

RIGID STEEL CONDUITS

GeM Tender Enquiry for RIGID STEEL CONDUITS For 5 x 800 MW YADADRI TPS

| Sl. No. | Description | Annexures |
|---------|--|--------------|
| 1. | Additional terms and conditions | Annexure I |
| 2. | An undertaking regarding Model Clauses | Annexure II |
| 3. | Instruction to Packing List | Annexure III |
| 4. | Certificate for local Content | Annexure IV |
| 5 | DELIVERY SCHEDULE | |
| 6. | BOQ | - |
| 7. | PQR | - |
| 8. | Technical Specification | - |

Project: - 5 X 800 MW YADADRI TPS
Package: - RIGID STEEL CONDUITS
GeM BID No....., Dtd.

ANNEXURE –I

Additional clauses of NIT

1. Dispatch Markings: -

Each box shall be marked with Capital Letters in “Red” indicating the PEM supply (Main Supply OR Commissioning spare) for **5 X 800 MW YADADRI TPS**. Each package delivered under the Contract shall be marked by Supplier and such marking must be distinct and in English Language (all previous irrelevant markings being carefully obliterated). Such marking shall show the description and quantity of contents, the name and address of consignee, the Gross weight and Net weight of the package, the name of the Supplier, PEM P.O. reference number, with a distinctive number of mark sufficient for purposes of identification. Besides above necessary, packing shall bear a special marking `TOP`, `BOTTOM`, `DO NOT TURN OVER`, “KEEP DRY”, “HANDLE WITH CARE”, etc.

IMPORTANT

- Two copies of respective standard manufacturer’s erection instruction/operation instruction manual shall be kept in each package / container for immediate reference by BHEL site and same shall be reflected in packing slip also
- The Packing list details for the consignment must be put inside the Box/Boxes.

2. Liquidated Damages: -

a) **Main Supply:-** Purchaser reserves the right to recover from the Seller/ Contractor, as agreed liquidated damages and not by way of penalty, a sum equivalent to half (½) percent and applicable GST thereon, of the total main supply & commissioning spares contract price excluding GST per week or part thereof, subject to a maximum of ten(10) percent of the total main supply & commissioning Spares contract price excluding GST, if the Seller/ Contractor fails to deliver any part of the ordered goods/stores within the period stipulated in the Order/ Contract.

NOTE:

i. LR/RR date for indigenous supplies (Bill of Lading/AWB for Foreign supplies) shall be treated as the date of dispatch for levying LD. However, if receipted LR date for indigenous supply is beyond 30 days for FTL/ 45 days for PTL from the date of LR (PTL to be clearly mentioned in LR), such excess period shall be considered for LD purpose irrespective of dispatch date. Import General Manifest (IGM)/Bill of entry date (whichever is earlier), for foreign supplies, is beyond 90 days from the date of Bill of Lading/AWB, such excess period shall be considered for LD purpose irrespective of dispatch date.

ii. In case of any amendment/ revision, LD shall be linked to the amended/ revised contract value and delivery date(s).

iii. If Order/ Contract involves two or more Units/ Sets/ Lots/ Stages, then Liquidated Damages shall be levied on order/ contract value excluding GST of the delayed Unit/ Set/ Lot/ Stage, provided delivery stipulated in the Order/ Contract is Unit/ Set/ Lot/Stage wise, however total LD amount shall be limited to 10% of total order/ amended

Project: - 5 X 800 MW YADADRI TPS

Package: - RIGID STEEL CONDUITS

GeM BID No....., Dtd.

order value excluding GST of delayed Unit/ Set/ Lot/Stage. Any subsequent lot released (not envisaged in original contract) due to increase in quantity within permissible quantity variation shall be treated as separate lot for the purpose of LD.

iv. The sum specified above is not a penalty but a genuine pre-estimate of the loss/ damage which will be suffered by purchaser on account of delay on the part of the Contractor/Seller and the said amount will be deductible without proof of actual loss or damage caused by such delay.

3. Risk & Cost Purchase

BHEL reserves the right to terminate the contract or withdraw portion of work and get it done through other agency, at the risk and cost of the contractor after due notice of a period of 14 days' by BHEL in any of the following cases:

i) If the Seller/Contractor fails to deliver the goods or materials or any instalment thereof within the period(s) fixed for such delivery or the Seller's poor progress of the supply/ services vis-à-vis delivery/execution timeline as stipulated in the Contract, backlog attributable to seller including unexecuted portion of supply does not appear to be executable within balance available period;

ii) Delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications;

iii) Withdrawal from or repudiation/ abandonment of the supply/ services by Seller before completion as per contract or if the Seller refuses or is unable to supply goods or materials covered by the Order/Contract either in whole or in part or otherwise fails to perform the Order/Contract;

iv) Non-supply by the Seller within scheduled completion/delivery period as per Contract or as extended from time to time, for the reasons attributable to the Seller;

v) Termination of Contract on account of any other reason (s) attributable to Seller.

vi) Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.

vii) If the Seller be an individual or a sole proprietorship Firm, in the event of the death or insanity of the Seller;

viii) If the Seller/Contractor being an individual or if a firm on a partnership thereof, shall at any time, be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any assignment of the Order/Contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the Partnership Act;

ix) If the Seller/Contractor being a company is wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the debenture holders and creditors is appointed or circumstances shall have arisen which entitles the Court of debenture holder and creditors to appoint a receiver, liquidator or manager;

x) Non-compliance to any contractual condition or any other default attributable to Seller.

Such defaulting vendor/Seller shall not be eligible to participate in re-tendering conducted on account of risk purchase made due to fault of such vendor/Seller.

Project: - 5 X 800 MW YADADRI TPS

Package: - RIGID STEEL CONDUITS

GeM BID No....., Dtd.

3.1 Risk & Cost Amount against Balance Work:

Risk & Cost amount against balance work shall be calculated as follows:

$$\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

A= Value of Balance scope of Work (*) as per rates of new contract

B= Value of Balance scope of Work (*) as per rates of old contract being paid to the contractor at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

3.2 Balance scope of work (in case of termination of contract):

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work for calculating risk & cost amount.

Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose.

Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

NOTE: In case portion of work is being withdrawn at risk & cost of contractor instead of termination of contract, contract

quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work' for calculating Risk & Cost amount.

3.3 LD against delay in executed work in case of Termination of Contract:

LD against delay in executed work shall be calculated in line with above LD clause, for the delay attributable to contractor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of work till termination of contract.

Project: - 5 X 800 MW YADADRI TPS

Package: - RIGID STEEL CONDUITS

GeM BID No....., Dtd.

Method for calculation of LD against delay in executed work in case of termination of contract” is given below.

- i. Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1
- ii. Let the value of executed work till the time of termination of contract = X
- iii. Let the Total Executable Value of work for which inputs/fronts were made available to contractor and were planned for execution till termination of contract = Y
- iv. Delay in executed work attributable to contractor i.e. $T2 = [1-(X/Y)] \times T1$
- v. LD shall be calculated in line with LD clause (clause 16) of the Contract for the delay attributable to contractor taking “X” as Contract Value and “T2” as period of delay attributable to contractor.

