

## Corrigendum II-B

Tender Notice No. N1M&P-1/2016. (ICB), Dt.01.10.2016

Date of Pre-Bid Meeting:- 4th November 20

**Name of work: DESIGN, MANUFACTURE, SUPPLY, INSTALLATION, TESTING, COMMISSIONING OF MACHINERY AND PLANT FOR 02 (TWO) NUMBERS OF ROLLING STOCK DEPOTS AT MIHAN AND HINGNA OF NAGPUR METRO RAIL PROJECT AND TRAINING OF PERSONNEL.**

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| 1  | 2       | Section - VIIB | clause 3.8.1.2 | The machine shall measures the actual profile of worn wheels and CNC control system determines the new optimum wheel set diameter by means of measured data. This nominal machine diameter is indicated at the operator control console, and it can be accepted and rejected by operator. The machine shall compare the measured actual profile with the nominal machining diameter and determine the optimum cutting depth and automatically perform preliminarily and finished cuttings. The alteration by operator shall be allowed. The profile shall be user programmable. Machine shall be capable of machining newly manufactured un-mounted wheel sets using <b>centres and</b> hold down device. | The machine shall measures the actual profile of worn wheels and CNC control system determines the new optimum wheel set diameter by means of measured data. This nominal machine diameter is indicated at the operator control console, and it can be accepted and rejected by operator. The machine shall compare the measured actual profile with the nominal machining diameter and determine the optimum cutting depth and automatically perform preliminarily and finished cuttings. The alteration by operator shall be allowed. The profile shall be user programmable. Machine shall be capable of machining newly manufactured un-mounted wheel sets using hold down device. |
| 2  | 2       | Section - VIIB | 3.16.7(i)      | Connector for the addition of a data input keyboard,an RS 232 connector output and a laser printer shall also be provided. The software shall be designed to enable these hardware.   | Connector for the addition of a data input keyboard, <b>a suitable connector of latest technology</b> output and a laser printer shall also be provided. The software shall be designed to enable these hardware.  |
| 3  | 2       | section-VII-B  | clause -6.3.5  | After the load testing or measurement operations on the bogies have been performed (from 1 to 4 wheels), the pre- and post-testing measurement results shall be possible to be edited or printed in table form. Data shall be transferred to a microcomputer via interface software.  | After the load testing or measurement operations on the bogies have been performed (from 1 to 4 wheels), the pre- and post-testing measurement results shall be transferred to a microcomputer via interface software <b>and it should not be possible at the user level to edit the test results.</b>   |

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| 4  | 2       | section-VII-B | clause -6.4  | <p>Wheel back to backspacing:</p> <p>For NMRCL Rolling Stock, it is 1358 +2/-0 mm both. Laser sensors shall be used for this measurement the output of which shall be fed to recording system automatically. The bogie test stand shall be capable to measure this distance over the range of 1600 mm.</p>   | <p>Wheel back to backspacing:</p> <p>For NMRCL Rolling Stock, it is 1358 +2/-0 mm both. Laser sensors shall be used for this measurement the output of which shall be fed to recording system automatically. The bogie test stand shall be capable to measure this distance over the range of <b>1300 mm to 1400 mm.</b></p>  |
| 5  | 2       | section-VII-B | clause-6.6.8 | <p>Bogie Test Stand should be able to calibrate itself at regular intervals. The bogie test stand shall be capable to calibrate on all the required axes, load cells, measuring software etc. If any special test piece is required for this purpose, it shall be under the scope of supply of the contractor. Bogie Test Stand must calibrate followings:-</p> <p><b>1) Calibration of the load cells Calibration of Air Suspension</b></p> <p><b>2) Calibration of the air leakage test unit</b></p> | <p>Bogie Test Stand should be able to calibrate itself at regular intervals. If any special test pieces are required for this purpose, it shall be under the scope of supply of the contractor. Bogie Test Stand must be able to calibrate minimum followings items:-</p> <p><b>1) Calibration of the load cells</b></p> <p><b>2) Calibration of the air leakage test unit</b></p> <p><b>3) Calibration of axle to axle distance</b></p> <p><b>4) Calibration of wheel back to back distance</b></p> <p><b>5) Calibration / Updation of Measuring Software.</b></p> |

