TECHNICAL SPECIFICATION

FOR SUPPLY OF

MODULE MOUNTING STRUCTURE (MMS)

PROJECT : 1X50 MWp SPV POWER PLANT, NTPC, MANDSAUR, MP

CUSTOMER : NATIONAL THERMAL POWER CORPORATION LIMITED

Prepared By: VENU GOPAL P
Checked By: K. SYAMALA RAO
Approved By: ESHAN CHANDRA
Date: 31.05.16
A. INTRODUCTION

National Thermal Power Corporation Ltd (NTPC), a premier Maharashtra public sector undertaking in the field of power generation, is setting up a 250 MWp solar PV power plant, primarily at two villages Runija & Gujerkhedi (Tehsil Suwasra), Mandsaur Dist., Madhya Pradesh state.

The entire 250 MWp solar PV power plant comprises of five nos. blocks of capacity 50 MWp each. BHEL is setting up in P4 block of 50 MWp capacity.

<table>
<thead>
<tr>
<th>Plant Location</th>
<th>Mandsaur District</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>Madhya Pradesh</td>
</tr>
<tr>
<td>Nearest Important Town</td>
<td>Suwasra (Tehsil)</td>
</tr>
<tr>
<td>Nearest Railway Station</td>
<td>Suwasra</td>
</tr>
<tr>
<td>Nearest Airport</td>
<td>Udaipur</td>
</tr>
<tr>
<td>Nearest National Highway</td>
<td>NH-14</td>
</tr>
</tbody>
</table>

The PV modules shall be mounted on metallic structures called Module Mounting Structures (MMS). This document describes the technical specification for MMS.

B. SCOPE

This specification covers the supply of structural elements for MMS (refer annexure-1) as detailed below:

<table>
<thead>
<tr>
<th>Variant No.</th>
<th>Scope of Supply</th>
<th>BHEL Material Code</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Supply of Column Posts</td>
<td>PY9760052016</td>
<td>Includes channel section with hinge plate (welded connection), punctured holes in both channel and hinge plate, etc.</td>
</tr>
<tr>
<td>02</td>
<td>Supply of Fasteners</td>
<td>PY9760052032</td>
<td>S304 and Class A2-70</td>
</tr>
<tr>
<td>03</td>
<td>Supply of Super Structure of MMS (balance structural elements in MMS like rafters, purlins, bracings etc.)</td>
<td>PY9760052024</td>
<td>Includes Rafter sections with welded cleats and hinge plate, Purlin sections with slotted holes, Bracings, Angles with punctured holes, etc.</td>
</tr>
</tbody>
</table>

C. MATERIAL SPECIFICATION

MMS frames, post, cap plate, assembly of the structures, etc. shall conform to Indian standards as mentioned in the list of code. Refer Annexure-1 for details of structural members. All cold formed sections shall be minimum yield stress 350 MPa and Hot rolled sections of minimum yield stress 250 MPa.

IS: 2062 - Hot Rolled Medium and High Tensile Structural Steel
IS: 811 - Cold Formed Light Gauge Structural Steel Sections
MMS column post shall be minimum 3.15 mm and the minimum thickness of light gauge members shall be 2 mm, all without galvanization.

All materials shall be fabricated in shop such that welding in field shall not be required. Activities like Welding, Galvanisation, Punching of holes etc., are not allowed at site.

D. CONNECTIONS

All fasteners (nuts, bolts and washers) shall be of Stainless Steel (SS304) and Class A2-70 as per IS: 1367.
All bolts shall be tighten with designed torque mechanically.

Connection of column post and rafter/beam shall be of hinge plate and bolt system as indicated in the drawing (refer Annexure-1).

E. COATING FOR STRUCTURAL STEEL WORKS

MMS frames, post, cap plate, assembly of the structures, etc. shall be of MS hot dip galvanized. Hot dip galvanization shall be as per IS: 4759 and the coating minimum thickness shall be maintained by 85 micron.