3.4 Recoveries arising out of Risk & Cost and LD or any other recoveries due from Contractor

Without prejudice to the other means of recovery of such dues from the Seller recoveries from the Seller on whom risk & cost has been invoked shall be made from the following:

- a) Dues available in the form of Bills payable to seller, SD, BGs against the same contract.
- b) Dues payable to seller against other contracts in the same Region/Unit/ Division of BHEL.
- c) Dues payable to seller against other contracts in the different Region/Unit/ division of BHEL.

In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.

4. For recognition of dispatch, vendor to submit following documents to BHEL by e-mail/ fax immediately on dispatch: - GST compliant invoice, LR for Indian Vendors (indicating Invoice No., no. of boxes, PTL (if applicable) etc.) / Bill of Lading or AWB for foreign vendor, Packing List (Must be indicating No. of boxes, Packing size, Gross weight and net weight of each package, Contents of the package with cross reference to BoM item code no. or item serial no. and Quantity of each item separately), Insurance Intimation to underwriter through email/fax, Dispatch Clearance.

B. Following ATC available in GEM shall also be part of NIT: -

- i. Bidder's offer is liable to be rejected if they don't upload any of the certificates / documents sought in the Bid document, ATC and Corrigendum if any.
- ii. Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.

Project: - 5 X 800 MW YADADRI TPS

Package: - RIGID STEEL CONDUITS

GeM BID No....., Dtd.

iii. Data Sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. Buyers can match and verify the Data Sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.

iv. The bidder is required to upload, along with the bid, all relevant certificates such as BIS license, type test certificate, approval certificates and other certificates as prescribed in the Product Specification given in the bid document.

v. While generating invoice in GeM portal, the seller must upload scanned copy of GST invoice and the screenshot of GST portal confirming payment of GST.

Project: - 5 X 800 MW YADADRI TPS

Package: - RIGID STEEL CONDUITS

GeM BID No....., Dtd.

Additional Terms and Conditions for subject Tender Enquiry to be complied by Bidders for Consideration in this tender:

- A.** Bidders to ensure that Third party/Customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document/certificate issuing authority such as name & designation of Issuing Authority and its organization contact number and E-mail Id. In case the same is found not available, BHEL has the right to reject such document from evaluation.
- B.** "This item /package/system falls under the list of items defined in para 3 of ministry of finance guideline date 20.09.16 (procurement of items related to public safety, health, critical security operations and Equipment's etc.) & hence criteria of prior experience /turnover shall be same for all bidders including start up /MSME".
- C.** **Guarantee & Warrantee** shall be as per Cl. No. 10 of GTC on GeM for the bid. However, Guarantee & Warrantee time period shall be 18 months from the date of last supply in the contract for Main Supply.
- D.** Evaluation shall be on the basis of total all inclusive, landed price at consignee destination (Refer cl. No. 6 of GTC on GEM).
- E.** **Terms of Delivery** shall be as per cl. No. 13 of GTC on GeM (i.e. Free Delivery at site basis including loading/unloading). However, unloading of items (at delivery point) shall be in the scope of buyer. Insurance shall be in seller scope. Bidder to quote prices accordingly.
- F.** Further, w.r.t. Transit Insurance supplier has to inform the details of dispatches (such as Policy No., Consignee Name, Consignment Packing details, Project Name, Purchase Order No., LR No. & date, Invoice No. & date, Dispatch Origin & destination details etc.) to policy underwriter.
- G.** Bidder has to provide the details as per TECHNICAL PQR (attached with Specifications of product catalogue) in its offer and has to note that bids of only those bidders shall be evaluated who meet the Technical Pre-Qualifying requirements'. The terms of technical PQR shall prevail in conflict (if any).
- H.** PQR criteria uploaded with Buyer uploaded Bid Specific document shall prevail Value of Experience criteria and Past performance parameter mentioned in GeM bid.
- I.** "Due to COVID-19 pandemic condition prevailing in the country BHEL/PEM may go for Remote Inspection of Offered items if required. Vendors are requested to be equipped with the facilities/gadgets as indicated in the guidelines available at : <https://pem.bhel.com/Documents/VendorSection/Vendor/Guidelines.pdf> to take up the inspection remotely.
- J.** **Inspection call to be raised by bidder on BHEL CQIR portal** (details shall be shared at the of execution of order) and Inspection agency shall attend at the inspection within seven (07) days of the date on which the material is notified as being ready. In case of delay in witnessing of inspection beyond stipulated time (i.e. 7 days from the date on which the material is notified as being ready), by BHEL arising due to reasons not attributable to vendor, BHEL will extend the delivery period for such delay in carrying out inspection. If BHEL is not able to witness inspection up to 15 days then in addition to delay beyond stipulated period, extension in delivery time of 07 days for arranging fresh inspection will be given.

When the tests have been satisfactorily completed at Seller/ Contractor's works, the Inspection Agency shall issue an inspection report that effect within seven (07) days after completion of the tests, but if the tests were not witnessed by the Inspection Agency or his representative, the material acceptance report would be issued within seven (07) days after receipt of the test certificates by the Purchaser.

Purchaser will issue MDCC to the Seller/ Contractor within 7 days based on inspection report/ test certificates/Certificate of Conformance as applicable. In case of delay in issuance of MDCC beyond 7 days stipulated time (i.e. from the date of successful inspection report), by BHEL arising due to reasons not attributable

Project: - 5 X 800 MW YADADRI TPS

Package: - RIGID STEEL CONDUITS

GeM BID No....., Dtd.

to vendor, BHEL will extend the delivery period for such delay in issuing MDCC. If BHEL is not able to issue MDCC up to 15 days then in addition to delay beyond stipulated period, 7 days' additional time shall be given to vendor to facilitate the vendor for arranging logistics arrangements.

- K.** All Bidders shall be required to submit applicable Freight % & GST % included in their prices during clarification stage of Tender.
- L.** Performance Bank Guarantee: shall be as per Cl. No. 7 of GTC of GeM. Performance Security amount shall be @5% of the value of contract value. In case any benefit with respect to BG reduction is applicable at later stage for YADADRI project, then similar benefit shall be passed onto the bidders for subject tender as well.
- M. Payment Terms:** For Supply Portion : - As per clause no. 12 (i) of GTC on GeM. Supplier has to provide original+1 copy of Tax invoice, Packing List, LR/RR or AWB, CRAC, Insurance intimation, Guarantee Certificate, E-way bill (as applicable) for payment.
- Offline payment mode shall be selected. Payment will be released within 90 days for Non MSME after submission of complete documents (45 days for Micro & Small Enterprises (MSEs), 60 days for Medium Enterprises.
- N. Bid reserved for Make in India products:** - Procurement under this bid is reserved for purchase from Class 1 local suppliers as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. The minimum local content to qualify as a class 1 local supplier is denoted in the bid document as 60%. All bidders must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which the bid is liable to be rejected. Regarding verification of local content, the local supplier at the time of tender, bidding or solicitation shall be required to provide certification (as per enclosed annexure-IV) as per para 9 of PP-MII order revision dated 16.09.2020.
- O. This is conditional tender enquiry. Financial bid opening (Part-II) of a bidder shall be subjected to following: -**
- (i) Techno-Commercial evaluation/recommendation by BHEL.
 - (ii) Qualification of Technical PQR
 - (iii) Offered item should mandatorily conform to PP-MII order provisions.
- P.** Bidder (must be BIS licensee with valid CML number) has to provide the details as per TECHNICAL PQR (part of GeM bid documents for this tender) in its offer and has to note that bids of only those bidders shall be evaluated who meet the Technical Pre-Qualifying requirements. Above terms for PQR shall prevail in conflict (if any).
- Q. Consignee Details** (for PRC - Provisional Receipt Certificate & CRAC - Consignee's Receipt cum Acceptance Certificate, as applicable) shall be as per Project Site official details.
- R.** The Bidder has to declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/guidelines.
- S. Bidders to ensure the following: -**
- Ensure compliance to Ministry of Power (MoP) Order No. 11/05/2018 Coord. dt. 28/07/2020, if applicable.