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| 6  | 1       |             | Annexure-IV-B, pricing document, Annexure-II, Milestone payment schedule | <p style="text-align: center;">payment terms :-</p> <p>1. <b>20%</b> Advance Payment of Supply Price REF: (Cost Center A, B &amp; C) and for Civil Works (Cost Center D), against Advance Payment Bank Guarantee.</p> <p>2. <b>60%</b> Payment of Supply Price, against Bill of Lading on FOB dispatch of M&amp;Ps on Pro-Rata Basis. (REF: Cost Center A, B &amp; C)</p> <p>3. <b>60%</b> Payment of Civil Works of M&amp;Ps on Pro-Rata Basis will be made after completion of the civil work of each respective M&amp;P. (REF: Cost Center D)</p> <p>4. <b>40%</b> Payment of Supply Price of M&amp;Ps on Pro-Rata Basis (for the respective M&amp;Ps being supplied), will be made after completion of Installation, Testing and Commissioning of respective M&amp;Ps. (REF: Cost Center A, B &amp; C)</p> <p>5. <b>40%</b> Payment of Civil Works of M&amp;Ps on Pro-Rata Basis will be made after installation, Testing and Commissioning of each respective M&amp;P. (REF: Cost Center D)</p> | <p style="text-align: center;">payment terms :-</p> <p>1. <b>20%</b> Advance Payment of Supply Price REF: (Cost Center A, B &amp; C) and for Civil Works (Cost Center D), against Advance Payment Bank Guarantee.</p> <p>2. <b>80%</b> Payment of Supply Price, against Bill of Lading on FOB dispatch of M&amp;Ps on Pro-Rata Basis. (REF: Cost Center A, B &amp; C)</p> <p>3. <b>80%</b> Payment of Civil Works of M&amp;Ps on Pro-Rata Basis will be made after completion of the civil work of each respective M&amp;P. (REF: Cost Center D)</p> <p>4. <b>20%</b> Payment of Supply Price of M&amp;Ps on Pro-Rata Basis (for the respective M&amp;Ps being supplied), will be made after completion of Installation, Testing and Commissioning of respective M&amp;Ps. (REF: Cost Center A, B &amp; C)</p> <p>5. <b>20%</b> Payment of Civil Works of M&amp;Ps on Pro-Rata Basis will be made after installation, Testing and Commissioning of each respective M&amp;P. (REF: Cost Center D)</p> |

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| 7  | 1       |             | assesment topics, T4,Annual turn over | <p>T4 Average Annual Turn Over</p> <p>The minimum requirements to 'Pass' this criteria is that the Average Annual Turn Over for the last five financial years for <b>M&amp;P manufacture only</b> (in terms of rupee equivalent adjusted to last date of the financial year that ended on or before 31.05.2016. by assuming 5% escalation for Indian Rupee and 2% for foreign currency per year) shall not be less than INR 2000 million.</p> <p>The financial year as applicable in the country of origin of the bidders would be considered. The 'last financial year' will be the latest financial year that ended on or before 31.05.2016.</p> <p>In case of a Joint Venture/Consortium, the above evaluation will be done in totality after applying pro-rata percentage participation of each member and not as individual member. For example, if there are three members in a Joint Venture/Consortium with pro-rata percentage participation of 'A%', 'B%' and 'C%' and the Average Annual Turnover of the respective members are 'X', 'Y' and 'Z', then the evaluation for the above criteria will be based on the pro-rata percentage applied algebraic aggregate i.e. 'AX+BY+CZ'.</p> | <p>T4 Average Annual Turn Over</p> <p>The minimum requirements to 'Pass' this criteria is that the Average Annual Turn Over for the last five financial years for <b>Bidder</b> (in terms of rupee equivalent adjusted to last date of the financial year that ended on or before 31.05.2016. by assuming 5% escalation for Indian Rupee and 2% for foreign currency per year) shall not be less than INR 2000 million.</p> <p>The financial year as applicable in the country of origin of the bidders would be considered. The 'last financial year' will be the latest financial year that ended on or before 31.05.2016.</p> <p>In case of a Joint Venture/Consortium, the above evaluation will be done in totality after applying pro-rata percentage participation of each member and not as individual member. For example, if there are three members in a Joint Venture/Consortium with pro-rata percentage participation of 'A%', 'B%' and 'C%' and the Average Annual Turnover of the respective members are 'X', 'Y' and 'Z', then the evaluation for the above criteria will be based on the pro-rata percentage applied algebraic aggregate i.e. 'AX+BY+CZ'.</p> |

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| 8  | 3               | Section-IX,<br>Particular<br>condition of<br>contract | Clause no- 39  | <p><b>Total advance payment</b> : An interest free advance amount of 20% (Twenty Percentage) of the Accepted Contract Amount in the currencies and proportions in which the Accepted Contract Amount is payable.</p> <p>In calculation of advance payment, the amount of Cost Centre I shall not be considered.</p> <p>The advance shall be paid after the award of Letter of Acceptance, submission of the Performance Security, undertaking and Guarantees, Advance Payment Bank Guarantee @110% of required advance amount issued from scheduled commercial bank of Indian or Foreign origin having business office in India and signing of the Contract Agreement</p> | <p><b>Total advance payment</b> : An interest free advance amount of 20% (Twenty Percentage) of the Accepted Contract Amount in the currencies and proportions in which the Accepted Contract Amount is payable.</p> <p>In calculation of advance payment, the amount of Cost Centre <b>E,F,G,H ,I</b> shall not be considered.</p> <p>The advance shall be paid after the award of Letter of Acceptance, submission of the Performance Security, undertaking and Guarantees, Advance Payment Bank Guarantee @110% of required advance amount issued from scheduled commercial bank of Indian or Foreign origin having business office in India and signing of the Contract Agreement.</p> |
| 9  | part-2          |   | Chapter-8 Rescue Vehicle with Re-railing & Allied Equipment (item code- NMRCLMNP007) | Technical Specification, Chapter-8, Part -2   | Kindly refer revised technical specification (Annexure II - C)   |
| 10 | Bid Doc. Part 2 | section-VII-B   | Chapter 9 Drive ,clause 9.5.1  | <p>The vehicle will be powered by a diesel engine of adequate capacity to meet the performance and operational requirements detailed in the para 9.4 "Operational requirements"</p> <p>The proposed power of the engine will be a minimum of 325 kW. This proposed power can vary depending on the current state of the diesel engine technology.</p> <p>The diesel engine will be from a top brand OEM, with satisfactory service and repair support facilities available in India.</p>  | <p>The vehicle will be powered by a diesel engine of adequate capacity to meet the performance and operational requirements detailed in the para 9.4 "Operational requirements"</p> <p>The proposed power of the engine will be a minimum of <b>200</b> kW. This proposed power can vary depending on the current state of the diesel engine technology.</p> <p>The diesel engine will be from a top brand OEM, with satisfactory service and repair support facilities available in India.</p>  |