IS: 4759 - Hot-dip zinc coatings on structural steel and other allied products

F. SUB VENDOR FOR STRUCTURAL STEEL

Vendor shall procure the raw materials (steel sheets/strips/plates etc as per BHEL drawing) from main steel producers like SAIL, TISCO, RINL, Essar Steel, Ispat Industries, JSW Steel, Lloyds Steel Industries, Jindal Steel & Power and Sunflag Steel & Iron Co., Bhandara [ only for rounds (15-105mm), flats (45-120 mm width & 4.75-28 mm thick), hex rods (15.5-42 mm) and wire rods (5.5-38 mm)].

F. INSPECTION

For MMS Super Structure:
If required by end customer, vendor shall organize for assembly of one set of MMS structure components to demonstrate fitting and clearances of parts. For the above, it is Bidder’s responsibility to arrange other structural/ equivalent members of MMS that are mentioned in Annexure-1 and not in bidder’s scope of supply for completeness of Assembly.

G. MANUFACTURING QUALITY PLAN (MQP)

A typical sample of MQP for the MMS items is enclosed along with this tender. Vendor shall use this document as reference for preparation and submission of test reports. Refer Annexure-2.

H. TESTING AND TEST REPORTS

For every lot of dispatch, vendor shall submit MTC (Material Test Certificate) and other Factory Acceptance/Routine test reports as per MQP. BHEL/ NTPC shall provide dispatch clearance after verifying that the documents are in order.
In the absence of MTC of raw materials from the sub-vendor, certificate from NABL approved third party laboratory shall be furnished for one sample of each type of section per offered lot.

BHEL/NTPC reserves the rights to carry out surveillance visits at the works of vendor/galvanizer to check/monitor the MM S structure manufacturing/galvanizing processes as and when required.

Random samples may also be selected from the works or from the site (after supply) for testing at NTPC approved third party laboratory. Testing charges shall be borne by the vendor.

I. MARKING INSTRUCTIONS

*For MMS Column posts and Super Structure:*
All items shall have unique identification number (Numbering system shall be furnished by BHEL after placing PO. Bidder shall ensure the same before dispatch of material to site). The identification number of each item shall be stencilled with red paint in bold letters on every part on 100% basis.

J. PACKING INSTRUCTIONS

*For MMS Column posts and Super Structure:*
The MMS items shall be packed in bundles with steel straps. Necessary precautionary provisions (strips of plastic, fiber, rubber etc) shall be used to prevent the steel straps from damaging the galvanized surface. Adequate quantity of steel straps shall be provided depending upon the length of MMS items. Bundles shall be with appropriate lot quantity (50 Nos, 100 Nos etc per bundle) to facilitate ease of handling and accounting. Bundles shall be provided with name tags giving part number, quantity and month of manufacturing.

*For Fasteners:*
Hardware shall be supplied in plastic wrapped hessian cartons/plastic wrapped thick cardboard cartons to avoid bursting and spillage of contents during transport and storage at site. Each carton shall be clearly identified with the type of hardware packed in it and its quantity. Cartons shall be in weight not exceeding 30 kg for easy handling and storage at site.

K. NOTES TO BIDDER

a) Bidders are advised to contact BHEL for essential technical queries in writing during pre-bid stage. In case no such clarifications are sought during pre-bid stage, it will be assumed that bidder has no comments or observations on BHEL’s specification and no deviations from the specifications are taken by the bidder.

b) Offers with incomplete information will not be considered for evaluation, and are likely to be rejected outright without any further interaction with the Bidder.

c) In the event of any conflict between these specifications, drawings, related standards, codes etc. the vendor shall refer the matter to the purchaser for clarifications during pre-bid stage.

d) Quantities mentioned are tentative requirement. Based on the actual requirement, quantity can be increased or decreased by about 30% on overall qty. Final BOQ will be informed before price bid opening. Unit rates shall be applicable for the revised BOQ also.
L. **DELIVERY SCHEDULE**