Project: - 5 X 800 MW YADADRI TPS

Package: - RIGID STEEL CONDUITS

GeM BID No....., Dtd.

- Ensure compliance of Ministry of Finance (MoF) Order (Public Procurement No. 1 & 2) F. No. 6/18/2019/PPD dt. 23/07/2020.
- to submit “Model Certificate for Tenders” as per Annexure-III of Ministry of Finance (MoF) Order (Public Procurement No. 1 & 2) F. No. 6/18/2019/PPD dt. 23/07/2020. Bidder to submit the following undertaking on their letter head duly signed from the highest competent authority at your end (i.e Owner, partner, CMD, Director etc.)

“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and is eligible to be considered.”

Note: - This bidder is to be replaced with bidders' organizational name.

- T. Delivery Period:** As per attached Annexure-II. Delivery Days mentioned in GeM bid is indicative only. Delivery shall be refixed as per terms & conditions of Annexure-II.
- U.** For registration in BHEL PEM- Online registration portal is operational, Non-registered Vendors who wish to apply for registration in BHEL-PEM can apply through Online Registration Portal available at www.pem.bhel.com - vendor section - Online Supplier Registration. All credentials and/or documents duly signed and stamped related to registration can be uploaded on the website and submit the application for registration. However, registration of suppliers is not mandatory in case of open tender
- V.** Instructions to Packing List (annexure –III) and Certification reg. Local content (annexure –IV) to be complied by bidders.
- W. Quantity Variation:** - Maximum Qty Variation shall be quantity variations as +25%, bidder to quote accordingly.
- X.** “Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1+ 15% of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for percentage of 25% of total value.
- Y.** All the Buyer Added Bid Specific Additional Terms and Conditions shall supersede relevant terms & conditions of GeM GTC and shall prevail in case of conflict with any other terms & conditions of tender (if any).
- Z.** All other terms & conditions shall be as per selected Additional Terms & Conditions for subject bid from GeM library and GTC version (1.21) available on GeM Portal on enquiry floating date shall be applicable.

Project: - 5 X 800 MW YADADRI TPS
Package: - RIGID STEEL CONDUITS
GeM BID No....., Dtd.

An undertaking regarding Model Clauses (To be provided alongwith bid)

Refer,

| | |
|---------------------------------|---------------------------|
| PROJECT | :- 5 X 800 MW YADADRI TPS |
| PACKAGE | :- RIGID STEEL CONDUITS |
| Primary product category on GeM | :-..... |
| BID No. (Through GeM) | :-, Dtd. |

M/s

Reference:

TO WHOM SO IT MAY CONCERN

This is with reference to Ministry of Finance circular dated 23.07.20 reg. restriction under rule 144 (xi) of GFR.

“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I hereby certify that M/s is not from such a country and is eligible to be considered against GeM enquiry no:, **Dtd.**”

Sign & Signature

Date:

Project: - 5 X 800 MW YADADRI TPS
Package: - RIGID STEEL CONDUITS
GeM BID No....., Dtd.
ANNEXURE -III TO INSTRUCTIONS TO PACKING LIST

For faster verification of bills, successful bidder to submit detailed Bill of Material (BOM) at the time of drawings/ documents submission after placement of PO. Each item of the BOM to be uniquely identified with item code no. or item Sl. No. Supplier to ensure that all items which will find separate mention in the packing list are covered in this detailed BOM.

Supplier to also give the following undertaking in the BOM:

“The BOM provided herewith completes the scope (in content and intent) of material supply under PO No. Dated Any additional material which may become necessary for the intended application of the supplied items/package will be supplied free of cost in most reasonable time.

Packing List must indicate:

- a) Packing size
- b) Gross weight and net weight of each package
- c) Contents of the package with cross reference to BOM item code no. / Sl. No.
- d) Quantity of each items separately.

The packing list must cover all the BOM items.

Supplier to give following undertaking in the packing list:

The Packing list provided herewith is as per BOM approved under PO No. ----

Project: - 5 X 800 MW YADADRI TPS
Package: - RIGID STEEL CONDUITS
GeM BID No....., Dtd.

ANNEXURE IV

Letter head of Company

Ref.....

Date.....

To,
Bharat Heavy Electricals Limited
PEM, PPEI Building, Plot No 25,
Sector 16A, Noida (U.P) 201301

Subject: Certification regarding local content

Reference: Tender Enquiry No....., Dtd.

Name of Package: **RIGID STEEL CONDUITS.**

Dear Sir,

We hereby certify that items offered by us of RIGID STEEL CONDUITS for 5 x 800 MW YADADRI TPS, M/s
..... meets the requirement of minimum local content as a class – I local supplier in line with clause of NIT (GeM NIT)
and the Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017, 28.05.2018 & 29.05.2019,
04.06.20 & 16.09.20

We further confirm that details of location at which the local value addition is made will be our registered works
at

.....
...(address of the works)

Yours very truly

..... (authorized signatory of company)

..... (firm name)

authorized signatory
of company

Project: - 5 X 800 MW YADADRI TPS
Package: - RIGID STEEL CONDUITS
GeM BID No....., Dtd.

Project:- 5 X 800 MW YADADRI TPS
Pacakge:- RIGID STEEL CONDUITS
Annexure II to NIT- Delivery Schedule

| Sl. No. | Package Code | BHEL Drawing No | Drawing Title | Primary/ Secondary | Drg Sch for Vendors | Standard Delivery Terms for Supply Portion |
|---------|--------------|--------------------|-------------------------------------|-----------------------|---|--|
| 1 | 558-15000-A | PE-V0-XXX-558-E701 | DATA SHEET OF RIGID STEEL CONDUIT | Primary | R-0 within 14 days from PO & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt. | Within Four (04) months from date of CAT-1 approval of Primary drawing/ documents, subjected to drawing/ document submission/re-submission schedule as stipulated, in case of any delay in submission/re-submission of Primary drawing/ documents, then same shall be reduced from the given delivery period. Delay in BHEL's comments/ approval beyond 18 days shall also be considered for delay analysis. |
| | | PE-V0-XXX-558-E906 | QUALITY PLAN OF RIGID STEEL CONDUIT | Primary | | |

Notes:-

- (i) The end period specified is for completion of the deliveries. Deliveries to start progressively so as to meet the completion schedule.
- (ii) The delivery conditions specified are for contractual LD purposes, however BHEL may ask for early deliveries without any compensation thereof.
- (iii) Non-applicable drawings shall be decided during bid evaluation.
- (iv) Wherever schedule of drawings/documents submission / re-submission is stipulated in the Technical Specifications, same shall be superseded by delivery specified in NIT.