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| 11 | Bid Doc. Part 2 | section-VII-B | Chapter 10: ,clause 10.1.1 Operating Requirements | The Battery Operated Road cum Rail Shunting Vehicle shall be designed to start & haul 140 tons 3 cars train on dry & wet tracks with a maximum track gradient of 2.0% with curve radius of 100m including turnouts and crossings for Nagpur Metro. The vehicle shall be able to generate continuous draw bar pull of <b>13KN</b> while pulling the cars at straight level track and <b>20KN</b> uphill at 2% gradient. The tenderer shall submit the performance curves/ trial result in confirmation of above.  | The Battery Operated Road cum Rail Shunting Vehicle shall be designed to start & haul 140 tons 3 cars train on dry & wet tracks with a maximum track gradient of 2.0% with curve radius of 100m including turnouts and crossings for Nagpur Metro. The vehicle shall be able to generate continuous draw bar pull of <b>20 KN</b> while pulling the cars at straight level track and <b>39KN</b> uphill at 2% gradient. The tenderer shall submit the performance curves/ trial result in confirmation of above.  |
| 12 | part-2          | section-VII-B | Chapter 6 -Bogie Test Stand ) Clause :6.3.1       | <p>The bogie has to be moved and positioned manually underneath the stand. For this the rail level at workshop floor and the test surface of the bogie test stand shall be at the same level. A submerged version of the bogie test stand shall be most suited to these requirements. <b>However tenderer should propose the version of bogie test stand that fulfils above requirement of manual loading.</b></p> <p>To carry out the testing, both hydraulic rams of Bogie Test Stand shall be vertically driven by automatically PLC control system. <b>Alternatively, this movement can be manually controlled by using pendent control system.</b> Once the load to be applied on the load points of bogie are set on PLC system, the load of required capacity can be applied and displacement and various clearances of the bogies shall be measured.</p> | <p>The bogie has to be moved and positioned manually underneath the stand. For this the rail level at workshop floor and the test surface of the bogie test stand shall be at the same level. A submerged version of the bogie test stand shall be most suited to these requirements.</p> <p>To carry out the testing, both hydraulic rams of Bogie Test Stand shall be vertically driven by automatically PLC control system. Once the load to be applied on the load points of bogie are set on PLC system, the load of required capacity can be applied and displacement and various clearances of the bogies shall be measured.</p> |
| 13 | part-2          | section-VII-B | Chapter 6 -Bogie Test Stand 6.5                   | Accuracy of Measurement..... <b>Accuracy of indicating- 0.5 mm</b>   | Accuracy of Measurement..... Accuracy of indicating- <b>Deleted</b>   |

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| 14 | part-2  | section-VII-B | Chapter 6 -Bogie Test Stand 6.5   | Height measurement :work height of 500 mm in partial step of   | Height measurement :work height of 500 mm in partial step of 0.1 mm  |
| 15 | part-2  |               | Chapter-10 Battery Operated Rail Cum Road Shunting Vehicle(Item Code: NMRCLMNP009) 10.3.5 | Braking shall be hydraulically actuated and controlled by a foot padle in road mode. Track mode braking by regenerative motor/inverter braking.  | Braking shall be <b>hydraulically/ electrically (with regenerative feature ) actuated and controlled by a foot padle in road mode and track mode. Electrical Braking System will be Acceptable. Kindly refer revised Technical Specifications (Annexure 2C).</b>   |
| 16 | part-2  |               | Chapter-10 Battery Operated Rail Cum Road Shunting Vehicle(Item Code: NMRCLMNP009) 10.5.8 | Parking Brake shall be provided.   | <b>Parking brake: electromechanical brake, applied automatically in case of power failure and standstill. Kindly refer revised Technical Specifications (Annexure 2C).</b>   |
| 17 | part-2  |               | Chapter-10 Battery Operated Rail Cum Road Shunting Vehicle(Item Code: NMRCLMNP009) 10.1.2 | The Battery Operated Road cum Rail Shunting Vehicle shall have maximum height above top of rail with cabin it shall not exceed <b>2500 mm</b> and width shall not be more than <b>2000mm</b> while moving on rail. | The Battery Operated Road cum Rail Shunting Vehicle shall have maximum height above top of rail with cabin it shall not exceed <b>2850 mm and without the cabin it should not be more than 1450 mm. The shunter cabin shall be removable type.</b> Shunter width shall not be more than <b>2200mm</b> while moving on rail. Kindly refer to the revised Tecnical Specifications. |

