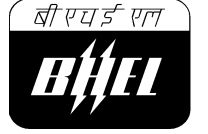


Project Engineering
Management

Bharat Heavy Electricals Limited

(A Govt. Of India Undertaking)



Ref No.: GEM/2023/B/3699078 /CORRIGENDA/01

Date: 21.07.2023

CORRIGENDUM -01

Project: 2X 800 MW NTPC KARIMNAGAR SG PKG PHASE1

Package: SCREENED CONTROL CABLES

Bid Number: GEM/2023/B/3699078 dated 15.07.2023

Please note the following:

- **Please note the PVC related clarifications at clause no. 9.4 (applicable PVC formulae & factors have been added at last page of ATC as Annexure – I&II). This will supersede the PVC formula and factors that were attached to the technical specifications with the Bid documents.**
- **Due Date has been extended from 25.07.2023 to 28.07.2023 till 05:00 PM. Bid Opening shall be done at 05:30 PM on the due date.**

All the other terms and conditions of the tender enquiry shall remain unchanged. All the bidders are requested to quote accordingly.

Thanking You,

With Regards,

For & on behalf of BHEL

Rajeev Kumar
Dy. Manager/PG-II-1

Bid Corrigendum

GEM/2023/B/3699078-C3

Following terms and conditions supersede all existing "Buyer added Bid Specific Terms and conditions" given in the bid document or any previous corrigendum. Prospective bidders are advised to bid as per following Terms and Conditions:

Buyer Added Bid Specific Additional Terms and Conditions

1. **Nominated Inspection Agency:** On behalf of the Buyer organization, any one of the following Inspection Agency would be conducting inspection of stores before acceptance:
Pre-dispatch Inspection at Seller Premises (applicable only if pre-dispatch inspection clause has been selected in ATC):
BHEL NOMINATED TPIA

Post Receipt Inspection at consignee site before acceptance of stores:
NA
2. 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.
3. 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 %.
4. Bidder shall submit the following documents along with their bid for Vendor Code Creation:
 - a. Copy of PAN Card.
 - b. Copy of GSTIN.
 - c. Copy of Cancelled Cheque.
 - d. Copy of EFT Mandate duly certified by Bank.
5. Buyer uploaded ATC document [Click here to view the file](#).
6. 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.
7. Scope of supply (Bid price to include all cost components) : Only supply of Goods
8. Supplier shall ensure that the Invoice is raised in the name of Consignee with GSTIN of Consignee only.
9. The bidder is required to upload, along with the bid, all relevant certificates such as BIS licence, type test certificate, approval certificates and other certificates as prescribed in the Product Specification given in the bid document.
10. 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.

Disclaimer

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization, whereby Buyer organization is solely responsible for the impact of these clauses

on the bidding process, its outcome, and consequences thereof including any eccentricity / restriction arising in the bidding process due to these ATCs and due to modification of technical specifications and / or terms and conditions governing the bid. Any clause(s) incorporated by the Buyer regarding following shall be treated as null and void and would not be considered as part of bid:-

1. Definition of Class I and Class II suppliers in the bid not in line with the extant Order / Office Memorandum issued by DPIIT in this regard.
2. Seeking EMD submission from bidder(s), including via Additional Terms & Conditions, in contravention to exemption provided to such sellers under GeM GTC.
3. Publishing Custom / BOQ bids for items for which regular GeM categories are available without any Category item bunched with it.
4. Creating BoQ bid for single item.
5. Mentioning specific Brand or Make or Model or Manufacturer or Dealer name.
6. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
7. Floating / creation of work contracts as Custom Bids in Services.
8. Seeking sample with bid or approval of samples during bid evaluation process.
9. Mandating foreign / international certifications even in case of existence of Indian Standards without specifying equivalent Indian Certification / standards.
10. Seeking experience from specific organization / department / institute only or from foreign / export experience.
11. Creating bid for items from irrelevant categories.
12. Incorporating any clause against the MSME policy and Preference to Make in India Policy.
13. Reference of conditions published on any external site or reference to external documents/clauses.
14. Asking for any Tender fee / Bid Participation fee / Auction fee in case of Bids / Forward Auction, as the case may be.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

*This document shall overwrite all previous versions of Bid Specific Additional Terms and Conditions.

