     | 225 mm ± 25 mm | 200 mm ± 25 mm | With in 30 Kg | 2 nos |
| Piston 2<br>250 to 300 KN        |                |                |               |       |
| c) Piston 1<br>1000 to 1200 KN   | 400 mm ± 50 mm | 450 mm ± 50 mm | With in 80 Kg | 4 nos |
| Piston 2<br>550 to 600 KN        |                |                |               |       |
| d) Piston 1<br>1000 to 1200 KN   | 225 mm ± 25 mm | 200 mm ± 25 mm | With in 40 Kg | 2 nos |
| Piston 2<br><b>500</b> to 600 KN |                |                |               |       |

- 1.2.9.8 The jack should be with adequate base to provide stability. Both integral and separate base plate design are acceptable. Where the jacks are to be used with a separate base plate the weight and thickness of the base plate should be indicated in the offer. In case of separate base plate indigenous base plate are also acceptable, but the bidder will have to stand warranty for indigenous base plate.

**1.2.9.9 MULTI STAGE JACK**

| Approx Cap. Range | Closed height  | Lift           | Weight       | Qty.  |
|-------------------|----------------|----------------|--------------|-------|
| 750 to 800 KN     | 225 mm ± 25 mm | 200 mm ± 25 mm | Within 50 Kg | 2 nos |

The multi-stage jacks are required for lifting loads over a height of 500 mm in steps in conjunction with cylinder supporting rings/frame supports and piston, pressure pieces/piston supports.

**Note: If jack offered against clause 1.2.9.7 (d) can be used as multi stage jack, the tenderer may quote accordingly for only 2 support sets suitable for using with jacks as at 1.2.9.7 (d). In that case multistage jacks at 1.2.9.9 with support sets may not be quoted.**

- 1.2.9.10 The tenderer may recommend quantities of accessories required for their equipment.

## 1.2.10 **PULLING EQUIPMENT**

- 1.2.10.1. Pulling equipment shall consist of pulling jack of 200 to 250 KN capacity, holding rope, pulling rope, and rail attachment suitable for the track gauge (BG) 1676 MM and should offer rail attachment suitable for 1000 MM (MG) as optional. 1 no.

## 1.2.11 **TILTING JACK**

- 1.2.11.1 Tilting jack having capacity 200 to 250 KN, construction height 550 to 600mm, stroke of 400 to 450 mm with hooked wheel stop. Tilting jack with accessories should be suitable for quick re-railing of a single set of wheels of railway goods wagon. 1no.

## 1.2.12 **DISTRIBUTOR VALVE**

- 1.2.12.1 The distributor valve is required for connecting one more cylinder to the control desk. The distributor valve should preferably have throttle function to provide simultaneous lifting speed of two cylinders even at unequal load distribution. 1 no.

## 1.2.13 **WHEEL SET TROLLEY (OPTIONAL)**

- 1.2.13.1 The wheel set trolley is required for haulage of locomotive/coaches/wagons important parts of travelling gear has failed i.e to the nearest workshop for repair when one of its wheel gets locked, preventing the movement of vehicle. The trolley shall be suitable for load up to 30 T and capable to run at a speed of minimum 15 Kmph. It shall be possible to assemble and disassemble the wheel set trolley at site and for ease of quick assembly the parts of trolley shall be colour coded. The wheel set trolley shall conform to drawing nos SK.VL-215, SK.VL-216, SK.VL-217 and SK.VL-218.

## 2. **GENERAL ELECTRIC SPECIFICATION**

**NOT APPLICABLE**

## 3. **GENERAL CHARACTERISTIC**

**The equipment shall conform to para 1.2 above.**

## 4.0 **TECHNICAL LITERATURE:**

- 4.1 One copy of the printed illustrative catalogue showing features of the equipment and its elements must be enclosed with each copy of the bid.
- 4.2 The technical literature shall be provided for the complete equipment, including all components / sub- assemblies. The successful tenderer will have to furnish 4 (four) copies each of the following manuals directly to the consignee along with the equipment. Out of these 04 sets, the bidder shall be required to submit one set of all documents in best available condition one month prior to the training for the equipment. One set of technical literature should cover the following details:
- i. Operational & Maintenance manual safety instructions and Trouble Shooting Guide of the equipment.
  - ii. Spare parts catalogue giving the part list number of each component with exploded view and assembly drawing.

**Note: All manual and literature should be in English.**

## 5.0 **SPARES**

- 5.1 Two lists of recommended perishable and non-perishable spares required for normal maintenance to cover complete range of mechanical, hydraulic and electrical equipments including controls on double shift working basis should be furnished and quoted separately. The quantities should relate to, in case of non-perishable spares, to two years normal maintenance. And in case of perishable spares to the duration of its shelf life or two years whichever is less. Shelf life should be indicated with the quotation for spares.
- 5.2 Spares shall be supplied along with the equipment, if ordered.

**6.0 CONSUMABLES:**

- 6.1 The consumable spares (if any) shall be specifically quoted along with their unit rates..
- 6.2 Consumables shall be supplied along with the equipment or as per agreed time table, if ordered.

**7.0 SPECIAL FEATURES:**

- 7.1 Special features incorporated in the equipment, if any, shall be indicated separately in the bid clearly indicating the advantages.

**8.0 DEVIATIONS:**

- 8.1 The tenderer shall certify that the offered equipment fully meets the specification. Various design features incorporated in the equipment to fulfill different technical performance requirements shall be fully explained in the offer. However, minor deviations from these specifications 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 equipment, can be considered for acceptance. The tenderer in such eventuality shall clearly indicate the details of these deviations and their implications as per the following format.
- 8.2 All Deviations shall be clearly indicated in the deviation statement as per the format of submission of technical bid Annexure–A.