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| 18 | part-1  | section-II    | BDS ITB 5.2  | There are no restrictions on the country of origin of plant, equipment, materials and services to be provided under the Contract but Bidders are encouraged to adopt Indian sources to the maximum possible extent. However, all plant, materials, supplies, equipment and services shall be to the satisfaction of the Employer and Engineer. The information on all plant, materials, supplies, equipment and services included in the Contractor's Proposal and incorporated into the Contract shall not, in any event, be construed as a submission to the Employer under the Contract. Contractor will be required to take specific approval of the Employer for deployment of plant, materials, supplies, equipments and services in accordance with the Conditions of Contract and Employer's Requirements. <b>The Tenderer should note the requirements for transfer of technology.</b> | There are no restrictions on the country of origin of plant, equipment, materials and services to be provided under the Contract but Bidders are encouraged to adopt Indian sources to the maximum possible extent. However, all plant, materials, supplies, equipment and services shall be to the satisfaction of the Employer and Engineer. The information on all plant, materials, supplies, equipment and services included in the Contractor's Proposal and incorporated into the Contract shall not, in any event, be construed as a submission to the Employer under the Contract. Contractor will be required to take specific approval of the Employer for deployment of plant, materials, supplies, equipments and services in accordance with the Conditions of Contract and Employer's Requirements. |
| 19 | part-1  | section III : | Evaluation & PQ Criteria, 2nd paragraph              | This section....Wherever a Bidder is required to state a monetary amount, Bidders should indicate the USD equivalent using the rate of exchange.....  | This section....Wherever a Bidder is required to state a monetary amount, Bidders should indicate the USD equivalent <b>to INR</b> using the rate of exchange.....   |
| 20 | part-1  | section IV,   | bidding forms ,<br>4.4 Bidder's Technical Submission | <b>Appendix-Q</b> of Pricing Document (Annexure IV-A) under financial package   | Pricing Document ,Annexure IV-B under financial package  |

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| 21 | part-1  | section III | Evaluation & PQ Criteria, ANNEXURE III-A, Refer B. ELIGIBILITY CRITERIA 1.1, S.N. | Minimum Number of Type of Machines <b>from Schedule "A"</b> which the Bidder must have , supplied, Tested & Commissioned within last 10 Years. These 4 types should include atleast one type of machine from Automatic Train Wash Plant/ Under Floor Wheel Lathe/Under Floor Train Lifting System  | Minimum Number of Type of Machines <b>listed in chapter-1 of Technical specification (section VII B, Part-2)</b> which the Bidder must have , supplied, Tested & Commissioned within last 10 Years. These 4 types should include atleast one type of machine from Automatic Train Wash Plant/ Under Floor Wheel Lathe/Under Floor Train Lifting System                  |
| 22 | part-1  | section III | Evaluation & PQ Criteria, ANNEXURE III-A, Refer B. ELIGIBILITY CRITERIA 1.2, S.N. | Minimum Four Number of each type <b>of machine as per Schedule "A"</b> should have been Designed and manufactured, by the sole Bidder or the Consortium / Joint Venture of bidders or sub-contractors and the same should be in operation with satisfactory performance for a minimum period of 2 years after Commissioning  | Minimum Four Number of each type of machine listed in chapter-1 of Technical specification (section VII B, Part-2) should have been Designed and manufactured, by the sole Bidder or the Consortium / Joint Venture of bidders or sub-contractors and the same should be in operation with satisfactory performance for a minimum period of 2 years after Commissioning |
| 23 | part-1  | section-III | Evaluation & PQ Criteria, ANNEXURE III-A, Refer B. ELIGIBILITY CRITERIA 5.0       | Any subsidiary company participating as sole bidder or joint venture / consortium member can avail the experience of its parent company <b>or its group company</b> for evaluation purpose only if, subsidiary company submit parent company <b>or its group company</b> guarantee and undertaking for due performance of the contract by the subsidiary . vice versa of the above shall also be applicable. | Any subsidiary company participating as sole bidder or joint venture / consortium member can avail the experience of its parent company for evaluation purpose only if, subsidiary company submit parent company guarantee and undertaking for due performance of the contract by the subsidiary . vice versa of the above shall also be applicable.                    |
| 24 | part-1  | section-III | Section III : Evaluation & PQ Criteria, ANNEXURE III-A, ANNEXURE 2                | Name of M&Ps   | <b>2.1</b> Name of M&Ps   |