The schedule for delivery of items at site shall be as follows:

- **a)** For Supply of MMS columns (BHEL Material Code: PY9760052016)

<table>
<thead>
<tr>
<th>Schedule of Delivery</th>
<th>% Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>05 weeks from PO date</td>
<td>30</td>
</tr>
<tr>
<td>08 weeks from PO date</td>
<td>30</td>
</tr>
<tr>
<td>12 weeks from PO date</td>
<td>40</td>
</tr>
</tbody>
</table>

- **b)** For Supply of Fasteners (BHEL Material Code: PY9760052032)

<table>
<thead>
<tr>
<th>Schedule of Delivery</th>
<th>% Quantity</th>
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<tbody>
<tr>
<td>05 weeks from PO date</td>
<td>30</td>
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<tr>
<td>08 weeks from PO date</td>
<td>30</td>
</tr>
<tr>
<td>12 weeks from PO date</td>
<td>40</td>
</tr>
</tbody>
</table>

- **c)** For Supply of Super Structure of MMS (BHEL Material Code: PY9760052024)

<table>
<thead>
<tr>
<th>Schedule of Delivery</th>
<th>% Quantity</th>
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</thead>
<tbody>
<tr>
<td>05 weeks from PO date</td>
<td>30</td>
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<tr>
<td>08 weeks from PO date</td>
<td>30</td>
</tr>
<tr>
<td>12 weeks from PO date</td>
<td>40</td>
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For a), b) & c) above, Bidder to supply all members in its scope in proportions required for erection of complete Module Mounting Structure i.e., each lot supplied shall contain all the members(parts) in scope of bidder.

M. **LIST OF ANNEXURES**

Following input documents and specifications are enclosed to facilitate the bidder to furnish the offer:

<table>
<thead>
<tr>
<th>Annexure No.</th>
<th>Document/ Drawing Title</th>
<th>Doc. No.</th>
<th>Rev</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GA of MMS (For tender purpose only)</td>
<td>PY-DS-1-M 068-1260-01</td>
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<tr>
<td>2</td>
<td>QAP Guidelines and Format</td>
<td>ANNEXURE-2</td>
<td>00</td>
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<tr>
<td>3</td>
<td>Pre-Bid Queries format</td>
<td>ANNEXURE-3</td>
<td>00</td>
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<td>4</td>
<td>No deviation format</td>
<td>ANNEXURE-4</td>
<td>00</td>
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<td>5</td>
<td>Price bid format</td>
<td>ANNEXURE-5</td>
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Notes: Incase if bidder found any document/annexure no. listed in the technical specification and is missing from the attachment, it is bidder’s responsibility to highlight the missing attachment.
<table>
<thead>
<tr>
<th>Rev. No.</th>
<th>Date</th>
<th>Revision Details</th>
<th>Prepared by</th>
<th>Approved By</th>
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QAP GUIDELINES & FORMAT

(ANNEXURE)

The QAP format and guidelines for filling up the format shall be used by vendor for preparation and submission of QAP after order placement.

Note:

1. Typical /Indicative /Standard QAP(s) for equipment /package is attached as a reference document and to be used by successful bidder in future for preparation and submission of QAP for BHEL /CUSTOMER approval.

2. No deviation to the typical QAP is acceptable.
GUIDELINES TO VENDORS FOR
PREPARATION OF QUALITY ASSURANCE PLAN

1. QAP shall be made in landscape mode on A4 size paper as per the format enclosed. Font size shall be minimum 10.

2. Each page of QAP shall contain the following information.
   a) Vendor’s name & address.
   b) Customer: BHEL, Hyderabad.
   c) Project.
   d) BHEL Product Standard Number/revision number as referred in P.O.
   e) BHEL Purchase Order Number & Date.
   f) Product as per P.O. description.
   g) QAP Number (unique and shall not repeat)/revision number/date.
   h) Page number and number of pages

3. QAP shall contain four parts / stages as follows.
   a) Raw materials and bought out items.
   b) In process Control / Inspection.
   c) Final assembly, Inspection & Testing.
   d) Painting, preservation & packing.