[This Bid is also governed by the General Terms and Conditions](#)

Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

- a. Please note the PVC related clarifications at clause no. 9.4 (applicable PVC formulae & factors have been added at last page of ATC as Annexure – I&II).

Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

Sl. No.	TERMS & CONDITIONS									
1	Terms Of Payment	<p>As per clause no. 12 (i) of GTC on GeM. Supplier has to provide Original Tax invoice, Packing List, LR/RR, CRAC/MRC, Insurance intimation, Guarantee Certificate, E-way bill (as applicable), PVC calculation sheet and indices for payment.</p> <table border="1"> <thead> <tr> <th>Type of bidder</th> <th>Payment Terms (Number of days)</th> </tr> </thead> <tbody> <tr> <td>Micro & Small Enterprises (MSEs)</td> <td>45 days</td> </tr> <tr> <td>Medium Enterprises</td> <td>60 days</td> </tr> <tr> <td>Non MSME</td> <td>90 days</td> </tr> </tbody> </table> <p>100% payments shall be made to the Seller as per above schedule of issue of consignee receipt-cum-acceptance certificate (CRAC)/MRC and on-line submission of bills (This is in supersession of 10 days' time as provided in clause 12 of GeM GTC).</p> <p>Provision of offline payment in GeM shall be utilized.</p>	Type of bidder	Payment Terms (Number of days)	Micro & Small Enterprises (MSEs)	45 days	Medium Enterprises	60 days	Non MSME	90 days
Type of bidder	Payment Terms (Number of days)									
Micro & Small Enterprises (MSEs)	45 days									
Medium Enterprises	60 days									
Non MSME	90 days									
2	Terms Of Delivery	<p>Terms of delivery shall be F.O.R. dispatch station. All dispatches shall be through Road Carriers on Freight Pre-Paid basis. Road Permit/E-way Bill if required will be arranged by Supplier. Transit insurance shall be in the scope of supplier as per GeM. However, unloading of items at delivery point shall be in the scope of BHEL. Bidder to quote prices accordingly.</p> <p>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 with a copy to BHEL.</p>								
3	Delivery	<p>1. Delivery schedule: In view of urgency of indented material at project site following delivery schedule shall be applicable for subject tender.</p> <p>Main Supply: Delivery completion for Main supply shall be 90 days from the PO date. Primary drawings / documents as per Volume-II, Section-I of Technical Specification No. of PE-TS-424-507-E004 shall be considered for delivery and their submission / re-submission schedule shall be as follows: -</p> <ul style="list-style-type: none"> • 1st submission of drawings / documents – 7 days • BHEL comments – 3 days • Re-submission of drawings / documents – 2 days • BHEL & Customer comments / approval – 18 days <p>Notes:</p> <ol style="list-style-type: none"> a. Supplier to start manufacturing / supply only after getting the applicable engineering Drawings / documents approved from BHEL / End Customer. b. Drawings / documents submission / re-submission schedule as indicated above shall be used for progress monitoring purpose and required course correction, if any. c. The delivery date specified is for completion of the deliveries. Deliveries to start progressively so as to meet the completion schedule. d. The delivery conditions specified are for contractual purposes. However, to meet project requirement, BHEL may ask for early deliveries without any compensation thereof. 								