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| 25 | part-1  | section IV,  | SECTION IV: ANNEXURE IVA- Instruction for completing Document, E. MILESTONE Pricing | The MPS completed by the Contractor shall set out the maximum cumulative amount for each currency for all Cost Centres put together in relation to each month for which payment for that Cost Centre may be sought in accordance with Clause 14 of the GC. This information should also be presented in graphic and tabular form. <b>The Monthly Cash flows shall be worked out as per the Methodology laid down in Form 12 under Section IV: Bidding Forms. Milestones Payment Schedules showing Monthly Cash Flow for the Contract will form part of the Pricing Document.</b>         | The MPS completed by the Contractor shall set out the maximum cumulative amount for each currency for all Cost Centres put together in relation to each month for which payment for that Cost Centre may be sought in accordance with Clause 14 of the GC. This information should also be presented in graphic and tabular form.   |
| 26 | part-2  | section VIIB | Chapter-4 Under Floor Lifting System (Pit Jacks) ,clause 4.4.1                      | Each bogie hoist shall be raised or lowered via 4 independent lifting columns <b>or 4 lifting columns controlled by one centralized column of proven design.</b> Lifting columns shall consist of a spindle-lifting element, a lifting beam, guiding box, one automatic following gap cover and associated electrical equipment. Two motors power the spindle lifting system via mechanical connection of the few lifting gears to provide absolute synchronization.   | Each bogie hoist shall be raised or lowered via 4 independent lifting columns . Lifting columns shall consist of a spindle-lifting element, a lifting beam, guiding box, one automatic following gap cover and associated electrical equipment. Two motors power the spindle lifting system via mechanical connection of the few lifting gears to provide absolute synchronization.   |
| 27 | part-2  | section VIIB | Chapter-5 Mobile Lifting Jack- ,clause no.- 5.9                                     | The control console shall be mounted on a trolley for the operator to move around for effective monitoring of the operation. It shall be fabricated of sufficiently thick steel sheets and duly treated and painted (epoxy paint or powder coated) for longer life. The control console shall be equipped with a plug for connecting all jacks through the socket on the floor at the central area of the <b>two cars/four cars</b> . The cable of the plug shall be 10- meter long and coiled onto a console-mounted cable reel and this shall be provided by mobile jacks' contractor. | The control console shall be mounted on a trolley for the operator to move around for effective monitoring of the operation. It shall be fabricated of sufficiently thick steel sheets and duly treated and painted (epoxy paint or powder coated) for longer life. The control console shall be equipped with a plug for connecting all jacks through the socket on the floor at the central area of the <b>three</b> cars. The cable of the plug shall be 10- meter long and coiled onto a console-mounted cable reel and this shall be provided by mobile jacks' contractor. |

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| 28 | part-2  | section VIIB  | TION- Chapter-5 Mobile Lifting Jack-,clause no.-5.8 | <p>Synchronization controls:<br/>The jacks shall be provided with a leveling synchronization system ensuring the control and automatic correction -----<br/>In the event of a PLC failure when the vehicle is lifted, the operator will have the option to lower the 4/8/12/3 Car Unit only, each jack stops on its lower limit switch. Only lowering is authorized in this mode.</p>   | <p>Synchronization controls:<br/>The jacks shall be provided with a leveling synchronization system ensuring the control and automatic correction -----<br/>In the event of a PLC failure when the vehicle is lifted, the operator will have the option to lower the <b>four unit for one car,eight unit for two car and twelve Unit for three car only</b>, each jack stops on its lower limit switch. Only lowering is authorized in this mode.</p>   |
| 29 | part-2  | section-VII-B | Chapter-5 Mobile Lifting Jack, clause 5.7           | <p>The operation of the jacks in a group of four, eight, twelve or three unit only shall be controlled at the control console. The operation of an individual jack shall be controlled at the jack- mounted local control box.</p> <p>The control gear shall be protected against phase failure (single phasing), under- voltage, over-current, motor overload and wrong direction movements due to wrong rotation of drive motor as a result of phase reversal etc.</p>      | <p>The operation of the jacks in a group <b>of four, eight, twelve unit</b> only shall be controlled at the control console. The operation of an individual jack shall be controlled at the jack- mounted local control box.</p> <p>The control gear shall be protected against phase failure (single phasing), under- voltage, over-current, motor overload and wrong direction movements due to wrong rotation of drive motor as a result of phase reversal etc.</p>  |
| 30 | part-2  | section-VII-B | Chapter-7 Bogie Turn Table ,clause 7.2              | <p>The turntables shall be constructed of circular platform decks with approximate 3500 mm in diameter for SG. The decks shall sit on center pivots at the centers and castors on the peripheries for turning.Two pairs of rails of specified gauge shall be mounted and positioned in perpendicular to each other across diameter on the deck of each turntable to accommodate bogies. The track gauge shall be 1435mm for SG as specified for particular workshop site.</p> | <p>The turntables shall be constructed of circular platform decks with approximate 3500 mm in diameter for SG. The decks shall sit on center pivots at the centers and castors on the peripheries for turning.<b>Two pair of Square / Rectangular Steel Bars</b> of specified gauge shall be mounted and positioned in perpendicular to each other across diameter on the deck of each turntable to accommodate bogies. The track gauge shall be 1435mm for SG as specified for particular workshop site.</p> |

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| 31 | part -2 | section-VII-B | WORKS<br>REQUIREMENT<br>SECTION VII-B,<br>-TECHNICALSPECIFIC<br>ATION- Chapter-3 CNC<br>Under Floor Wheel<br>Lathe (Item Code-<br>NMRCLMNP002), 3.6.7 | ____ e.g. wheels with heavy wear, normal wear and<br>others like<br>profiling flat tread, brake disc, only flange, <b>tread<br/>with or without the flange</b>  | ____ e.g. wheels with heavy wear, normal wear<br>and others like profiling flat tread, brake disc,<br>only flange, tread with the flange.   |
| 32 | part -2 | section-VII-B | CNC Under Floor<br>Wheel Lathe , 3.10. 1  | The wheels shall be positioned for re-profiling shall<br>run on their flange on mobile retractable rails<br>(hydraulically actuated & operation interlocked with<br>the vehicle movement from the machine control<br>panel).                                      | The wheels shall be positioned for re-profiling shall run<br>on their flange on mobile retractable rails (hydraulically<br>actuated / <b>electically actuated</b> & operation<br>interlocked with the vehicle movement from the<br>machine control panel).                                    |
| 33 | part-2  | section-VIB   | CNC Under Floor<br>Wheel Lathe , 3.10.2   | Irregularities in the wheel treads may be flats,<br>thermal cracks, splits or out-of round areas. All<br>these faults should be corrected in a single<br>machining pass with minimum tool wear/damage.  | Irregularities in the wheel treads may be thermal<br>cracks, splits or out-of round areas. All these faults<br>should be corrected in a single machining pass with<br>minimum tool wear/damage. <b>In case of flats, faults<br/>should be corrected in two machining passes</b>               |
| 34 | Part-2  | section-VII-B | Multiple Purpose<br>working Platform 11.2   | Elevated Tracks   | kindly refer revised Technical Specification<br>(Annexure 2C)   |
| 35 | Part-2  | section-VII-B | CMV Item code-<br>NMRCLMNP008-A and<br>B),9.7   | The application of the braking effort will be made by<br>mean of braking blocks with double effect regulator<br>and antagonist spring. They will act directly over the<br>lathes by mean of braking pads according to UIC<br>541 – 3 y 541 – 4 and 832 standards. | The application of the braking effort will be made<br>by mean of <b>braking blocks or brake cylinder</b><br>with double effect regulator and antagonist<br>spring. They will act directly over the lathes by<br>mean of braking pads according to UIC 541 – 3<br>y 541 – 4 and 832 standards. |