4. Under ‘Component’, indicate name of the component (say casing, rotor, pressure gauge, etc).

5. Under ‘Characteristics’, indicate appropriately (say chemical analysis, mechanical properties, NDT (UT,DP etc.), hydrostatic test, calibration check etc.)

6. Under ‘Class’, indicate minor, major or critical depending on the importance of characteristic.

7. Under ‘Type of check’, indicate appropriately (say chemical, mechanical, UT, DP etc.)

8. Under ‘Quantum of check’, indicate appropriately (say 100%, 10%, sample, per melt, per heat, all pieces etc.)

9. Under ‘Reference document’ and ‘Acceptance norms’, appropriate National & International standards, BHEL standards, approved drawing references etc. should be indicated. It is not correct to mention as “Vendor’s internal standards or Vendor’s standard practice etc.”. If vendors’ internal standards are referred, same shall be in line with BHEL Spec. indicated in the P.O. These may require review & approval by our Engineering dept.

10. Under ‘Format of record’, indicate appropriately supplier’s test certificate, calibration certificate, lab report, inspection report etc.

11. Please refer ‘Agency’ in QAP format.
    Indicate against each characteristic 1: (BHEL CQS/Nominated inspection agency), OR
    2: (Vendor / Sub vendor)
Note: Performing agency is normally vendor or his sub vendor (Legend 2). Where witness points are indicated in specification, P.O., Drawing etc., for such operations, Under Witness (W) column use 1. Under 'Verify' column, use code1.

12. Under ‘D’ please put (☐ Tick) against each characteristic where vendor proposes to submit test certificate/report etc. OR as required as per BHEL Specification.

13. Vendor’s signature & stamp should be available on each page of QAP.

14. Vendor should read the BHEL Product Standard thoroughly and QAP should be made only inline and relevant to the Specification & Approved Drawings.

15. The following operations/characteristics/check points may be included (AS APPROPRIATE)
   a) Visual check
   b) Dimensional check
   c) Mechanical and Chemical properties.
   d) Surface preparation before painting (by chemical cleaning, sand blasting, shot blasting etc. as the case may be.)
   e) Painting check for shade, Dry Film Thickness (DFT), Adhesion/peel off test etc.
   f) Check for correctness for all components mounted as per General arrangement Drawing, Bill Of Materials (BOM), etc. for range, rating, make, color, size, location as per GA, quantity, label description including tag nos., annunciator facia, loose components, accessories, spares etc.
   g) Verification of test certificate for protection class for the enclosures.
   h) Mechanical functioning of switches.
   i) Continuity of earthing and provision of earth points.
   j) Colour coding of wiring, size, tightness & dressing of wiring.
   k) Review of test certificates of assembled items, raw materials, internal test reports etc.
   l) Witness of functional checks, which may include mechanical run & electrical run, H.V. test, IR measurement, Electrical and Mechanical tests etc.
   m) PQR, WPS, Welder Qualification Record, welding records (fit up, DP) etc.
   n) Material identification (for punch marks of serial numbers, Heat No, Melt No, Inspector's stamp etc.)
   o) Hydraulic Pressure Test, Pneumatic Pressure Test, Liquid Penetration Examination and other Non-Destructive Tests.
   p) Tests on Galvanised items (Visual, Hammer Test, Knife Test, Thickness, Pierce Test (Copper sulphate test), Hydrogen evaluation test, Stripping test (for Mass of Zinc coating)
   q) All tests as per BHEL Product Standard & approved drawings including Type tests and Routine tests on individual items and on System as a whole.
   r) Packing and Preservation.