**9.0 INSPECTION AND TESTING AT MANUFACTURER'S WORKS:**

- 9.1 The tenderer shall submit Quality Assurance Plan being followed at the manufacturer's works for ensuring quality of the products offered. In case, the firm is ISO certified, a copy of valid certificate may also be enclosed with the offer. The QAP shall among' other items, specify the tests/checks that will be exercised during each stage of manufacture of the equipment to ensure that -
  - a) the prescribed quality of material is being used
  - b) the workmanship is of the desired standard
  - c) the desired levels of accuracy and finish are being achieved.
- 9.2 QAP shall lay down the test procedure to be followed for finished product, such as power pack, jacks, control equipment, lifting devices etc.
- 9.3 The recommended testing procedure needed at the time of procurement of bought out items/components shall be furnished.
- 9.4 A Sample Inspection Chart for inspecting the equipment shall be supplied along with the bid. The inspection chart should indicate all the tests that are carried out during the machine manufacture and also the tests to be offered to inspecting agency. The standard to which this inspection chart conforms should be clearly indicated. Against each test, acceptable limit/ range of values shall be indicated.
- 9.5 Manufacturers must have suitable facilities at their works for carrying out various performance tests on the sub-assembly/assembly/equipment. The tenderer shall clearly confirm that all facilities exist and shall be made available to the inspecting authority for periodic audit checks to be conducted by the representative of the purchaser in order to satisfy the purchaser about adherence to the QAP
- 9.6 The supplier shall arrange to provide at his own cost, all equipment/facilities for audit checks. During audit checks which will be conducted before acceptance of the equipment and there after at periodic intervals, to be decided by the purchaser, the following special equipment/facilities will be required.
  - a) A metrology laboratory with facilities for accurate measurement of dimensions and surface finish.
  - b) Accurate weighment system to ascertain the weight of items.
- 9.7 Maker's test certificate of important bought items such as hoses, slings etc. shall be furnished.
- 9.8 Final inspection and acceptance test shall include but not limited to
  - 1. Dimensional check.

2. Mechanical functioning test.
  3. Rated load and over load test etc.
- 9.9 The cost of all inspection and testing as required by the purchaser or his representative will be borne by the supplier. The travelling expenses, boarding and lodging expenses of the inspector will, however, be borne by the purchaser.
- 10. TRAINING:**
- 10.1 Technical experts of the manufacturer shall fully and adequately train atleast four operators/maintenance staff nominated by consignee during installation and commissioning of the equipment. This training shall be free of cost.
- Note: All training should be imparted in English/Hindi only.**
- 11. FOUNDATION & RELATED DRAWINGS  
NOT APPLICABLE**
- 12.0 INSTALLATION, COMMISSIONING AND PROVING TESTS:**
- 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 & bidder's 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-C of Section-VI shall be prepared by the consignee and the firms representative indicating the tentative time schedule for various activities of installation and commissioning. For Indian manufacturers, JRI note shall accompany the bill for 80% payment.
- 12.2 RESPONSIBILITIES OF CONSIGNEE AND BIDDER**
- 12.2.1 The **consignee** shall be responsible for-
- i. Unloading of the machine on receipt (both imported and indigenous machine) and its movement to the site of installation & commissioning.
  - ii. Clear covered space for storage of material/equipment required for working, installation and commissioning of the equipment.
  - iii The consignee shall arrange the rolling stock for prove out of equipment at their end.
- 12.2.2 The bidder shall be responsible for-
- i. Provision of all tools and equipment, technical and unskilled manpower, material handling accessories/ equipment and material for installation and commissioning.
- 12.3 The supplier shall demonstrate machine performance and prove out the claimed capability for successful commissioning at the consignee's works as per clause 3 of Section-IV. The M&P 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 as per the format at Annexure-D of Section-VI. After issue of JCN the performance shall be watched for a period of one month, after which the PTC shall be issued. The issue of PTC can not be delayed by more than 60 days from the issue of JCN. If some minor breakdowns are noticed after the issue of JCN, these shall be attended as per warranty obligations and suitable extension of the warranty period, under intimation to COFMOW. If no intimation is given to COFMOW and the PTC is not issued till the expiry of 60 days from the issue of JCN, then the issue will be discussed in a meeting between CME/PCM and the consignee. Based on this, decision to issue PTC will be taken by CME/PCM, the concerned technical officer and CME.
- 12.4 If an assembly/sub-assembly requires to be taken back to the manufacturer's premises for repair/replacement either before commissioning or during warranty, the manufacturer or his agent would be required to submit BG of suitable amount. In case the entire machine has to be taken back, a Bank Guarantee for the cost of the machine 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.

- 12.5 The performance appraisal report as per the Annexure-F of the AT immediately on completion of warranty period should be prepared by the consignee and given to the firm. Copies of this performance appraisal report should also be sent to CME, COS & FA&CAO/COFMOW. On getting the performance appraisal report, the firm will request COS/COFMOW for release of WBG. If this report is not received within the validity of WBG, the WBG should either be extended for one year or encashed as the case may be.

### **13.0 SERVICE FACILITY IN INDIA AND TECHNICAL SUPPORT**

- 13.1 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 in the appropriate section of Annexure 'A' of Bid Document Part-II. The complete details such as organization for after sales service, availability of technically competent engineers and warehousing facilities for spares should be clearly indicated. Bidders not offering complete servicing/repair facilities in India to ensure quick response to maintenance/ servicing calls are not likely to be considered.
- 13.2 After the warranty period and AMC 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 of 13 years from the date of delivery of the machine at the ultimate destination to safeguard against obsolescence.
- 13.3 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.
- 13.4 Tenderers shall indicate the list of spares required for maintenance of the machine beyond warranty/AMC period. Current cost of such spares and current service charges for the items of work of repair of machine shall also be indicated.
- 13.5 During warranty period, the supplier or his authorized agent shall attend for break down as soon as possible, but in no case later than 72 hours of receipt of intimation of the breakdown.

### **14.0 BOUGHT OUT ITEMS**

- 14.1 The bidder shall furnish along with the offer a list of all critical items/ sub-assemblies which are bought out by the bidder and proposed to be used, along with the manufacturer's name, brand model etc. The successful bidder may be required to produce invoices to ensure genuineness of such products / verification by the Inspecting agency.

- 15.0 **COLOUR:** The machine and its accessories shall be painted in a standard color scheme of the manufacturer.