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| 36 | Part-2  | section-VII-B | WORKS<br>REQUIREMENT<br>SECTION VII-B,<br>-TECHNICALSPECIFIC<br>ATION- Chapter-9 CMV<br>Item code-<br>NMRCLMNP008-A),9.11 | The platform will have two movements, elevation and translation. The elevation mechanisms will be hydraulic with a scissors like mechanism powered by cylinders of double effect and piston pump to activate them. The translation system will be powered by a hydraulic motor with negative brake that assures the position of the working platform and a mechanical system with coupler that limits its speed. | The platform will have two movements, elevation and translation. The elevation mechanisms will be hydraulic with a scissors like mechanism powered by cylinders of double effect and piston pump to activate them or <b>Hydraulic telescopic type</b> . <b>The platform will be pivot mounted rotating type or translating</b> .The translation system will be powered by a hydraulic motor with negative brake that assures the position of the working platform and a mechanical system with <del>coupler that limits its speed</del> |
| 37 | Part-2  | vii A,        | VII-A: EMPLOYER'S<br>REQUIREMENT<br>-GENERAL<br>SPECIFICATION,2.1.3   | Table 2-1<br>Sr. No-14 -Service trails protocol  | Table 2-1<br>Sr. No-14 -Deleted   |
| 38 | Part-3  | vii A,        | VII-A: EMPLOYER'S<br>REQUIREMENT<br>-GENERAL<br>SPECIFICATION,6.6.3   | All software(s), irrespective of contractor's own software-----compatibility with new version of Windows for at least a period of 5 years beyond DLP of the last train.  | All software(s), irrespective of contractor's own software-----compatibility with new version of Windows for at least a period of 5 years beyond DLP of the last <b>M&amp;P</b> .   |
| 39 | Part-2  | vii A,        | VII-A: EMPLOYER'S<br>REQUIREMENT<br>-GENERAL<br>SPECIFICATION,8.9.2   | The warranty period of mandatory spares, recommended spares or any other item / equipment delivered shall be:<br>(i) either 24 months from the date of acceptance or<br>(ii) upto expiry of the Defect Liability Period (DLP) whichever is later.  | The warranty period of mandatory spares, recommended spares or any other item / equipment delivered shall be:<br>(i) either 24 months from the date of <b>receipt of material</b> or<br>(ii) upto expiry of the Defect Liability Period (DLP) whichever is later.   |

| SN | Part No | section No.   | Clause no.      | Description in previous document   | Description in revised document   |
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| 40 | Part-2  | 2 6,          | 2.6.2.1         | <p>This station shall consist of one pair of vertical brushes (one on each side) with stainless steel spray poles, suited to cleaning the lateral faces of the trains, <b>one pair of split horizontal brushes with gantry</b>. The motors rotating the spindle &amp; side movement of the brush shall be mounted on the top of the brush. The electrical current to the side motor is controlled in such a way that the brush shall have a consistent lap with lateral side of the train. The brushes shall also follow the shape of the train if it changes. Each brush shall include an arrangement to spray water mixed detergent solution evenly on the car surface. Drawings shall be provided in the technical offer for better understanding of the design. Any alternative of proven design for 5 years may be submitted with detail justification elaborating advantages and past experience. The provision shall be made to vary the chemical application from HMI panel from 0.1 to 2.3 %.</p> | <p>This station shall consist of one pair of vertical brushes (one on each side) with stainless steel spray poles, suited to cleaning the lateral faces of the trains, The motors rotating the spindle &amp; side movement of the brush shall be mounted on the top of the brush. The electrical current to the side motor is controlled in such a way that the brush shall have a consistent lap with lateral side of the train. The brushes shall also follow the shape of the train if it changes. Each brush shall include an arrangement to spray water mixed detergent solution evenly on the car surface. Drawings shall be provided in the technical offer for better understanding of the design. Any alternative of proven design for 5 years may be submitted with detail justification elaborating advantages and past experience. The provision shall be made to vary the chemical application from HMI panel from 0.1 to 2.3 %.</p> |
| 41 | Part-2  | section-VII-B | clause 2.4,ATWP | <p>The assemblies.....taken during design stage. "In addition, the layout of the plant shall be arranged to enable acid washing to be added at a later stage when it is found necessary. Space shall be reserved for the installation of an additional set of pre-wet station, a set of acid station and associated assemblies. The reserved space for acid station shall be at a minimum distance of 30m ahead the water brush station".</p>  | <p>The assemblies.....taken during design stage. "In addition, the layout of the plant shall be arranged to enable acid washing to be added at a later stage when it is found necessary. Space shall be reserved for the installation of an additional set of pre-wet station, a set of acid station and associated assemblies. The reserved space for acid station shall be at a minimum distance of 30m ahead the water brush station".<b>The system should be modular and capable for modification in the future for electrical ,mechanical,hardware and software when needed for acid washing .</b></p>   |