16. **QAP Format enclosed.**

17. **Typical Manufacturing QAP(s) is /are attached.**
# MANUFACTURING QUALITY PLAN

**CUSTOMER:** BHEL, HYDERABAD – 32.
**PROJECT:**
**PRODUCT:**
**BHEL P.O.NO.:**
**P.O.DATE:**
**BHEL SPEC:**
**REV:**
**REV NO:**
**DATE:**

---

### SL NO COMPONENTS CHARACTERISTICS CLASS TYPE OF CHECK QUANTUM OF CHECK REFERENCE DOCUMENT ACCEPTANCE NORMS FORMAT OF RECORD D W V

### 1.0 RAW MATERIALS & BOUGHT OUT ITEMS

### 2.0 INPROCESS INSPECTION

### 3.0 FINAL INSPECTION & TESTING

### 4.0 PRESERVATION & PACKING

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### VENDOR TO NOTE: THIS FORMAT IS IN MICROSOFT WORD. HEADER & FOOTER SHALL BE AVAILABLE IN EACH PAGE OF QP. QP SHALL BE IN LANDSCAPE & A4 SIZE ONLY. FONT SIZE SHALL BE MIN 10. VENDOR SHALL SIGN & STAMP IN EACH PAGE OF QP. LOI REF. & DATE ARE NOT ACCEPTABLE. P.O.NO. & DATE SHALL BE INDICATED. QP NO. SHOULD BE UNIQUE AND SHALL NOT REPEAT. ALL THE TESTS / CHECKS INDICATED IN THE BHEL SPEC. SHALL BE INDICATED IN THE QP.

LEGEND: P: PERFORM, W: WITNESS, V: VERIFICATION. INDICATE 1 FOR BHEL CQS (OR BHEL NOMINATED INSPECTION AGENCY) & 2 FOR VENDOR/SUB VENDOR AS APPROPRIATE AGAINST EACH COMPONENT / CHARACTERISTIC UNDER P, W & V COLUMNS. * FOR ITEMS MARKED * (TICK) IN COLUMNS 'D', TEST CERTIFICATES SHALL BE SUBMITTED TO BHEL FOR RECORDS.

PREPARED BY 

APPROVED BY 

APPROVED BY 

VENDOR’S SIGNATURE & STAMP

BHEL QA SIGNATURE & STAMP

CUSTOMER’S SIGNATURE & STAMP
### 1.0 RAW MATERIALS & BOUGHT OUT ITEMS

<table>
<thead>
<tr>
<th>SL NO</th>
<th>COMPONENTS</th>
<th>CHARACTERISTICS</th>
<th>CLASS</th>
<th>TYPE OF CHECK</th>
<th>QUANTUM OF CHECK</th>
<th>REFERENCE DOCUMENT</th>
<th>ACCEPTANCE NORMS</th>
<th>FORMAT OF RECORD</th>
<th>AGENCY</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Raw Materials</td>
<td>Mechanical &amp; Chemical Properties</td>
<td>Major</td>
<td>Mech., Chem. Analysis</td>
<td>One per Lot/Batch /Heat</td>
<td>BHEL Spec / Approved Drawing</td>
<td>MTC</td>
<td>✓</td>
<td>2 - 1</td>
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</table>

### 2.0 INPROCESS INSPECTION

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<th>COMPONENTS</th>
<th>CHARACTERISTICS</th>
<th>CLASS</th>
<th>TYPE OF CHECK</th>
<th>QUANTUM OF CHECK</th>
<th>REFERENCE DOCUMENT</th>
<th>ACCEPTANCE NORMS</th>
<th>FORMAT OF RECORD</th>
<th>AGENCY</th>
<th>REMARKS</th>
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<tbody>
<tr>
<td>2.1</td>
<td>Mechanical Analysis</td>
<td>(UTS, YS, EL)</td>
<td>Major</td>
<td>Mech. Analysis</td>
<td>One per Lot/Batch /Heat</td>
<td>MTC / TC</td>
<td>✓</td>
<td>2 2 1</td>
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</tr>
<tr>
<td>2.2</td>
<td>Visual, Dimensions, Markings, Finish etc.</td>
<td></td>
<td>Major</td>
<td>Visual, Measurem ent</td>
<td>100%</td>
<td>ITR</td>
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### 3.0 FINAL INSPECTION & TESTING