### **16.0 WARRANTY OBLIGATION**

The following conditions regarding Maintenance and reliability shall also apply:-

- 16.1 The machine shall be designed for a life of 20 years with regular maintenance and all the structural members of the machine and the foundation shall be guaranteed for 5 years against cracks breakages and etc. during the course of normal operations. Tenderer would submit suitable undertaking.
- 16.2 The machine shall at all times give contractual out-put and accuracy. Any deficiency or break down for a total of 02 hr. or more for a day would be treated as failure for the day, for the purpose of extending warranty period in terms of clause 3405 of Bid Documents Part-I.
- 16.3 The tenderer shall ensure that in case a failure is reported by a consignee qualified service engineers shall visit the site within two days from the date of complaint on calendar day's basis. The period of **three days (excluding date of complaint)** after the failure **reported** shall be treated as grace period, which will not count towards breakdown time for up to one failure per month and a maximum of 3 failures per quarter. In case the number of failure exceeds one failure per month or three during any quarter of warranty, grace period of only 1 day will be permissible for such additional failure. Complaints shall be lodged by consignee by fax phone, e-mail or per bearer at address given by the tenderer.

- 16.4 Maximum permissible down time till it is restored back to the contractual output and accuracy levels, in any quarter of the year during the warranty period, shall be 150 hrs. in case the total break down period in any one of year during warranty period, exceeds 500 hrs., the consignee shall inform the same to COFMOW To ensure this a record of breakdown (duly signed by shop incharge) in hours on quarterly basis should be maintained by the consignee and joint report with the contractor shall be made for each breakdown attention. At the end of first and second year of warranty, these details of breakdown hours during warranty period should be advised to COFMOW as per performance appraisal report given in Annexure – E of section –VI. The firm will then request COFMOW for release of WBG annexing the performance appraisal report as per Annexure-E of Section-VI and the breakdown details mentioned above. Penalty will be levied on the bidder for breakdown period on working days basis (excluding holidays) after discounting for the grace period. Penalty will be calculated as percentage of annual preventive maintenance charges and will be deducted from the respective annual payments as under

| <b>Breakdown period</b>   | <b>Applicable penalty</b>  |
|---|--|
| Up to 150 hours in each quarter and not exceeding 500 hours annually                      | Nil  |
| Exceeding 150 hours - up to 200 hours in any quarter and not exceeding 500 hours annually | 5 % of annual preventive maintenance charges   |
| Exceeding 500 hours - up to 750 hours annually  | 10% of annual preventive maintenance charges   |
| Exceeding 750 hours - up to 1000 hours annually   | 25% of annual preventive maintenance charges   |
| Exceeding 1000 hours annually   | 50% of annual preventive maintenance charges and 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. |

## **17.0 ANNUAL MAINTENANCE CONTRACT (Optional)**

- 17.1 Tenderers are required to quote for a comprehensive Annual Maintenance Contract for the machine supplied against this specification for a period of five years on yearly basis giving the rates for each year i.e. first year, second year..so on., which will be inclusive of all spares, material and labour costs. The duties and taxes as applicable should be indicated separately. All consumables spares and material shall form a part of the scope of comprehensive AMC except as follows
- (a) Diesel / Fuel, Lubricating oil or Coolant
  - (b) Major machines elements/structural members which are under guarantee for a period specified in clause 16.1 as stipulated in 'Warranty Obligations' requirement.
- 17.2 AMC is not part of scope of supply being an optional requirement and not included in commercial evaluation criteria vide clause 5 of section-IV. Therefore the option to award AMC shall remain with the consignee after completion of warranty period. In case consignee wants to exercise the option of entering into AMC after warranty, then the bidder will be bound to enter into AMC ....:
- (i) at the offered rates
  - or**
  - (ii) at the negotiated rates lower than offered rates
  - or**

(iii) shall participate with valid offer if the fresh tender for AMC is floated by the consignee.

Failing which COFMOW shall encash the Warranty Bank Guarantee of the bidder.

The detailed terms and conditions of AMC shall be as given in following clauses.

- 17.2.1 The duration of AMC shall be 5 years from the date of expiry of warranty. Rates for AMC shall be quoted by the tenderer on yearly basis, which will remain applicable during the duration of AMC and not subject to any variation except any statutory changes in taxes and duties as compared to quoted rates.
- 17.2.2 The tenderer must provide AMC services at the consignee location without any precondition. The AMC should include complete responsibility for the bought out sub assemblies and components like CNC system, diesel engine, AC unit etc.
- 17.2.3. The details of preventive maintenance services including cleaning of machine to be provided under AMC shall be provided by the tenderer in the following format.

| S.No. | TYPE OF PREVENTIVE SCHEDULE | PERIODICITY | ITEMS TO BE CHECKED | ITEMS OF REPLACEMENT | EXPECTED PLANT DOWN TIME |
|-------|-----------------------------|-------------|---------------------|----------------------|--------------------------|
|-------|-----------------------------|-------------|---------------------|----------------------|--------------------------|

17.2.4 Preventive maintenance shall preferably be conducted on weekends through mutual agreement with the consignee. Each preventive maintenance schedule normally shall not exceed one day. The total shutdown time for preventive maintenance should be kept as low as possible but not more than 60 hours/month (averaged over the quarter) including time for cleaning, weekly, fortnightly, monthly, quarterly schedules etc. The preventive maintenance regime offered must be aimed at achieving minimum 90% uptime of the plant excluding the plant down time for preventive maintenance schedules.

17.2.5 The tenderer shall ensure that in case a failure is reported by a consignee, qualified service engineers visit the site within 3 days from the date of complaint on calendar days' basis. This period of 3 days (excluding date of complaint) after the failure report shall be treated as grace period, which will not count towards plant down time for upto one failure per quarter and a maximum of 4 failures per annum. Incase, the number of failures exceed one during any quarter or four during any year of AMC, grace period of only 2 days will be permissible for such additional failures. Complaints shall be lodged by consignee by fax, e-mail or per bearer at address given by the tenderer. The responsibility to keep the failure reporting address details current will rest with the tenderer.

17.2.6 Incase preventive maintenance is carried out alongwith breakdown maintenance schedule; preventive maintenance time will be deducted from breakdown time of the plant.