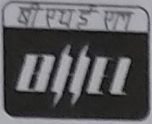
Project:- 5 X 800 MW YADADRI TPS
Pacakge:- RIGID STEEL CONDUITS
Annexure II to NIT- Delivery Schedule

| Sl. No. | Package Code | BHEL Drawing No | Drawing Title | Primary/ Secondary | Drg Sch for Vendors | Standard Delivery Terms for Supply Portion |
|---------|--------------|--------------------|-------------------------------------|-----------------------|---|--|
| 1 | 558-15000-A | PE-V0-XXX-558-E701 | DATA SHEET OF RIGID STEEL CONDUIT | Primary | R-0 within 14 days from PO & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt. | Within Four (04) months from date of CAT-1 approval of Primary drawing/ documents, subjected to drawing/ document submission/re-submission schedule as stipulated, in case of any delay in submission/re-submission of Primary drawing/ documents, then same shall be reduced from the given delivery period. Delay in BHEL's comments/ approval beyond 18 days shall also be considered for delay analysis. |
| | | PE-V0-XXX-558-E906 | QUALITY PLAN OF RIGID STEEL CONDUIT | Primary | | |

Notes:-

- (i) The end period specified is for completion of the deliveries. Deliveries to start progressively so as to meet the completion schedule.
- (ii) The delivery conditions specified are for contractual LD purposes, however BHEL may ask for early deliveries without any compensation thereof.
- (iii) Non-applicable drawings shall be decided during bid evaluation.
- (iv) Wherever schedule of drawings/documents submission / re-submission is stipulated in the Technical Specifications, same shall be superseded by delivery specified in NIT.

| 5 X 800 MW YADADRI TPS (TSGENCO) | | | | | | | 19-05-2022 |
|---|------------------|--|-----------------|-------------|-----------------------|----------------------------------|--------------------------|
| Sr. No. | Item code | Item description | HSN CODE | Unit | Order Quantity | UNIT PRICE EX-WORKS (INR) | TOTAL PRICE (INR) |
| 1.0 | | RIGID STEEL CONDUITS | | | | | |
| (i) | 558-15001-A | GI CONDUITS 1.6 MM THK EPOXY 20 MM DIA | 73063090 | MTR | 2,000 | | |
| (ii) | 558-15002-A | GI CONDUITS 1.6 MM THICK, 20 MM DIA | 73063090 | MTR | 1,14,500 | | |
| (iii) | 558-15003-A | GI CONDUITS 1.6 MM THICK, 25 MM DIA | 73063090 | MTR | 12,000 | | |
| (iv) | 558-15004-A | GI CONDUITS 2.0 MM THICK, 40 MM DIA | 73063090 | MTR | 7,000 | | |
| (v) | 558-15007-A | FLEXIBLE CONDUITS PVC COATED 20 MM DIA | 8307 | MTR | 22,000 | | |
| | | | | | | | |



5 X 800 MW YADADRI TPS

PE-PQ-417-558-E002

PRE-QUALIFYING REQUIREMENTS FOR
RIGID STEEL CONDUITS & FLEXIBLE CONDUIT

REV. 00

DATE: 10/05/2022

SHEET 1 OF 1

ITEMS: RIGID STEEL CONDUITS**SCOPE:**

Supply (Including Design) : YES

Erection & Commissioning : No

| | |
|---|--|
| 1 | Vendor should be a BIS approved manufacturer of rigid steel conduits as per IS-9537 Part-II. |
| 2 | Availability of test reports of rigid steel conduits to establish in-house capability at manufacturer's works to carry out all routine, type & acceptance tests as per relevant IS. |
| 3 | Capacity of manufacturing 30 MT of rigid steel conduits per month. |
| 4 | Manufactured and supplied at least 80 km of rigid steel conduits in one or more orders. |
| 5 | Minimum two (2) nos. purchase orders for rigid steel conduits shall be submitted which should not be more than five (5) years old from the date of techno- commercial bid opening for establishing continuity in business. |

Notes:

- The vendor can offer rigid steel conduits of any BIS approved make meeting criteria S. No. 1 to 4 above. The vendor to furnish the following documents:
 - Undertaking from BIS approved manufacturer of offered make to get the inspection & testing of conduits carried out at manufacturer's works.
 - Credentials of the manufacturer of offered make to meet the PQR requirements of S. No. 1 to 4 above.
 - Vendor's Credentials to meet S. No. 5 above.

General Points of PQR:

- Consideration of offer shall be subject to customer's approval of bidders, if applicable.
- Bidder to submit all supporting documents in English. If documents submitted by bidder are in language other than English, a self-attested English translated document should also be submitted.
- Notwithstanding anything stated above, BHEL reserves the right to assess the capabilities and capacity of the bidder/ collaborators to perform the contract, should the circumstances warrant such assessment in the overall interest of BHEL.
- After satisfactory fulfilment of all the above criteria/ requirement, offer shall be considered for further evaluation as per NIT and all other terms of the tender.

PREPARED BY

Surya
10/05/22SURYA DEV
(DY. MGR.)

CHECKED BY

N N Jajwara
10-05-2022N N JAJWARE
(SR. MGR.)

REVIEWED BY

Praveen Dutt
11/5/2022PRAVEEN DUTTA
(AGM)

APPROVED BY

Debasisa Rath
12/5/22DEBASISA RATH
(AGM & DH ELECTRICAL)

PQR Assessment Sheet
5x800 MW YADADRI TPS : CONDUITS

| Sl. No. | PQR Requirement | Suggestive list of doc to be furnished by vendor (the list does not exlude any other document, which can be specified & submitted by bidder against respective PQR clause) | Remarks |
|---------|--|---|---------|
| 1 | Vendor should be a BIS approved manufacturer of rigid steel conduits as per IS -9537 Part-II. | Factory Registraion/BIS Licence/any other Govt. approved/authorized document. | |
| 2 | Availability of type test reports of rigid steel conduits to establish in-house capability at manufacturer's works to carry out all routine, type & acceptance tests as per relevant IS. | In House Test Report. | |
| 3 | Capacity of manufacturing 30 MT of rigid steel conduits per month. | MSME certificate / NSIC CERTIFICATE/ ISO certificate/any other Govt. approved/authorized document. | |
| 4 | Manufactured and supplied at least 80 km of rigid steel conduits in one or more orders. | (i) Customer PO & corresponding dispatch docs like invoice/ MDCC etc. ii) Customer declaration on their letter head. | |
| 5 | Minimum 2 nos. purchase orders for rigid steel conduits shall be submitted which should not be more than five (5) years old from the date of techno-commercial bid opening. | (i) Customer POs. | |
| 6 | In case bidder is not manufacturer of flexible conduits as per this specification, make list of flexible conduits. | Flexible conduits manufacturer's list | |