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<tr>
<th>SL NO</th>
<th>COMPONENTS</th>
<th>CHARACTERISTICS</th>
<th>CLASS</th>
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<th>REFERENCE DOCUMENT</th>
<th>ACCEPTANCE NORMS</th>
<th>FORMAT OF RECORD</th>
<th>AGENCY</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Module Mounting Structures</td>
<td>Visual, Dimensions, Markings, Finish etc.</td>
<td>Major</td>
<td>Visual, Measurem ent</td>
<td>10%</td>
<td>BHEL Spec / Approved Drawing</td>
<td>IR</td>
<td>✓</td>
<td>2 1 -</td>
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<tr>
<td>3.2</td>
<td>Galvanization* (Uniformity, Thickness of Coating)</td>
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<td>Major</td>
<td>Measurem ent</td>
<td>One per Lot/Batch /Heat</td>
<td>TC/ITR</td>
<td>✓</td>
<td>2 1 -</td>
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</tbody>
</table>

### 4.0 PRESERVATION & PACKING

<table>
<thead>
<tr>
<th>SL NO</th>
<th>COMPONENTS</th>
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<th>QUANTUM OF CHECK</th>
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<th>ACCEPTANCE NORMS</th>
<th>FORMAT OF RECORD</th>
<th>AGENCY</th>
<th>REMARKS</th>
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<tbody>
<tr>
<td>4.1</td>
<td>Painting (Shade, DFT)*</td>
<td>Major</td>
<td>Visual</td>
<td>Random</td>
<td>BHEL Spec / Approved Drawing</td>
<td>TC</td>
<td>✓</td>
<td>2 1</td>
<td># as applicable</td>
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<td>4.2</td>
<td>Packing*</td>
<td>Major</td>
<td>Visual</td>
<td>100%</td>
<td>BHEL Spec / Approved Drawing</td>
<td>Packing Slip</td>
<td>✓</td>
<td>2 - 1</td>
<td>#Seaworthy packing for export orders</td>
<td></td>
</tr>
</tbody>
</table>

**Legend:** P: PERFORM, W: WITNESS, V: VERIFICATION. INDICATE 1 FOR BHEL CQS (OR BHEL NOMINATED INSPECTION AGENCY) & 2 FOR VENDOR/SUB VENDOR AS APPROPRIATE AGAINST EACH COMPONENT / CHARACTERISTIC UNDER P, W & V COLUMNS. * FOR ITEMS MARKED ✓ (TICK) IN COLUMN 'D', TEST CERTIFICATES SHALL BE SUBMITTED TO BHEL FOR RECORDS.
### TYPICAL MANUFACTURING QUALITY PLAN

**PROJECT ENGINEERING & SYSTEMS**
DIVISION BHEL,
RC PURAM, HYD-502032

**PROJECT:**
PACKAGE: Module Mounting Structures
BHEL TECH SPEC:

**REV NO:**  DATE:

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<table>
<thead>
<tr>
<th>SL NO</th>
<th>COMPONENTS</th>
<th>CHARACTERISTICS</th>
<th>CLASS</th>
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**Notes:-**

1. This Standard MQP should be read along with specification (Latest revision as per PO), approved drawings & approved datasheet (as applicable).
2. Specification/drawing/datasheet shall prevail over quality plan for contradiction if any.
3. Any project/customer specific requirements which shall be notified have to be fulfilled by the vendor at the time of execution of order.