17.2.7 **Penalty Clause:** Penalty shall be levied on the tenderer for maintaining plant up time below the limit of 90% calculated on working days basis, after discounting for grace period and preventive maintenance period. Penalty shall be calculated as %age of quarterly payment and will be deducted from the respective quarterly payments. Penalty calculation will be done over quarterly payment period.

| S.No. | Availability Slab | Applicable Penalty   |
|-------|-------------------|--|
| 1.    | 90% to 80%        | 0.5% for every 1% (or part there of) reduction in availability of plant below 90%. |
| 2.    | Below 80%         | 1% for every 1% (or part there of) reduction in availability of plant below 80%.   |

17.2.8. A Bank Guarantee equal to 1/4 of annual value (highest of the annual values if the rates offered for various years are different) of AMC subject to a minimum value of 1.25% of the quoted cost of machine including concomitant accessory (in case the annual AMC rate quoted is less than 5% of the cost of machine), will be submitted by the tenderer to the consignee 90 days before the expiry of warranty. The AMC will have the validity of 5 years 6 months. The bidder can submit multiple BG for lesser duration to cover the period of 5 year 6 months ensuring the uninterrupted validity of the AMC BG for 5 year 6 months. The confirmation for the submission of this BG will be returned on completion of AMC period. Incase, the tenderer fails to provide AMC services successfully, the AMC BG will be forfeited. This will be in addition to penalty as per

clause 17.2.7 above. This provision would not be applicable where the advance payment is made.

- 17.2.9 Plant up time of less than 60% for two consecutive quarters will constitute complete failure of tenderer to provide the AMC services successfully and will result in forfeiture of AMC 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 17.2.7 above for the period of actual performance.
- 17.2.10 As per clause 5.1 of bid document part-II section-V (or clause 5 of section-IV of bid document part-II), where AMC is part of evaluation of offer, it is the sole responsibility of bidder to stock all spares and materials as required for smoother execution of AMC in order to achieve response time in compliance to machine availability as per stipulated requirements.
- 17.2.10.1 In all cases of plant failure except as mentioned in clause 17.2.10.2, any other spare part or material necessary to restore the plant to proper working order will be arranged by the tenderer as a part of AMC.
- 17.2.10.2. In case of damage to the machine on account of any external factor, viz., floods, earthquake, fire, arson or sabotage, entire cost of spare parts and material necessary for repair of the plant shall be borne by the railways. However, the tenderer shall provide services of their engineers free of cost as a part of AMC to restore the plant to working order.
- 17.2.10.3. In case of damage to the plant as mentioned in para 17.2.10.2, any spare parts and material necessary to restore the plant to proper working order shall be arranged by the tenderer and charged on actual basis duly certified by authorized railway official in the next quarterly bills. The rates charged for such spare parts shall be based upon the spare part rate list provided by tenderer in compliance of clause 5.1 or any other valid document. The tenderer shall furnish documents to support the rates charged for spares used for repair under para 17.2.11(a).
- 17.2.11. Normally quarterly payment (@ 1/4<sup>th</sup> of the annual quoted rates) under AMC will be made to the tenderer within 30 days from the end of that quarter subject to submission of the following documents by the tenderer to the paying authority assigned by the consignee:
- a. Consignee's certificate for work done as per Annexure-G of Section-VI with calculation of down time and penalty applicable.
  - b. A certificate by consignee that no spare part is due with the tenderer as per clause 17.2.10 above.
  - c. Bills submitted by the tenderer & accepted by consignee.
  - d. Attested photocopy of the AMC BG.
- 17.2.12 The AMC contract can be terminated in following ways:
- i. Consignee may terminate the AMC in the event of failure of tenderer to provide AMC services of the AMC agreement in addition to encashing of AMC BG as per clause 17.2.8.
- 17.2.13 Other general conditions shall be governed by Bid Document Part-I (Section-I, II and III) as applicable to respective COFMOW A/T.

**SECTION VI**

**ANNEXURE-A**

**FORMAT FOR SUBMISSION OF TECHNICAL BID**

1. We, M/s.----- offer our ----- machine, model no. ----- as per the description given in Schedule of Requirements. We further state that, except for the following, for which clause wise brief description and justification for deviation has been indicated, our machine fully complies with all the clauses as given in technical specification Section-V and we also confirm all the schedules given in the Delivery Schedule at para 3.6 of **Section-IV.** :

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

**Note1:** 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 under Annexure A of Section VI, the values as given in the specification shall be taken as confirmed by the tenderer and offer evaluated accordingly.

**Note2:** In case tenderer offers internationally accepted alternative specifications as per clause 1.8, complete details of alternative specification, apart from filling above deviation statement, may be enclosed

2. We further certify that we are meeting the reference clause as;

(A) We are the regular manufacturer of this type of machine.

(B) We have made the following past supplies of similar equipment as per clause 1.1 of special conditions during last 5 years:-

| S No. | Name of purchaser with postal address | Name of contact person with designation | Phone/ fax /e-mail nos. of contact person | Year and date of commissioning of the equipment | List of items supplied in one set duly indicating capacity and weight of items. |
|-------|---------------------------------------|---|---|---|---|
|       |                                       |   |   |   |   |

(C) We are submitting following performance certificate from past users as per clause 1.2 of Special Conditions :-

| S.N. | User Name | Date Supplied | Date of issue of certificate | Application /Use | Performance |
|------|-----------|---------------|------------------------------|------------------|-------------|
|      |           |               |                              |                  |             |

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 the following optional accessories as indicated under clause 4.3 of section IV

| Sr No. | Description of the optional accessory | Quantity (in Nos.) | Rate (in Rest.) | Indigenous | Shelf Life (in Months) |
|--------|---------------------------------------|--------------------|-----------------|------------|------------------------|
|        |                                       |                    |                 |            |                        |

5. We have quoted for following recommended perishable and non-perishable spares required for normal maintenance to cover complete range of mechanical, hydraulic and electrical equipments including controls on double shift working basis:

Perishable Spares

| Sr No. | Description of the spares | Part number | Quantity (In Nos.) | Rate (In Rest.) | Shelf Life (in Months) |
|--------|---------------------------|-------------|--------------------|-----------------|------------------------|
|        |                           |             |                    |                 |                        |

Non perishable spares

| Sr No. | Description of the spares | Part number | Quantity (In Nos.) | Rate (In Rest.) |
|--------|---------------------------|-------------|--------------------|-----------------|
|        |                           |             |                    |                 |

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

**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 machine to provide maintenance spares (as and when ordered) after the expiry of the Warranty for 13 years including the maintenance spares required for the bought out sub-assemblies and parts.