Note: Bidder to furnish dully filled PQR assessment sheet with sign & stamp along with bid.

| 5 X 800 MW YADADRI TPS (TSGENCO) | | | | | | 19-05-2022 |
|---|------------------|--|-------------|-----------------------|----------------------------------|--------------------------|
| Sr. No. | Item code | Item description | Unit | Order Quantity | UNIT PRICE EX-WORKS (INR) | TOTAL PRICE (INR) |
| 1.0 | | RIGID STEEL CONDUITS | | | | |
| (i) | 558-15001-A | GI CONDUITS 1.6 MM THK EPOXY 20 MM DIA | MTR | 2,000 | | |
| (ii) | 558-15002-A | GI CONDUITS 1.6 MM THICK, 20 MM DIA | MTR | 1,14,500 | | |
| (iii) | 558-15003-A | GI CONDUITS 1.6 MM THICK, 25 MM DIA | MTR | 12,000 | | |
| (iv) | 558-15004-A | GI CONDUITS 2.0 MM THICK, 40 MM DIA | MTR | 7,000 | | |
| (v) | 558-15007-A | FLEXIBLE CONDUITS PVC COATED 20 MM DIA | MTR | 22,000 | | |
| | | | | | | |

**TELANGANA STATE POWER GENERATION
CORPORATION LIMITED
5X800 MW YADADRI TPS**

VOLUME-II

**TECHNICAL SPECIFICATION FOR *RIGID STEEL
CONDUITS AND FLEXIBLE CONDUITS***

SPECIFICATION NO: *PE-TS-417-558-E002A*

REVISION: 00



**BHARAT HEAVY ELECTRICALS LIMITED
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA, UP (INDIA) – 201301**



**TECHNICAL SPECIFICATION
FOR RIGID STEEL CONDUITS AND
FLEXIBLE CONDUITS**

**5X800 MW YADADRI TPS (TELANGANA STATE
POWER GENERATION CORPORATION LIMITED)**

SPECIFICATION NO. PE-TS-417-558-E002A

VOLUME II

SECTION I

REVISION 00

DATE: 26.04.2022

SHEET 1 OF 1

CONTENTS

| Sl. No. | DESCRIPTION | NO. OF SHEETS |
|----------------|---------------------------------|----------------------|
| | COVER SHEET | 01 |
| | CONTENTE SHEET | 01 |
| 1.0 | SECTION- I | |
| | SECTION-I COVER SHEET | 01 |
| | COMPLIANCE CERTIFICATE | 01 |
| | SPECIFIC TECHNICAL REQUIREMENTS | 01 |
| | DATA SHEET – A | 02 |
| 2.0 | SECTION- II | |
| | SECTION-II COVER SHEET | 01 |
| | STANDARD TECHNICAL REQUIREMENTS | 03 |
| | STANDARD QUALITY PLAN | 03 |

Total nos. of sheets including cover & separator sheets = 14 sheets



**TECHNICAL SPECIFICATION
FOR RIGID STEEL CONDUITS AND
FLEXIBLE CONDUITS**

SPECIFICATION NO. PE-TS-417-558-E002A

VOLUME II


SECTION I

**5X800 MW YADADRI TPS (TELANGANA STATE
POWER GENERATION CORPORATION LIMITED)**

REVISION 00

DATE: 26.04.2022

SECTION – I

| | | | |
|--|--|---------------------------------------|------------------|
|  | TECHNICAL SPECIFICATION FOR RIGID STEEL CONDUITS AND FLEXIBLE CONDUITS | SPECIFICATION NO. PE-TS-417-558-E002A | |
| | | VOLUME II | |
| | | SECTION I | |
| | 5X800 MW YADADRI TPS (TELANGANA STATE POWER GENERATION CORPORATION LIMITED) | REVISION 00 | DATE: 26.04.2022 |
| SHEET 1 OF 1 | | | |

COMPLIANCE CERTIFICATE

The bidder shall confirm compliance to the following by signing/ stamping this compliance certificate and furnishing same with the offer.

1. The scope of supply, technical details, construction features, design parameters etc. shall be as per technical specification & there are no exclusion/ deviation with regard to same.
2. There are no technical deviation with respect to specification enclosed with ENQUIRY.
3. There are no deviation with respect to 'Standard Quality Plan' enclosed with ENQUIRY. It is also confirmed that bidder have in house test capability for all tests to be conducted as per 'Standard Quality Plan'.
4. Bidder has 'quoted' all items as specified in BOQ of ENQUIRY without any change in technical description & quantities.
5. Only those technical submittals which are specifically asked for in ENQUIRY to be submitted at tender stage shall be considered as part of offer. Any other submission, even if made, shall not be considered as part of offer.
6. Any comments/ clarifications on technical/ inspection requirements furnished as part of bidder's covering letter shall not be considered by BHEL, and bidder's offer shall be construed to be in conformance with the specification.

BIDDER'S STAMP & SIGNATURE



**TECHNICAL SPECIFICATION
FOR RIGID STEEL CONDUITS AND
FLEXIBLE CONDUITS**

SPECIFICATION NO. PE-TS-417-558-E002A

VOLUME II

SECTION I

**5X800 MW YADADRI TPS (TELANGANA STATE
POWER GENERATION CORPORATION LIMITED)**

REVISION 00

DATE: 26.04.2022

SHEET 1 OF 1

1.0 SCOPE

- 1.1 Manufacture, Inspection and Testing at Manufacturer's works, proper packing and delivery to site of rigid steel conduits and flexible conduits conforming to this specification.
- 1.2 Technical requirements of rigid steel conduits and flexible conduits are indicated in Data Sheet-A & Section-II.
- 1.3 The stipulation of Data Sheet-A shall prevail in case of any conflict between the stipulations of Data Sheet-A & Section-II.
- 1.4 In case bidder is not manufacturer of flexible conduits as per this specification, make list of flexible conduits to be informed at bidding stage. BHEL/BHEL's customer reserves the right to accept/reject any make for flexible conduits.
- 1.5 Bidder to submit signed & stamped copy of compliance sheet at bidding stage. All technical PQR documents also to be submitted by bidder at bidding stage.
- 1.6 Standard Quality Plan of rigid steel conduits is enclosed in this specification. However, quality plan of flexible conduits to be furnished by successful bidder after ordering for Customer/BHEL approval & any necessary change required to be incorporated by bidder without any price and delivery implication.

2.0 BILL OF QUANTITIES

The bidder to quote for items as per BOQ schedule enclosed with ENQUIRY.

3.0 DRAWINGS & DOCUMENTS TO BE SUBMITTED

- 3.1 Documents shall be submitted after placement of order for BHEL & customer's approval as specified in ENQUIRY.
- 3.2 Documents shall be furnished through BHEL's document management system (WRENCH) portal.

Notes:

1. Vendor to submit the dates for drawing/document submission/BHEL comments/resubmission after approval of documents.
2. In BOM each of the item to be uniquely identified with item code no. or item Sl. No. Supplier to ensure that all the items which will find separate mention in the packing list are covered in detailed BOM. Supplier to give following undertaking in BOM: " The BOM provided here completes the scope (in content and intent) of material supply under PO no. ---- dtd ----- Any additional material which may become necessary for the intended application of supplied item/package will be supplied free of cost in most reasonable time."