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Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

	<p>2. Validity of contract (PO rates, terms and conditions): Vendor has to make supply of goods / services as per the delivery time mentioned above. However, due to unavoidable circumstances, if delay happens in providing inputs / clearances (inputs, Engineering approvals, deputing inspector for inspection, issuance of MDCC and any hold imposed owing to site issues etc.) for which delivery time extension is admissible as per Point No. 5.5, in such situation it shall be obligatory at vendor part to execute the contract at PO rates, terms and conditions where inputs / clearances has been accorded within the validity of contract. Validity period for various activities shall be as follows: -</p> <p>2.1. Validity of the contract for Main Supply:</p> <ul style="list-style-type: none">• Contract shall be valid for 180 days (C) from the PO date. However, delay at vendor's end (if any) shall be added to the validity period and contract validity shall get extended by the delay period at vendor's end.• For example: Original Delivery period for Main Supply: A (in days) Delay at vendor's end: B (in days beyond "A" days) Contract validity: C+B (in days) <p>Notes:</p> <ol style="list-style-type: none">a. B is the Vendor delay in days beyond original contractual delivery period for main supply / extended delivery period owing to time taken by BHEL at point no. 2 above.b. Main supply in the contract released / cleared for manufacturing within contractual validity period, to be supplied by vendor / supplier at PO rates, terms and conditions.c. Execution of the contract quantities released beyond contract validity period shall be decided on mutual consent basis at PO rates, terms and conditions. <p>3. Delivery Extension: Extension of contractual delivery time: Delivery time mentioned in the NIT includes Engineering completion time (time for drawings / documents submission / re-submission by the vendor and review / approval of the same by the BHEL / End customer), manufacturing, inspection, Packing and dispatch time. Due diligence is to be observed by the vendor to ensure timely completion of engineering and supply.</p> <p>During the execution of the contract, time loss occurred owing to the reason attributable to BHEL besides force majeure shall be considered for delivery time extension to the vendor as given below: -</p> <ol style="list-style-type: none">i. Any Delay in providing comments / approval on Primary drawings / documents beyond the stipulated time as specified in NIT.ii. Time Loss in approval of the drawings / documents as a result of increase in the iteration not attributable to the vendor (i.e. re-submission owing to end customer comments) as certified by BHEL. Time extension equivalent to the re-submission time mentioned at 1.a) above and consequential increase in the approval time in lieu of increase in iteration shall be applicable. However, for incomplete re- submission, time loss shall be in vendor account.iii. Delay in providing engineering input / material by BHEL.iv. Delay in deputing inspector for inspection and delay in release of MDCC in line with GEM ATC terms.v. Any hold put by BHEL for whatever reasons during execution of contract (within contract validity period), time extension equivalent to hold period shall be admissible. However, in the
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		<p>event hold period continues for more than 30 days then, an additional fifteen days for the purposes of mobilization and demobilization of resources shall also be admissible.</p> <p>Note: Extension in delivery period if any with or without imposition of LD shall be considered after detailed delay analysis based on provisions given above. However, no delay analysis will be applicable if supply is completed.</p>
4	Liquidated Damage	<p>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, of the total main supply contract price excluding GST per week or part thereof, subject to a maximum of ten(10) percent of the total main supply 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.</p> <p>NOTE:</p> <p>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.</p> <p>ii. In case of any amendment/ revision, LD shall be linked to the amended/ revised contract value and delivery date(s).</p> <p>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 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.</p> <p>iv. 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</p> <p>Above LD clause shall prevail over the LD clause of GeM GTC.</p>
5	Guarantee Terms	As per Cl. No. 10 of GTC on GeM for the bid (Refer GeM GTC). However, Guarantee & Warrantee time period shall be 18 months from the date of last supply in the contract.
6	Quantity Variation	Quantity variation is not applicable in this Bid.