(\*Strike out which ever is not applicable)

7. We have quoted consumables required as per clause 6.1 of Section V of Bid document Pt-II, in the format give below

| Sr No. | Description of the consumable spares | Qty | Unit | Rate |
|--------|--------------------------------------|-----|------|------|
|        |                                      |     |      |      |

8. It is certified that we are having suitable facilities at our works for carrying out various performance tests on the sub-assembly/assembly/machine and these shall be made available to the inspecting authority.

9. **BOUGHT OUT ITEMS:** We hereby furnish a list of all critical items/ sub-assemblies which are bought out by us and proposed to be used, along with the manufacturer's name, brand model etc.

| Sr No. | Description                              | Item no.1 | Item no. 2 | Item no. 3 |
|--------|--|-----------|------------|------------|
| 1.     | Brief description of item                |           |            |            |
| 2.     | Model no.                                |           |            |            |
| 3.     | Make                                     |           |            |            |
| 4.     | Quantity/machine                         |           |            |            |
| 5.     | Manufacturer's name and complete address |           |            |            |
| 6.     | Whether imported or indigenous           |           |            |            |
| 7.     | Country of origin                        |           |            |            |

10. We have quoted for comprehensive Annual Maintenance Contract (optional) as per clause 17 of section-V respectively. Details of preventive maintenance services including cleaning of machine to be provided under AMC is given in the following format.

| S.No. | TYPE OF PREVENTIVE SCHEDULE | PERIODICITY | ITEMS TO BE CHECKED | ITEMS OF REPLACEMENT | EXPECTED equipment DOWN TIME |
|-------|-----------------------------|-------------|---------------------|----------------------|------------------------------|
|       |                             |             |                     |                      |                              |

11. We further submit the following information about the offered machine as per the technical specification section V and Important Features of the tender section IV. We understand that any omission of any of the below mentioned information will render our offer incomplete to that extent.

| S.N.      | Information required   | As per Clause No.                     | Value /Write up/ Brochure |
|-----------|--|---------------------------------------|---------------------------|
| 1.        | Portable power operated hydraulic pump and petrol engine   | Clause 1.2.2 (section-V)              |                           |
| 1.1       | Make and type of hydraulic pump, Working pressure and oil flow rate.   | Clause 1.2.2.1                        |                           |
| 1.2       | Make & type of Engine, engine BHP.   | Clause 1.2.2.2                        |                           |
| 1.3.      | Total dry weight of power pack and hydraulic oil capacity of tank  | Clause 1.2.1.4                        |                           |
| 1.4       | Fuel tank capacity   | Clause 1.2.2.5                        |                           |
| 1.5       | Cooling arrangement of hydraulic oil pump  | Clause 1.2.2.8                        |                           |
| 1.6       | Brand and grade of hydraulic oil, lubricating oil  | Clause 1.2.2.10                       |                           |
| 1.7       | Qty of first fill of hydraulic oil, lubricating oil and fuel oil   | Clause 1.2.2.11                       |                           |
| <b>2.</b> | <b>Portable control table</b>  | Clause 1.2.3 (section-V)              |                           |
| 2.1       | Total weight of control table  | Clause 1.2.3.1                        |                           |
| <b>3.</b> | <b>Portable Hand pump</b>  | Clause 1.2.4 (section-V)              |                           |
| 3.1       | Total weight of hand pump, oil capacity of hand pump.<br>Which two jacks can be operated by the hand pump  | Clause 1.2.4.2                        |                           |
| <b>4.</b> | <b>High Pressure Hoses</b>   | Clause 1.2.5 (section-V)              |                           |
| 4.1.      | Make of hoses and its catalogue<br>Operating pressure<br>Test Pressure<br>Burst pressure   | Clauses 1.2.5.3 & 1.2.5.5 (section-V) |                           |
| 4.2       | Break up of hoses offered<br>(i) Hose pairs<br>(ii) Single hoses   | Clause 1.2.5.5 (2) (section-V)        |                           |
| <b>5.</b> | <b>Equipment required for horizontal displacement of vehicles</b>  | Clause 1.2.6 (section-V)              |                           |
| 5.1       | Material of Re-railing bridges<br>(i) Construction height<br>(ii) Width<br>(iii) Length & weight of re-railing bridges.<br>(iv) Items & their quantity of bridge coupling arrangement  | Clause 1.2.6.1 (section-V)            |                           |
| 5.2       | Capacity of bridges<br>(i) over a feely supported length of 1.0 meter<br>(ii) full supported.  | Clause 1.2.6.2 (section-V)            |                           |
| <b>6.</b> | <b>Roller Carriage</b>   | Clause 1.2.7 (section-V)              |                           |
| 6.1.      | Roller Carriage<br>(i) Load capacity<br>(ii) Construction height including top plate.<br>(iii) Details on quantity, capacity of each item of roller carriage arrangement viz rolrer carriage, displacing jack, distance bar and accessories. | Clause 1.2.7.1 (section-V)            |                           |
| <b>7.</b> | <b>Equipment required for overturned or capsized vehicles</b>  | Clause 1.2.8 (section-V)              |                           |
| 7.1       | Make, capacity, length, diameter of wire rope &  | Clause 1.2.8.1                        |                           |