**TECHNICAL SPECIFICATION
FOR RIGID STEEL CONDUITS AND
FLEXIBLE CONDUITS**

SPECIFICATION NO. PE-TS-417-558-E002A

VOLUME II

SECTION I

**5X800 MW YADADRI TPS (TELANGANA STATE
POWER GENERATION CORPORATION LIMITED)**

REVISION 00

DATE: 26.04.2022

SHEET 1 OF 2

DATA SHEET-A

1.0 APPLICABLE STANDARDS & CODES

- a) IS:9537 (Part I & II) Conduits for electrical installation.
- b) IS:2629 Recommended practice for hot dip galvanizing on iron and steel.
- c) IS:4759 Specification for hot dip zinc coatings on structural steel and allied products
- d) IS:6745 Methods for determination of mass of zinc coating on zinc coated iron and steel articles.
- e) IS:513 Cold reduced low carbon steel sheet and strip
- f) IS: 10748 Hot rolled Steel strip for welded tubes and pipes
- g) IS: 2633 Method for testing uniformity of coating on zinc coated articles
- h) IS:6005 Code of practice for phosphating iron & steel
- i) IS:3480 Flexible steel conduits for electrical wiring

2.0 RIGID STEEL CONDUITS

| S. No. | Description | Unit | Parameters value/ type |
|--------|---|--------|---|
| a | Make | - | [√] BIS approved [] As per enclosed sub-vendor list |
| b | Material | - | Hot or Cold rolled mild steel |
| c | Sizes | - | As per BOQ cum price schedule |
| d | Standard length | meter | 3 – 5 |
| e | Classification as per mechanical properties | | Heavy |
| f | Conduit thickness (minimum) | mm | 1.6 upto 25 mm dia, 2.0 above 25 mm & upto 50 mm dia |
| g | Surface treatment | - | Hot dip galvanizing on inside & outside surface |
| h | Epoxy thickness | micron | 50 (applicable for epoxy coated conduits only) |

3.0 SURFACE TREATMENT

| | | | |
|---|--------------------------------|----------------------|--|
| a | Pre-treatment | - | As per IS 6005 prior to galvanising |
| b | Type | - | Hot dip galvanizing as per IS 2629 |
| c | Min. Thickness of zinc coating | microns | 48 (upto 25 mm dia), 65 (above 25 mm & upto 50 mm dia) |
| d | Min. Weight of zinc coating | (gm/m ²) | 340 (upto 25 mm dia) 460 (above 25 mm & upto 50 mm dia) |
| e | Tests for galvanizing | | a) Weight of zinc coating as per IS : 6745 b) Thickness of zinc coating as per IS : 4759 c) Uniformity of zinc coating as per IS : 2633 d) Adhesion as per IS: 2629 |



**TECHNICAL SPECIFICATION
FOR RIGID STEEL CONDUITS AND
FLEXIBLE CONDUITS**

SPECIFICATION NO. PE-TS-417-558-E002A

VOLUME II

SECTION I

**5X800 MW YADADRI TPS (TELANGANA STATE
POWER GENERATION CORPORATION LIMITED)**

REVISION 00

DATE: 26.04.2022

SHEET 2 OF 2

4.0 FLEXIBLE CONDUITS

| S.No. | Description | Unit | Parameters value/ type |
|--------------|----------------------------|-------------|---|
| a | Product | | bright, cold rolled annealed and electro-galvanised mild steel strips and coated with PVC |
| b | Make | - | BHEL/ BHEL's customer approved make |
| c | Type | - | Electrogalvanized |
| d | Sizes | mm | 20 |
| e | Standard length | meter | 25 – 50 |
| f | Thickness of Galvanization | micron | 25 |



**TECHNICAL SPECIFICATION
FOR RIGID STEEL CONDUITS AND
FLEXIBLE CONDUITS**

**5X800 MW YADADRI TPS (TELANGANA STATE
POWER GENERATION CORPORATION LIMITED)**

SPECIFICATION NO. PE-TS-417-558-E002A

VOLUME II

SECTION II

REVISION 00

DATE: 26.04.2022

SECTION-II



**TECHNICAL SPECIFICATION
FOR RIGID STEEL CONDUITS AND
FLEXIBLE CONDUITS**

SPECIFICATION NO. PE-TS-417-558-E002A

VOLUME II

SECTION II

**5X800 MW YADADRI TPS (TELANGANA STATE
POWER GENERATION CORPORATION LIMITED)**

REVISION 00

DATE: 26.04.2022

SHEET 1 OF 3

1.0 INTENT OF SPECIFICATION

The intent of specification is not to specify all details of design & construction of material. The material shall, however, conform in all aspects to high standard of design, engineering and workmanship and be capable of performing in continuous operation up to & after bidder's guarantee period in manner acceptable to purchaser who will interpret the drawings & specification and shall have power to reject any work or material which in his judgement is not in full accordance with this specification.

2.0 CODES AND STANDARDS

- 2.1 The material shall comply with all currently applicable safety codes and statutory regulations of India as well as of the locality where the material is to be installed.
- 2.2 The material, construction, manufacture, inspection and testing of Rigid steel & Flexible conduits shall conform to the latest revision of relevant standards as per Data Sheet-A.
- 2.3 In case of conflict between the applicable reference standard and this specification, the stringent requirement of the two shall govern.

3.0 TECHNICAL REQUIREMENTS FOR RIGID STEEL CONDUITS

- 3.1 Rigid conduits shall generally conform to the requirements of IS: 9537 (part I & II).
- 3.2 The diameter of conduits shall be uniform throughout the length. Each end of conduit length shall be threaded. The ends of conduits shall be sealed with protective caps to prevent damage to threaded portions and entrance of moisture and foreign material.
- 3.3 The inside surface of all conduits shall be smooth and suitable for pulling insulated cables and wires without damage.
- 3.4 Technical particulars of rigid conduits are specified in Data Sheet – A.

4.0 TECHNICAL REQUIREMENTS FOR FLEXIBLE CONDUITS AND FITTINGS

- 4.1 Flexible metallic conduits shall generally conform to the requirements of IS:3480.
- 4.2 Flexible conduits shall be made of strip steel, which shall be of cold rolled mild steel. The strip shall be of uniform width and thickness throughout.
- 4.3 The strip for making flexible conduit shall be wound tightly and so overlapped in subsequent helicals that no openings are seen in normal position.
- 4.4 The surface of the strip shall be thoroughly cleaned before application of protective coating. Pre-treatment, before galvanization, shall conform to IS:6005.
- 4.5 The strip shall be electro-galvanized to a minimum thickness of 25 microns as per IS 3480.
- 4.6 The conduit shall have uniform diameter throughout its length. The internal surface of all conduits shall be free from burrs and sharp edges and suitable for pulling insulated cables and wires without damage.