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7	Bank Guarantee	23 months from PO date (Assumption: 90 days i.e 03 months as Delivery period incl. drawings / documents approval + 18 Months for Performance + 02 Months for the claim period). However, BG will be released only after completion of all contractual liability or guarantee period whichever is later. Further, extension if any shall be as per GeM Terms. In case of BG from private banks, a clause shall be incorporated in the text of bank guarantee that it can be enforced by being presented at any branch of the bank located in the Delhi-NCR.
8	Any other special major condition	(i). Indented items are billable to customer. (ii). Bidder shall be asked to provide detailed break-up of quoted price in Ex-works, freight & Tax components. (iii). Bidders shall be required to submit applicable Freight % & GST % included in their prices during tender clarification stage. (iv). Material shall be dispatched by vendor after issuance of MDCC by BHEL only. (v). Advance intimation of dispatch by bidder shall be given, to PEM and Insurance agency/Site.
9	ADDITIONAL BID TERMS & CONDITIONS	
9.1	Integrity pact is not applicable for subject package.	
9.2	This is a conditional tender enquiry. Financial bid opening (Part-II) of a bidder shall be subjected to the following: i) Techno-Commercial evaluation by BHEL. ii) Qualification of Technical PQR iii) Offered item should mandatorily conform to PP-MII order provisions. iv) Approval of vendor by end customer i.e. NTPC-Bidders to submit the Credentials as per NTPC's sub-supplier questionnaire.	
9.4	PVC is applicable. Base date, PVC formulae & factors shall be applicable as per Annexure attached with specifications Annexure – I&II (enclosed in this document).	
9.5	This item/package /system falls under the list of items defined in para 3 of ministry of finance guideline dtd. 20.09.16 (Procurement of items related to Public safety, Health, Critical Security operations & Equipment's etc.) & hence criteria of prior experience/Turnover shall be same for all the bidders including start-up/MSME.	

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9.6	<p>Bidders have to note, “For this procurement, the local content to categorize a supplier as a Class I Local Supplier / Class II Local Supplier / Non-Local supplier and Purchase preference to Class I local supplier, is as defined in Public Procurement (Preference to Make in India), (PPP-MII) Order 2017 dt. 16/09/2020 issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.”</p> <p>Following point to be noted regarding verification of local content: -</p> <p>Following may also please be noted by the bidders:</p> <p>Eligibility of Suppliers: Class I Local Suppliers only, (as per para no. 3(a) of Public Procurement (Preference to Make in India), (PPP-MII) Order 2017 dt. 16/09/2020 issued by DPIIT and subsequent amendments)</p> <p>In accordance with para 9 (a) of DPIIT’s PP-MII order 2017 revision dated 04/06/2020, Class-I local suppliers” / “Class-II local suppliers” at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for the Class-I local supplier” / “Class-II local supplier” as the case may be. They shall also give details of the location(s) at which the local value addition is made.</p> <p>Note: Subsequent orders/circulars to be checked and to be complied.</p>
9.7	<p>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 organisation contact number and e-mail Id etc. In case the same found not available, Purchaser has right to reject such document from evaluation.</p>
9.8	<p>Bidders to,</p> <ul style="list-style-type: none">• ensure compliance to Ministry of Power (MoP) Order No. 25-11/6/2018-PG dt. 02/07/2020 & Order No. 11/05/2018-Coord. dt. 23/07/2020, if applicable.• 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. <p>Note: Subsequent orders/circulars to be checked and to be complied.</p>
9.9	<p>The Bidder 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/guideline.</p>

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9.10	<p>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.</p> <p>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.</p> <p>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 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.</p>
9.11	"Bidders to mention freight/GST percentage for all the items as part of un-priced bid to be submitted along with their Techno-Commercial offer. However, negotiation/RA shall be on Total Evaluation (FOR as per GeM) price only as per GeM logic. Detailed Price Break up to be submitted by bidder prior to Order Placement."
9.12	Bidder has to provide the details as per TECHNICAL PQR (part of Technical Specification ref. no. PE-TS-424-507-E004) in its offer and has to note that bids of only those bidders shall be evaluated who meets the Pre-Qualifying requirements. Above terms for PQR shall prevail in conflict (if any).
9.13	Evaluation shall be on the basis of total all inclusive, landed price at consignee destination (Refer cl. No. 6 of GTC on GEM). However, unloading of items (at delivery point) shall be in the scope of buyer. Incomplete offer or part offer of NIT BOM/BOQ shall be summarily rejected.
9.14	In course of evaluation, if more than one bidder happens to occupy L-1 status, effective L-1 will be decided by soliciting discounts from the respective bidders. In case more than one bidder happens to occupy L-1 status even after soliciting discounts, the L1 bidder shall be decided by a toss / draw of lots, in the presence of respective bidder(s) or their representative(s). Ranking will be done accordingly. BHEL's decision in such situation shall be final and binding.
9.15	<p>A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:</p> <p>a) they have controlling partner (s) in common;' or</p> <p>b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; or</p> <p>c) they have the same legal representative/agent for purposes of this bid; or</p> <p>d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder; or</p>