|            |  |                                      |  |
|------------|--|--------------------------------------|--|
|            | factor of safety of lifting belt.  | (section-V)                          |  |
| 7.2        | Step Jack<br>(i) Construction height<br>(ii) Total stroke<br>(iii) Compressive force<br>(iv) Height of lifting claw from ground and length of claw from center line of jack body.<br>(v) Details of items and their quantity of items in a set of accessories. | Clause 1.2.8.2 & 1.2.8.3 (section-V) |  |
| <b>8</b>   | <b>Hydraulic Jacks</b>   | Clause 1.2.9 (section-V)             |  |
| 8.1        | Material used for pistons and details of treatment given to pistons for protection against wear.   | Clause 1.2.9.1 (section-V)           |  |
| 8.2        | Details of overload protection   | Clause 1.2.9.2 (section-V)           |  |
| 8.3        | Telescopic Jacks (all jacks)<br>(i) Capacity of jack (piston1/piston 2)<br>(ii) Closed height<br>(iii) Lift<br>(iv) Weight   | Clause 1.2.9.7 (section-V)           |  |
| <b>9.</b>  | <b>Multi stage jack</b>  | Clause 1.2.9.9 (section-V)           |  |
| 9.1        | (i) Capacity<br>(ii) Closed height<br>(iii) Lift<br>(iv) Weight  |                                      |  |
| 9.2        | Details of support set   | Clause 1.2.9.9 (Note)                |  |
| <b>10.</b> | <b>Pulling Equipment</b>   | Clause 1.2.10 (section-V)            |  |
| 10.1       | (i) Capacity, stroke, weight of equipment<br>(ii) Qty and drawing of holding and pulling rope duly indicating wire rope diameter<br>(iii) Details of rail attachment.  | Clause 1.2.10.1 (section-V)          |  |
| <b>11.</b> | <b>Tilting Jack</b>  | Clause 1.2.11 (section-V)            |  |
| 11.1       | (i) Capacity<br>(ii) Construction height<br>(iii) Stroke<br>(iv) Items of hooked wheel stop<br>(v) Details of accessories  | Clause 1.2.11.1 (section-V)          |  |
| 12.        | <b>Axle Pusher</b><br>(i) Capacity<br>(ii) Stroke<br>(iii) Weight<br>(iv) Details of accessories   | Clause 4.2 item 12 (section-IV)      |  |
| 13.        | Hydraulic circuit diagram  | Clause 2.3.1.3 of section-IV         |  |

Following **(Nos. to be mentioned)** annexure are enclosed as per above table:

**Signature of the  
authorized representative of the bidder  
with company stamp**

**FORMAT FOR INDEMNITY BOND**

This deed of Indemnity executed by M/s. ----- hereinafter referred to as Indemnifier' which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, representative and assignees in favour of Central Organisation for Modernisation of Workshops, Railway offices Complex, Tilak Bridge, New Delhi – 110 002, India, hereinafter referred to as the 'Indemnified' which expression shall unless repugnant to the context or meaning thereof, include its successors and assignees witnesses as to.

Whereas the Indemnifier herein had participated in a global tender for the supply of ----- (machine name) which is opened on ----- (date) on terms and conditions set out interalia in the Tender Document.

And whereas, clause of the above mentioned tender document described that the machine shall be designed for a life of 15 years with regular maintenance and all the structural members of the machine should be guaranteed for 7 years against cracks, breakages etc. during the course of normal operations from the date of commissioning whichever is earlier of the stores supplied by the Indemnifier to the indemnified.

The indemnifier hereby irrevocably agrees to indemnify the indemnified that in the event of the said machine not achieving the life guarantee, the indemnifier shall as may be deemed necessary repair the defective machine at site, free of cost, within a reasonable time specified by the indemnified or reimburse the pro-rata cost of the machine to the extent a life not achieved as per the guarantee, or supply a spare stores for the defective portion only free of cost at site.

Bidder's authorized signatory  
With seal

Station:

Date:

Witness:1.-----  
(Signature with Name, Designation & Address)  
  
2. -----  
(Signature with Name, Designation & Address)

**JOINT RECEIPT INSPECTION NOTE**

Date.....

Sub: Receipt of consignment for machine.....

Ref: COFMOW Contract No.....

|    |  |  |
|----|--|--|
| 1. | Name of consignee/Railway              |  |
| 2. | Machine name                           |  |
| 3. | Quantity                               |  |
| 4. | Name of 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 contract.

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

|      |   |                         |
|------|---|-------------------------|
| 1.   | Date of clear site provided   |                         |
| 2.   | Contract  | Turnkey/Non-turnkey     |
| 3.   | <b>Status of readiness of foundation:</b>                                     |                         |
| 3(a) | Already constructed 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 firm  
Designation

Representative of consignee  
Designation  
(Minimum Gazetted level)

**JOINT COMMISSIONING NOTE**

Date:.....

**Sub:** Commissioning of (name of machine).....**Ref:** COFMOW AT No.....

|    |                           |  |
|----|---------------------------|--|
| 1. | Name of consignee/Railway |  |
| 2. | Machine name              |  |
| 3. | Quantity                  |  |
| 4. | Name of supplier          |  |
| 5. | 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 firm  
Designation

Representative of consignee  
Designation  
(Minimum Gazetted level)

**PERFORMANCE APPRAISAL FORM****APPRAISAL ON COMPLETION OF WARRANTY PERIOD**

Dated:.....

To, M/s. ....

|       |   |        |
|-------|---|--------|
| 1.    | COFMOW AT No.                                 |        |
| 2.    | Consignee/Railway                             |        |
| 3.    | Name of supplier                              |        |
| 4.    | Machine Name                                  |        |
| 5.    | Machine received on                           |        |
| 6.    | Machine commissioned on                       |        |
| 7.    | PTC issued on                                 |        |
| 8.    | Warranty period expired on                    |        |
| 9.    | <b>Performance during warranty period:</b>    |        |
| 9(a)  | Total number of breakdowns                    |        |
| 9(b)  | Total downtime in number of days              |        |
| 10(a) | Any warranty complaint pending on date        | Yes/No |
| 10(b) | If yes, then the date and nature of defect(s) |        |

11. In case, Reliability clause No.16 of the machine during warranty period is also given in Bid Document Pt.II, then following details of breakdown hours for preceding eight quarters may also be furnished.

| Quarter | Period<br>From -----To----- | Breakdown hours |
|---------|-----------------------------|-----------------|
| 1       |                             |                 |
| to      |                             |                 |
| 8       |                             |                 |

Signature-----

Name-----

Designation:DY.CME/Sr.DME/Dy.CEE/Sr.DEE

Office Stamp

1. COS/COFMOW/Railway Offices Complex, Tilak Bridge, New Delhi-110 002
2. CME(PCM)/COFMOW/Railway Offices Complex, Tilak Bridge, New Delhi-110 002
3. FA&CAO/COFMOW

**Note:**

- i.)This appraisal may please be sent immediately on completion of warranty period. If any extension of warranty period required, may please also be mentioned with details.
- ii) Sr.Scale Officer having independent charge is also authorised to sign.