**TECHNICAL SPECIFICATION
FOR RIGID STEEL CONDUITS AND
FLEXIBLE CONDUITS**

SPECIFICATION NO. PE-TS-417-558-E002A

VOLUME II

SECTION II

**5X800 MW YADADRI TPS (TELANGANA STATE
POWER GENERATION CORPORATION LIMITED)**

REVISION 00

DATE: 26.04.2022

SHEET 3 OF 3

5.0 QUALITY ASSURANCE, TESTING & INSPECTION

- 5.1 Bidder shall confirm compliance with the BHEL's Quality Plan (PE-V0-417-558-E906B) as attached with the specification without any deviations. At contract stage, the successful bidder shall submit the Quality Plan for BHEL/ ultimate customer's approval. In case bidder has reference Quality Plan agreed with ultimate customer, same can be submitted for specific project after award of contract for BHEL/ ultimate customer's approval. There shall be no commercial implication to BHEL on account of Quality plan approval.
- 5.2 Quality Plan for flexible conduits to be furnished by manufacturer at contract stage for BHEL/ ultimate customer's approval. In case there are observation from for BHEL/ ultimate customer's end, same to be implemented by manufacturer. There shall be no commercial implication to BHEL on account of Quality plan approval.
- 5.3 All materials shall be procured, manufactured, inspected and tested by vendor/ sub-vendor as per approved quality plan.
- 5.4 The supplier shall perform all tests necessary to ensure that the material and workmanship conform to the relevant standards and comply with the requirements of the specification. Charges for all these tests for all the equipment & components shall be deemed to be included in the bid price.
- 5.5 In case ordered quantities are manufactured and offered for inspection in more than one lot, BHEL reserves the right to witness testing on all lots without any commercial implication to BHEL.

6.0 PACKING

- 6.1 The material shall be packed to ensure protection against damage during transit, storage for prolonged periods and handling.
- 6.2 The ends of rigid steel conduits shall be sealed with protective caps.
- 6.3 Each rigid steel conduit shall be wrapped in plastic to prevent dust deposition.
- 6.4 The rigid steel conduits should be aligned and stacked in bundles (a maximum of 25 pieces per bundle).
- 6.5 Each bundle shall be covered with jute fibre or thick plastic wrap for protection against extreme weather. Then, the bundle shall be tied with twin-strand mild steel wire, strong rope or steel strip.
- 6.6 Packing of flexible conduit shall be as per manufacturer's standard to ensure protection against damage during transit, storage for prolonged periods and handling.



**TECHNICAL SPECIFICATION
FOR RIGID STEEL CONDUITS AND
FLEXIBLE CONDUITS**

SPECIFICATION NO. PE-TS-417-558-E002A

VOLUME II

SECTION II

**5X800 MW YADADRI TPS (TELANGANA STATE
POWER GENERATION CORPORATION LIMITED)**

REVISION 00

DATE: 26.04.2022

SHEET 3 OF 3

7.0 MARKING

7.1 Rigid conduits shall be marked at least once on each manufacturing length, preferably 50 mm from one end, with the following:


- a) Manufacturer's name or trade mark, if any;
- b) Country of manufacture; and
- c) Nominal size of the conduits.
- d) ISI Certification Mark.

Marking may be applied by moulding, stamping, printing, adhesive label or water slide transfers.

7.2 Marking shall be durable and legible.

7.3 Marking shall be checked by inspection and by rubbing lightly the marking by hand for 15 seconds with a piece of cloth soaked with water and again for 15 seconds with a piece of cloth soaked with petroleum spirit.

7.4 Marking of flexible steel conduit shall be as per manufacturer's standard.

| | | | | | | | | | | |
|--|--|--|---------------------------------|--|---------------------------------|--|--------------------------------|--|------------------|--|
|  | MANUFACTURER/ BIDDER/ SUPPLIER NAME & ADDRESS | | STANDARD QUALITY PLAN | | | | SPEC. NO : PE-TS-417-558-E002A | | DATE: 26.04.2022 | |
| | | | CUSTOMER : TSGENCO | | | | QP NO.: PE-QP-417-558-E906B | | DATE: 26.04.2022 | |
| | | | PROJECT: 5 x 800 MW Yadadri TPS | | | | PO NO.: | | DATE: | |
| | | | ITEM: RIGID STEEL CONDUITS | | SYSTEM: STATION LIGHTING SYSTEM | | INSPECTION CATEGORY: 2 | | SHEET 1 OF 3 | |

| SL NO. | COMPONENT & OPERATIONS | CHARACTERISTICS | CLASS | TYPE OF CHECK | QUANTUM OF CHECK | | REFERENCE DOCUMENT | ACCEPTANCE NORMS | FORMAT OF RECORD | AGENCY | REMARKS |
|--------|------------------------|-----------------|-------|---------------|------------------|------|--------------------|------------------|------------------|--------|-------------|
| | | | | | M | C/ N | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | 7 | 8 | 9 | * D | ** M C N |

1.0 RAW MATERIAL/BOUGHT OUT ITEMS

| | | | | | | | | | | | | | |
|-----|-------------------------|--------------------------|----|--------------------------|-----------|-----------|---------|---------|------------|---|---|---|---|
| 1.1 | HOT ROLLED STEEL STRIP | MECH. & CHEM. PROPERTIES | MA | VISUAL, MECH. & CHEMICAL | MFR. STD. | MFR. STD. | IS10748 | IS10748 | TEST CERT. | √ | P | V | V |
| 1.2 | COLD ROLLED STEEL SHEET | MECH. & CHEM. PROPERTIES | MA | VISUAL, MECH. & CHEMICAL | MFR. STD. | MFR. STD. | IS513 | IS513 | TEST CERT. | √ | P | V | V |


2.0 ACCEPTANCE TESTS

| | | | | | | | | | | | | | |
|---|--------------------|----------------------------|----|-------------|------------|------------|------------------------------|---------------------|--------------|---|---|---|---|
| 1 | | DIMENSIONS | MA | MEASUREMENT | IS 9537-II | IS 9537-II | IS:9537/ APPROVED DATA SHEET | APPROVED DATA SHEET | INSP. REPORT | √ | P | W | V |
| 2 | MECH. PROPERTIES | | | | | | | | | | | | |
| A | | BENDING TEST | CR | TEST | IS 9537-II | IS 9537-II | IS 9537-II | IS 9537-II | INSP. REPORT | √ | P | W | V |
| B | | COMPRESSION TEST | CR | TEST | IS 9537-II | IS 9537-II | IS 9537-II | IS 9537-II | INSP. REPORT | √ | P | W | V |
| 3 | GALVANISATION TEST | | | | | | | | | | | | |
| A | | UNIFORMITY OF ZINC COATING | CR | TEST | IS 9537-II | IS 9537-II | IS-2633/ APPD DS | IS-2633/ APPD DS | INSP. REPORT | √ | P | W | V |
| B | | MASS OF ZINC COAT. | CR | TEST | IS 9537-II | IS 9537-II | IS-6745/ APPD DS | IS-6745/ APPD DS | INSP. REPORT | √ | P | W | V |

| BIDDER/ SUPPLIER | | |
|------------------|------|--|
| QUALITY | | |
| Sign & Date | Name | |
| Prepared by: | | |