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	<p>e) Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from one bidding manufacturer in more than one bid, or</p> <p>f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorize only one agent/dealer. There can be only one bid from the following: 1. The principal manufacturer directly or through one Indian agent on his behalf; and 2. Indian/foreign agent on behalf of only one principal,' or</p> <p>g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid, or</p> <p>h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business.</p>
9.16	For bidders (who are not registered with 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.
9.17	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.
9.18	Risk Purchase clause as per Annexure B in ATC in case of default by GeM bidder shall be applicable.
9.19	All other terms & conditions shall be as per GeM bid, Additional Terms & Conditions and GTC on GeM version available on GeM Portal as on enquiry floating date.

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Annexure-B (Risk Purchase clause)**DEFAULT/ BREACH OF CONTRACT, INSOLVENCY AND RISK PURCHASE**

In case of delays (beyond the maximum late delivery period as per LD clause) in supplies, or if there be defective supplies or non-fulfilment of any other terms and conditions of the Contract as enumerated subsequently in this clause, then, without prejudice to its right to recover any expenses, losses or damages to which the Buyer may be put to incur or sustain by reason of the Seller/Contractor's default or breach of Order/Contract or to suspend business dealings with the Seller/Contractor in terms of the Buyers' Guidelines for Suspension of Business Dealings as applicable from time to time, the Buyer shall also be entitled to cancel the Order/ Contract either in whole or portion thereof without compensation to Seller. On the occurrence of any of the acts/omissions mentioned below, the Buyer may if it so desires, procure upon such terms and in such manner as deemed appropriate, plant/ equipment/ stores not so delivered or others of similar description where plant/ equipment/ stores exactly complying with particulars are not, in the opinion of the Buyer (which shall be final), readily procurable, at the risk and cost of the Seller.

The Seller shall be liable to the Buyer for any excess costs incurred thereof and the Seller shall continue the performance of the Order/Contract to the extent not cancelled under the provisions of this clause. The Seller shall on no account be entitled to any gain on such repurchases. If the Bidder does not agree to this Risk Purchase clause, BHEL reserves the right to reject the bid/offer of the Bidder.

The order/contract may be cancelled in whole or part thereof and Risk & Cost Clause in line with terms and conditions of PO/Contract may be invoked by the Buyer in any of the following cases:

- i. If the Seller/Contractor fails to deliver the goods or materials or any installment 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 the Seller including unexecuted portion of supply does not appear to be executable within balance period available;
- ii. delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications/execution methodology;
- iii. withdrawal from or repudiation/abandonment of the supply/services by the 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.

Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

- a. Please note the PVC related clarifications at clause no. 9.4 (applicable PVC formulae & factors have been added at last page of ATC as Annexure – I&II).

Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

- iv. Non supply by the Seller within scheduled completion/delivery period as per contract or as extended from time to time for reasons attributable to the Seller;
- v. Termination of Contract on account of any other reason(s) attributable to the Seller.
- vi. Assignment, transfer, sub-letting 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, in the event of death or insanity of the Seller.
- viii. If the Seller/Contractor being an individual or if a partnership firm 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 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 the 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.

BHEL's right to go for Risk and Cost, Calculation of Risk and Cost amount & LD, recovery options to BHEL are given in detail in Annexure-V hereto.

Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

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Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

ANNEXURE-V

(RISK AND COST CLAUSE)

1. 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-a-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.

1.1 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).

1.2 * 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.

Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

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.

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

LD against delay in executed work shall be calculated in line with LD clause no. 16 of GCC, 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.