| SN | Part No | section No.   | Clause no.      | Description in previous document   | Description in revised document  |
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| 42 | Part-2  | section-VII-B | 9.13            | <p>The vehicle will have a measuring pantograph, insulated, calibrated and with precision potentiometer, IP65 protected, and with digital display in the cabin, to measure the height of the catenary.</p> <p>The actuator of the pantograph will be pneumatic, with pressure regulator.</p> <p>The pantograph will be able to measure both the lateral and the height deviation of the overhead line, which the driver will be able to check through a TV camera supplied with the system. This camera will be pointed at both the rules, and the video feed will be shown in a colour monitor in the driving cabin. It will also have a linear inductive detector in the pantograph which will continuously show in the screen the current height of the pantograph in real time, and will be able to either print the height profile in real time or store the measures in a computer memory.</p> | <p>The vehicle will have a measuring pantograph, insulated, calibrated and with precision potentiometer, IP65 protected, and with digital display in the cabin, to measure the height <b>and stager of the catenary, All catenary parameter at crossover/turnout locations.</b></p> <p>The actuator of the pantograph will be pneumatic, with pressure regulator.</p> <p>The pantograph will be able to measure both the lateral and the height deviation of the overhead line, which the driver will be able to check through a TV camera supplied with the system. This camera will be pointed at both the rules, and the video feed will be shown in a colour monitor in the driving cabin. It will also have a linear inductive detector in the pantograph which will continuously show in the screen the current height of the pantograph in real time, and will be able to either print the height profile in real time or store the</p> |
| 43 | Part-2  | section-VII-B | 10.4.3          | <p>Automatic Couplers height shall be adjustable by hydraulic mechanism, manually at all corners, after the shunter has stopped. It shall be possible to position the coupler head at the same height as that of car.</p>  | <p>Automatic Couplers height shall be adjustable by hydraulic mechanism, manually <b>on both side (front and rear)</b>, after the shunter has stopped. It shall be possible to position the coupler head at the same height as that of car.</p>  |
| 44 | part-2  | section-VIIB  | clause 1.2,Sn.7 | <p>Operation of Specific M&amp;Ps (UFWL, UFLS, MLJ &amp; <b>BTS</b>) on 2 Shift working basis, for a period of 2 Years from the date of Commissioning.</p>   | <p>7. Operation of Specific M&amp;Ps (UFWL, UFLS and MLJ ) on 2 Shift working basis, for a period of 2 Years from the date of Commissioning.</p>   |
| 45 | Part-1  | section-III   | Clause 2.0      | <p>The sole bidder or Lead Partner of JV/consortium shall be fully responsible for Design, Manufacture, Supply, Installation, Testing and Commissioning of the Machines and Training of the Engineers and <b>also for coordinating</b> maintenance and After-Sales Services during DLP, O&amp;M Documentations and AMC Period.</p>   | <p>The sole bidder or Lead Partner of JV/consortium shall be fully responsible for Design, Manufacture, Supply, Installation, Testing and Commissioning of the Machines and Training of the Engineers and <b>will be responsible</b> for the After-Sales Services during DLP, O &amp; M Documentations and AMC Period.</p>   |