**Abbreviations:-**

- MTC – Material Test certificate
- IR - Inspection Report
- UTS - Ultimate Tensile Strength
- EL. - Elongation
- MPI – Magnetic Particle Inspection
- IBR – Indian Boiler Regulations
- RT - Radiography Test
- TC – Test Certificate
- ITR - Internal Test Report
- YS - Yield Strength
- PMI - Positive Material Identification
- LPT – Liquid Penetrant Test
- NDE - Non Destructive Examination
- UT - Ultrasonic Test

**LEGEND:** P: PERFORM, W: WITNESS, V: VERIFICATION. INDICATE 1 FOR BHEL CQS (OR BHEL NOMINATED INSPECTION AGENCY) & 2 FOR VENDOR/SUB VENDOR AS APPROPRIATE AGAINST EACH COMPONENT/CHARACTERISTIC UNDER P, W & V COLUMNS. * FOR ITEMS MARKED (TICK) IN COLUMN ‘D’, TEST CERTIFICATES SHALL BE SUBMITTED TO BHEL FOR RECORDS.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Bidding document Reference</th>
<th>Subject</th>
<th>Bidder’s Query</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Part No/ Volume</td>
<td>Page No</td>
<td>Clause No</td>
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DEVIATION FROM SPECIFICATION

If the proposal submitted has got any deviation from the technical stipulations in the bidding document, the Bidder shall tabulate below the full particulars of such deviations and shall sign below. Additional sheets may be enclosed, if necessary. Deviation is to be furnished with mention of specific clause numbers. Technical and commercial deviations to scope of supply and services, shall be indicated separately. Bidders shall bring put only those deviations which are impractical to meet (or) not advisable.

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>CLAUSE NO.</th>
<th>DESCRIPTION AS PER SPECIFICATION</th>
<th>DEVIATION BY BIDDER</th>
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</thead>
</table>

We confirm that all the deviations/exceptions to the Technical Specification PY60052, Job Specification and enclosures including reference documents attached are listed in this Annexure only. No other deviations or exceptions even if mentioned elsewhere shall be considered for any technical/ commercial evaluation or for ordering.

Signature of Bidder’s Authorized representative .with date.................................

Date ..........
**PRICE BID FORM AT**

<table>
<thead>
<tr>
<th>SNo</th>
<th>Description</th>
<th>Qty</th>
<th>Unit</th>
<th>Unit Rate (Rs.)</th>
<th>Total Value (unit Rate x Qty) (Rs.)</th>
<th>TAXES &amp; DUTIES (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>P9760052032: Supply of Fasteners for MM S/NTPC M/P as per BHEL spec P960052</td>
<td>40,000</td>
<td>kg</td>
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</tbody>
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**NOTES:**

1. Pl. quote only base rate; Indicated prices for P&F, considered extra. Indicates ED, CST, VAT as applicable, as on date.
2. BHEL will split the order between two bidders. Lowest (L1) bidder will be awarded 60% (i.e. ~24,000 kg) of above requirement. L1 bidder’s price will be counter offered to L2 bidder on his acceptance, balance 40% (i.e. ~16,000 kg) of above requirement will be ordered on L2 bidder.
3. In case L2 bidder does not accept the counter offer at L1 bidder’s price, the counter offer will be extended to subsequent bidders as per ranking
4. For the purpose of matching the price of L1 bidder on pro-rata basis such that the summation of revised / reduced/ arithmetically corrected quote price with all components including taxes & duties on bidder’s price.
5. In case award of 40% remains undecided up to the last ranking bidder following the above procedure, balance 40% shall be awarded to L1 bidder.
6. A quantity tolerance of +3% (no negative tolerance) is allowed in despatches based on actual numbers required for the project. Payment shall be made on actual despatches
7. Measurement of weight shall be on the finished product and Vendor shall submit certified Weigh Bridge documents for empty truck & loaded truck.
8. The weight of packing material like boxes, etc to be deducted for arriving the weight of fasteners despatched.

The Price bid shall be submitted in the above format (reproducing is acceptable, but shall contain all the above content including notes), duly signed & stamped by authorised signatory of bidder.