ANNEXURE-F

LIST OF COMPONENTS TO BE LOADED ON THE MACHINE

| S.No. | Component | Drawing No.    | Part/PL. No. | Machining Operations to be carried out |
|-------|-----------|----------------|--------------|--|
|       |           | Not Applicable |              |  |

**Consignee's Certificate for Quarterly Work Done Under AMC**

1. Name of Plant:
2. Consignee
3. COFMOW AT No.
4. Name of Contractor
5. Quarterly charges for AMC(Standard): Rs. \_\_\_\_\_  
As per COFMOW AT no. \_\_\_\_\_ dt. \_\_\_\_\_
6. Quarter for which bills are preferred: \_\_\_\_\_  
From: \_\_\_\_\_ To: \_\_\_\_\_
7. No. of Breakdowns during the quarter:
8. **Calculation of Penalty and Net AMC charges payable to Contractor for the quarter:**
  - i. Total Plant Down Time (in days):
  - ii. Standard down days for preventive maintenance (in days/quarter):
  - iii. Total grace period for break down:
  - iv. Net down time for the plant [= (i)-{(ii)+(iii)}] :
  - v. 100% Availability for the quarter (in days) :
  - vi. Actual availability [= (v)-(iv)] :  
Actual availability in %age [= {(vi) / (v)}x 100]:
  - vii. Calculation of penalty:
    - a. %age availability below 90% to 80%:
    - b. %age availability below 80%:
    - c. Penalty[={(vii a)x(5)x0.005 +(vii b)x(5)x0.01]}]:
  - viii. Net amount payable as AMC charges to [= (5)-(vii c)]

It is certified that all spares borrowed by the contractor for the previous quarter have been returned in good condition.

**Signature of authorized representative of consignee**

**CENTRAL ORGANISATION FOR MODERNISATION OF WORKSHOPS  
(C O F M O W)**

**REPORT ON FRESH TECHNICAL SUITABILITY ASSESSMENT**

on of  
M/S .

| <b>CONTENTS:</b>                               | <b>PAGE NO.</b> |
|--|-----------------|
| Para - 1 : GENERAL INFORMATION (MISCELLANEOUS) |                 |
| Para - 2 : GENERAL INFORMATION (TECHNICAL)     |                 |
| Para - 3 : DESIGN CAPABILITY                   |                 |
| Para - 4 : MANUFACTURING PROCESS               |                 |
| Para - 5 : QUALITY ASSURANCE                   |                 |
| Para - 6 : AFTER-SALES SERVICE                 |                 |
| Para - 7 : PAST PERFORMANCE                    |                 |
| Para - 8 : COMMERCIAL INFORMATION              |                 |
| Para - 9 : CONCLUSIONS AND RECOMMENDATION      |                 |

**LIST OF ANNEXURES :**

|   |   |
|---|---|
| A | : LIST OF MANAGERIAL & SUPERVISORY STAFF    |
| B | : PLAN OF MAIN WORKS AT .....NOT ENCLOSED.  |
| C | : LIST OF MACHINERY & PLANT                 |
| D | : LIST OF RAW MATERIALS IN STOCK            |
| E | : LIST OF IMPORTANT CUSTOMERS & ORDERS      |
| F | : DELIVERY AND COMMISSIONING PERFORMANCE    |
| G | : SSI(and similar)REGISTRATION CERTIFICATES |
| H | : COPY OF LATEST ELECTRICITY BILL           |
| I | : INCOME TAX CLEARANCE CERTIFICATE          |
| J | : Q.A.P. OF THE FIRM.                       |

CENTRAL ORGANISATION FOR MODERNISATION OF WORKSHOPS  
(C O F M O W)

REPORT ON TECHNICAL SUITABILITY ASSESSMENT  
ON of  
M/S

1.0 GENERAL INFORMATION--MISCELLANEOUS

1.1 Name of the firm :

1.1.1 Reason for Inspection

The firm was inspected to assess technical capability to meet COFMOW specifications, on the basis of prima-facie suitable offer in T. No.

1.1.2 Background in Brief

1.1.3 Location

1.2 Postal Address.

- i. Head Office :
- ii. Works/Factory :
- iii. Agents (if any) :

1.3. Telephone No.(with STD code).

- i. Head Office :
- ii. Works/Factory :
- iii. Residence of important officials. :
- iv. Agents :

1.4. Telegraphic address & Telex/Fax. :

- i. Head Office :
- ii. Works/Factory :
- iii. Agents :

1.5 Description of Factory/Works.

- i. Total land area :  
(in Sq.metres)
- ii. Total covered area :  
(in sq.metres)
- iii. Different sub-units :  
(with details of covered/  
uncovered area, etc.)
- iv. Special features, if any :

1.6. No. of personnel employed (category-wise).

- i. Managerial :
- ii. Supervisory :  
(Attach stt. of managerial & sup.  
staff at Ann. A)
- iii. Skilled artisans :

iv. Unskilled :

1.7 Hours of working :

1.8 Is this inspection for fresh technical suitability assessment?  
If it is a re-inspection details of earlier technical suitability  
assessment(s) to be furnished or attached.

## 2.0 GENERAL INFORMATION--TECHNICAL

2.1 Description of different departments in the  
Factory/Works and function of each department.

2.1.1 The break-up of different work areas given below  
refers to the main works at . In addition,  
Administrative Block :  
Fabrication and assembly. :  
Machine Shop :  
Store :  
Laboratory :

2.1.2 A plan of the works at \_\_\_\_\_,as described above,  
is attached at Annexure-B.

2.2 Detailed description of Machinery and Plant in  
each department (make and year of  
procurement/commissioning to be provided.  
For special type of equipment copy of  
pamphlets/write ups to be furnished so as to  
supplement the description).