| BHEL | | |
|---------------------|------|--|
| QUALITY/ENGINEERING | | |
| Sign & Date | Name | |
| Reviewed by: | | |

| FOR CUSTOMER REVIEW & APPROVAL | | |
|--------------------------------|------|--|
| Doc No: | | |
| Sign & Date | Name | |
| Approved by: | | |

| | | | | | | | | | | |
|--|--|--|---------------------------------|--|---------------------------------|--|--------------------------------|--|------------------|--|
|  | MANUFACTURER/ BIDDER/ SUPPLIER NAME & ADDRESS | | STANDARD QUALITY PLAN | | | | SPEC. NO : PE-TS-417-558-E002A | | DATE: 26.04.2022 | |
| | | | CUSTOMER : TSGENCO | | | | QP NO.: PE-QP-417-558-E906B | | DATE: 26.04.2022 | |
| | | | PROJECT: 5 x 800 MW Yadadri TPS | | | | PO NO.: | | DATE: | |
| | | | ITEM: RIGID STEEL CONDUITS | | SYSTEM: STATION LIGHTING SYSTEM | | INSPECTION CATEGORY: 2 | | SHEET 2 OF 3 | |

| SL NO. | COMPONENT & OPERATIONS | CHARACTERISTICS | CLASS | TYPE OF CHECK | QUANTUM OF CHECK | | REFERENCE DOCUMENT | ACCEPTANCE NORMS | FORMAT OF RECORD | AGENCY | REMARKS |
|--------|------------------------|-----------------|-------|---------------|------------------|------|--------------------|------------------|------------------|--------|---------|
| | | | | | M | C/ N | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | 7 | 8 | 9 | * | ** |
| | | | | | M | C/ N | | | | D | M C N |

| | | | | | | | | | | | | | | |
|---|--|-------------------|----|------------------|------------|------------|---------------------|---------------------|--------------|---|---|---|---|--------------|
| C | | COATING THICKNESS | CR | TEST | IS 9537-II | IS 9537-II | IS-4759/ APPD DS | IS-4759/ APPD DS | INSP. REPORT | √ | P | W | V | REFER NOTE 6 |
| D | | ADHESION TEST | CR | TEST | IS 9537-II | IS 9537-II | IS-2629/ APPD DS | IS-2629/ APPD DS | INSP. REPORT | √ | P | W | V | |
| E | | EPOXY THICKNESS | MA | VISUAL/ PHYSICAL | IS 9537-II | IS 9537-II | 50 MICRONS | 50 MICRONS | INSP. REPORT | √ | P | W | V | REFER NOTE 7 |
| 4 | | MARKING | CR | VISUAL/ PHYSICAL | IS 9537-II | IS 9537-II | APPROVED DATA SHEET | APPROVED DATA SHEET | INSP. REPORT | | P | W | V | |

3.0 PACKING

| | | | | | | | | | | | | | | |
|--|---------|---|----|--------|------|------|------------------------|------------------------|-------------------|---|---|---|---|--|
| | PACKING | Soundness of Packing against transit damage | MA | Visual | 100% | 100% | BHEL approved document | BHEL approved document | Inspection report | √ | P | W | V | |
|--|---------|---|----|--------|------|------|------------------------|------------------------|-------------------|---|---|---|---|--|


NOTES:

- The inspection shall be carried out once for the material offered for inspection in one lot. For subsequent lots against the same project, the material can be accepted based on certificate of compliance furnished by the vendor.
- Packing shall be suitable for storage at site in tropical climatic conditions.
- Latest revision/ year of issue of all the standards (IS/ ASME/ IEC etc.) Indicated in QP shall be referred.
- BHEL reserves the right for conducting repeat test if required.
- After packing and prior to issue MDCC, photographs of items to be dispatched shall be sent to BHEL purchase group for review.

| BIDDER/ SUPPLIER | | |
|------------------|-------------|------|
| QUALITY | | |
| | Sign & Date | Name |
| Prepared by: | | |

| BHEL | | |
|---------------------|-------------|------|
| QUALITY/ENGINEERING | | |
| | Sign & Date | Name |
| Reviewed by: | | |

| FOR CUSTOMER REVIEW & APPROVAL | | |
|--------------------------------|-------------|------|
| Doc No: | | |
| | Sign & Date | Name |
| Approved by: | | |

| | | | | | | | | | | |
|--|--|--|------------------------------|--|--|--|---------------------------------------|--|-------------------------|--|
|  | MANUFACTURER/ BIDDER/ SUPPLIER NAME & ADDRESS | | STANDARD QUALITY PLAN | | | | SPEC. NO : PE-TS-417-558-E002A | | DATE: 26.04.2022 | |
| | CUSTOMER : TSGENCO | | | | | | QP NO.: PE-QP-417-558-E906B | | DATE: 26.04.2022 | |
| | PROJECT: 5 x 800 MW Yadadri TPS | | | | | | PO NO.: | | DATE: | |
| | ITEM: RIGID STEEL CONDUITS | | | SYSTEM: STATION LIGHTING SYSTEM | | | INSPECTION CATEGORY: 2 | | SHEET 3 OF 3 | |

| SL NO. | COMPONENT & OPERATIONS | CHARACTERISTICS | CLASS | TYPE OF CHECK | QUANTUM OF CHECK | | REFERENCE DOCUMENT | ACCEPTANCE NORMS | FORMAT OF RECORD | AGENCY | REMARKS |
|--------|------------------------|-----------------|-------|---------------|------------------|------|--------------------|------------------|------------------|--------|-------------|
| | | | | | M | C/ N | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | 7 | 8 | 9 | * D | ** M C N |

6. Thickness of zinc coating shall be the average of the determination made at each end and middle of the article.
7. Applicable for epoxy coated conduits only.
8. Statutory requirements will be complied.
9. Instruments used for test shall have valid calibration certificate with tractability to national level.
10. Bought out items shall be from approved vendor by TSGENCO/TCE for this project.
11. **W** at client column shall be considered as **hold point**.
12. All inspection/verification/NDT reports along with material certificates shall be reviewed at the time of witness point.

LEGENDS:
 *RECORDS, IDENTIFIED WITH "TICK"(√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION,
 ** **M**: SUPPLIER/ MANUFACTURER/ SUB-SUPPLIER, **C**: MAIN SUPPLIER/ BHEL/ THIRD PARTY INSPECTION AGENCY, **N**: CUSTOMER,
P: PERFORM, **W**: WITNESS, **V**: VERIFICATION, AS APPROPRIATE
MA: MAJOR, **MI**: MINOR, **CR**: CRITICAL, **D**: DOCUMENTATION

| | | |
|-------------------------|-------------|------|
| BIDDER/ SUPPLIER | | |
| QUALITY | | |
| | Sign & Date | Name |
| Prepared by: | | |

| | | |
|----------------------------|-------------|------|
| BHEL | | |
| QUALITY/ENGINEERING | | |
| | Sign & Date | Name |
| Reviewed by: | | |

| | | |
|---|-------------|------|
| FOR CUSTOMER REVIEW & APPROVAL | | |
| Doc No: | | |
| | Sign & Date | Name |
| Approved by: | | |