| SN | Part No | section No. | Clause no.  | Description in previous document  | Description in revised document   |
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| 46 | Part-2  | VII-B       | Works Requirement - Technical Specifications Clause No. 6.6.4 | The movement of Hydraulic Cylinder Ram shall be capable for lateral/horizontal adjustment to cover the specified parameters on the moving crossbeam to maintain accuracy within +/-0.1 mm. The vertical hydraulic cylinders shall be movable horizontally with spindle gear <b>by hand</b> . These shall be equidistant from the centre line of track and always move synchronously. Proper arrangement shall have of such type so that the said accuracy of the movement can be maintained over a long period. The position of vertical cylinders shall be shown by a scale on the horizontal beam of "Circulating Steel Structure" and also by display on PLC system. | The movement of Hydraulic Cylinder Ram shall be capable for lateral/horizontal adjustment to cover the specified parameters on the moving crossbeam to maintain accuracy within +/-0.1 mm. The vertical hydraulic cylinders shall be movable horizontally with spindle gear <b>manually or automatically</b> . These shall be equidistant from the centre line of track and always move synchronously. Proper arrangement shall have of such type so that the said accuracy of the movement can be maintained over a long period. The position of vertical cylinders shall be shown by a scale on the horizontal beam of "Circulating Steel Structure" and also by display on PLC system. |
| 47 | Part-2  | VII-B       | Technical Specifications Clause No. 10.5.4                    | Driver seats shall be provided on the Battery Operated Road cum Rail Shunting Vehicle <b>seat facing forward with 360 degree visibility and maneuverability. The driver"s controls shall match with orientation of driver seat</b> .The driver seat shall be cushioned, preferably adjustable and with backrest angle adjustable  | Driver seats shall be provided on the Battery Operated Road cum Rail Shunting Vehicle. <b>Driver seat with proven design, facing forward, having 360 degree visibility and manoeuvrability, will be acceptable.</b> The driver seat shall be cushioned, preferably adjustable and with backrest angle adjustable  |
| 48 | part-2  | VII-B       | Technical specifications- Clause No. 3.10.1                   | The wheels shall be positioned for re-profiling shall run on their flange on mobile retractable rails (hydraulically actuated & operation interlocked with the vehicle movement from the machine control panel).  | The wheels shall be positioned for re-profiling shall run on their flange on mobile retractable rails (hydraulically <b>/electrically</b> actuated & operation interlocked with the vehicle movement from the machine control panel).   |
| 49 | part-2  | VII-B       | Technical specification Clause 3.16.10                        | Panels shall be provided for control and monitoring of the machine from each side and shall be sized to take environmental conditions into account. There should be redundancy in operating the system from each side. The panels shall be dust & water splash tight & the ambient temperature outside may go up to 45 deg. C. The IP level for the control panel shall be at least IP55.   | Panels shall be provided for control and monitoring of the machine from each side and shall be sized to take environmental conditions into account. There should be redundancy in operating the system from each side. The panels shall be dust & water splash tight & the ambient temperature outside may go up to <b>50</b> deg. C. The IP level for the control panel shall be at least IP55.  |

| SN | Part No | section No. | Clause no.  | Description in previous document   | Description in revised document   |
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| 50 | part-2  | VII-B       | Technical specification<br>Clause 5.3               | Cantilever adjustable range : 475mm  | Cantilever adjustable range <b>should be atleast</b> :<br>475mm   |
| 51 | part-2  | VII-B       | Technical specification<br>Clause 10.1.7            |  | The Battery Operated Road cum Rail Shunting Vehicle shall have provision for synchronisation with under floor wheel lathe .   |
| 52 | part-2  | VII-B       | Technical specification<br>Clause 10.1.7            | The Battery Operated Road cum Rail Shunting Vehicle shall be of rail cum road type with metal tyre wheels, preferably with separate individual drive for running on tracks and separate drive for travelling on concrete floor/ road of the workshop/depot but tenderer may also propose any other alternative proven design for movement on track as well as on the road and test report for the satisfaction of the client for similar application in the technical offer. | The Battery Operated Road cum Rail Shunting Vehicle shall be of rail cum road type with metal/ <b>rubber</b> tyre wheels, preferably with separate individual drive for running on tracks and separate drive for travelling on concrete floor/ road of the workshop/depot but tenderer may also propose any other alternative proven design for movement on track as well as on the road and test report for the satisfaction of the client for similar application in the technical offer. |
| 53 | part-1  |             | Annexure-IV-B,pricing document ,cost center A and G | Multifunctional work stations with elevated tracks<br><b>Qty=6</b>   | Multifunctional work stations with elevated tracks<br><b>Qty=2</b>  |
| 54 | part-2  | VII-A       | chapter-7,Inspection                                | - (New insert)   | Indicative test plan  |
| 55 | part-2  | VII-A       | Appendix-7  | - (New insert)   | OPERATIONAL SERVICES for M&Ps at NMRCL MIHAN & HINC   |
| 56 | part-1  | I           | NIT for Tender No. N1M&P-1/2016                     | Date and time of submission of tender - online submission up to <b>16:00 Hrs. on 3rd December 2016</b> at NMRCL's e-tender portal  | Date and time of submission of tender - online submission up to <b>16:00 Hrs on 10th January 2017</b> at NMRCL's e-tender portal  |
| 57 | Part-1  | I           | NIT for Tender No. N1M&P-1/2016                     | Date and time of opening of tender - <b>on 3rd December 2016</b> at 16:30 Hrs.   | Date and time of opening of tender - <b>on 10th January 2017</b> at 16:30 Hrs.  |

| SN | Part No | section No. | Clause no.                                    | Description in previous document   | Description in revised document   |
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| 58 | part-1  | II          | BDS ITB 22.1                                  | For bid submission purposes only, the Employer's address is:<br>Attention: General Manager (Procurement)<br>NAGPUR METRO RAIL CORPORATION LIMITED<br>Metro House, Bungalow No. 28/2, Anand Nagar,<br>C.K. Naidu Road,<br>Civil Lines, Nagpur 440 001 (INDIA)<br>The deadline for bid submission is:<br><b>Date: 28th June 2016</b><br>Time: upto 16:00 hrs | For bid submission purposes only, the Employer's address is:<br>Attention: General Manager (Procurement)<br>NAGPUR METRO RAIL CORPORATION LIMITED<br>Metro House, Bungalow No. 28/2, Anand Nagar, C.K.<br>Naidu Road,<br>Civil Lines, Nagpur 440 001 (INDIA)<br>The deadline for bid submission is:<br><b>Date: 10th January 2017</b><br>Time: upto 16:00 hrs |
| 59 | part-1  |             | Annexure IV-B, pricing document ,cost centert | Existing pricing document  | please refer Corrigendum II-E   |