2.2.1 The list of machinery & plant available is  
attached at Annexure-C.

2.2.2 It will be seen that .....

2.3 Plans for future expansion,if any.

2.3.1

2.4 Details of raw-materials held in stock (state  
whether imported/indigenous).

2.4.1 List of raw-materials held in stock is at Annexure-D.

2.5 Production Capacity.

- i. Per month :
- ii. Per year :

2.6 Type of Stores/Items, which the firm is capable  
of manufacturing.

2.7 Details of Stores/Items/Parts/components for which fresh  
technical suitability assessment is sought(please  
indicate complete description and drawing nos.)

2.8 In case, the application is also for inclusion of  
additional items at the time of technical suitability  
assessment, give a list of each along with complete

description.

### 3.0 DESIGN CAPABILITY

#### 3.1 Availability of Qualified Personnel.

##### 3.1.1

#### 3.2 Assessment of Expertise and Facilities.

##### 3.2.1

### 4.0 MANUFACTURING PROCESS

#### 4.1 Level of in-house Facilities

##### 4.1.1

#### 4.2 Important Items of Work by Outside Vendors

##### 4.2.1

#### 4.3 Brief details of manufacturing process relevant to the items for which technical suitability assessment is sought.

##### 4.3.1

##### 4.3.2

### 5.0 QUALITY ASSURANCE.

#### 5.1 Does the factory have an established Quality Assurance Programme. If yes, please enclose a copy of the write-up? If not, what plans are there if any for setting it up?

##### 5.1.1

#### 5.2 Details of Quality Assurance Organisation. Names of key personnel, their qualifications, designations and position in overall management structure (explain with organisation chart, if necessary).

##### 5.2.1 The QC organisation is headed by Shri ....., who is designated as ....., with responsibility for .....

#### 5.3 Quality Control Testing Facilities and Laboratory equipment available.

##### 5.3.1 In-house facilities available for inspection and QC include the following:

- i .....
- ii .....
- iii .....

#### 5.4 Availability of gauges (please give details)

##### 5.4.1 The following important items of gauging and other

related equipment are available:

5.5 Calibration of Laboratory/test equipment/gauges, indicated in para 5.3 and 5.4 above:

- i. How is the calibration done?
- ii. Frequency of calibration.
- iii. System to ensure that calibration of above equipments does not fall overdue.
- iv. Action taken if such calibration has fallen overdue.

5.5.1

5.6 Source of procurement of raw-materials, important bought-outs, and steps taken to ensure their quality.

5.6.1

5.7 Details of inspection/checks done on material during various stages of the above manufacturing process.

5.7.1

5.8 Have acceptable values for the parameters inspected during above stage checks been laid down? If yes, the action taken if value of the parameter inspected does not meet the desired laid-down value.

5.8.1

5.9 System for documentation of the results of the above stage checks.

5.9.1

6.0 AFTER-SALES SERVICE

6.1 Facilities Available at Works and Branch Offices.

6.1.1

6.2 Assessment of Quality of Service Including Response times.

6.2.1

7.0 PAST PERFORMANCE

7.1 List of important customers of the firm (as relevant to the works for which requisition is sought)

7.1.1 This is attached at Annexure-E. It is seen that .....

7.2 Details of important orders executed in the past, and reference to the supplies made.

Also included in Annexure-E. ....

7.3 Important orders in hand

There are presently ..... on order,..... These are as follows:

| Sl._No. | Consignee | Capacity |
|---------|-----------|----------|
|---------|-----------|----------|

7.4 Whether another unit/factory of the firm is already approved by COFMOW for supply of stores/components.

7.5 Performance of machines manufactured and supplied in the past to different consignees.

7.5.1 Selction of Consignees

7.5.2 Machines at M/s .....

7.5.3 Conclusions on performance of M/s ..... m/cs.

7.6 Commissioning Performance

8.0 COMMERCIALINFORMATION

8.1 Full details of the location of the factory/Manufacturing works.

i. Address :

ii. Tele. Nos. :

iii. Telex/Fax :

8.2 Copies of following documents obtained and attached as Annexures.

i. Proof of Ownership. : Annexure-G.

ii. Factory Licence. : Annexure-G.

iii. Latest electricity bill. : Annexure-H.

8.3 Whether the firm is registered under Indian Factories Act.

8.4 Whether the firm comes under the scope of Industries(Development & Regulations) Act, 1951.

8.5 Income Tax Clearance Certificate Copy attached at Annexure-I.

9.0 CONCLUSIONS AND RECOMMENDATIONS.

9.1 Observations and Conclusions

9.1.1

9.2 Recommendations

9.2.1

(SIGNATURE)  
NAME/DESIGNATION

Place:

Date:

ANNEXURE - A  
 DETAILED PARTICULARS OF MANAGERIAL STAFF  
 AS ON-----

| S.No. | Name | Designation | Qualification | Working since |
|-------|------|-------------|---------------|---------------|
|-------|------|-------------|---------------|---------------|

ANNEXURE -B  
 LIST OF MACHINERY AND PLANT

| S.No. | Description of Items. | Manufacturer | Qty. | Year of procurement |
|-------|-----------------------|--------------|------|---------------------|
|-------|-----------------------|--------------|------|---------------------|

ANNEXURE - C  
 LIST OF QC EQUIPMENT AND MEASURING EQUIPMENT

| Sl. No. | Description | Range where applicable | Least count | Qty. | Year of procurement |
|---------|-------------|------------------------|-------------|------|---------------------|
|---------|-------------|------------------------|-------------|------|---------------------|

ANNEXURE - D  
 LIST OF IMPORATANT ORDERS EXECUTED W.E.F.....(DATE)

| Sl. No. | Purchaser | Order No. | Description/ value | Delivery dt. | Date recd. | Date Comm. | REMARKS |
|---------|-----------|-----------|--------------------|--------------|------------|------------|---------|
|---------|-----------|-----------|--------------------|--------------|------------|------------|---------|

ANNEXURE - E  
 LIST OF PENDING ORDERS AS ON----- (DATE)

| S.No. | Purchaser | Order No. and date | Value |
|-------|-----------|--------------------|-------|
|-------|-----------|--------------------|-------|