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.

2. 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.

Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

- a. Please note the PVC related clarifications at clause no. 9.4 (applicable PVC formulae & factors have been added at last page of ATC as Annexure – I&II).

Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

**2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
SCREENED CONTROL CABLES
GeM Bid No. GEM/2023/B/3699078 Dated 15.07.2023**

Letter head of Company

Ref.....

Date.....

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

Subject: - DECLARATION REGARDING LAND BORDER

Reference: **GEM/2023/B/3699078 Dated 15.07.2023**

Name of Package: **SCREENED CONTROL CABLES**

Dear Sir,

This has reference to: -

1. Our Offer for Supply of **SCREENED CONTROL CABLES for 2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1** against GEM Tender No. **GEM/2023/B/3699078 Dated 15.07.2023**.

2. Order dated 23.07.2020 reg. restriction under rule 144 (xi) of GFR issued by Ministry of Finance, Department of Expenditure Public Procurement Division.

I have read the clause regarding restriction 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.

Thanking you,

Yours truly

..... ((highest competent authority at your end
(i.e. Owner, partner, CMD, Director etc.))

..... (firm name)

Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

- a. Please note the PVC related clarifications at clause no. 9.4 (applicable PVC formulae & factors have been added at last page of ATC as Annexure – I&II).

Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
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GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

**2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
SCREENED CONTROL CABLES
GeM Bid No. GEM/2023/B/3699078 Dated 15.07.2023**

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: **GeM Bid No. GEM/2023/B/3699078 Dated 15.07.2023**

Name of Package: **SCREENED CONTROL CABLES**

Dear Sir,

We hereby certify that items offered by us of **SCREENED CONTROL CABLES for 2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1** meets the requirement in line with GeM Bid no. **GEM/2023/B/3699078 Dated 15.07.2023** and 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 and subsequent orders if any.

Minimum Local Content (in percentage) - %

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

Yours truly

..... (authorized signatory of company)

..... (firm name)

Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

**2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
SCREENED CONTROL CABLES
GeM Bid No. GEM/2023/B/3699078 Dated 15.07.2023**

Letter head of Company

Ref.....

Date.....

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

Subject: - No Deviation Certificate

Reference: GEM/2023/B/3699078 Dated 15.07.2023

Name of Package: **SCREENED CONTROL CABLES**

Dear Sir,

We hereby confirm that we have not taken any deviation in the above referred tender enquiry.
If any deviation in any part of our offer is found same shall be null & void.

Yours truly

..... (authorized signatory of company)

..... (firm name)

Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
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Price Variation Formulae for cables -Annexure-I

1. Prices shall be variable as per price variation formulae given below (basis IEEMA).
The price variation shall be limited to + 20% of total ex-works price actually supplied (cable size wise) and -ve price variation shall be unlimited. Rates for working out price variation shall be as per rates published by IEEMA for the factors given in Annexure-II

2. Base date for prices:

Initial Price (As per IEEMA) for- Al_o, Cu_o, CCo, PVCCo & Fe_o POC_o

Base Date shall be- 1st working day of the previous month to the date of issue of tender enquiry.

Final Price (as per IEEMA) for- Al, Cu, Cc, PVCC & Fe: POC

1st working day of month, one month prior to the date on which cable is notified as being ready for inspection i.e TPIA inspection call raise date on web portal.

3. Variation factor value for ALF, CuF, CCFAL, CCFCu, XLFAL, XLFCu, FeF & POCF s applicable shall be as per ANNEXURE II

4. PVC shall be payable within contractual delivery period (including any extension thereto).

Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

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GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023



ANNEXURE II

CIN No. U99999MH1970GAPO14629

Indian Electrical & Electronics Manufacturer's Association
501, Kakad Chambers
132, Dr. A. B. Road, Worli,
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E mumbai@ieema.org
W www.ieema.org

Cir. No. 05/DIV/CAB/05

31 January 2023

All Members of Cable Division & All SEBs, Utilities & Listed Purchasing organisations

Sub: Revision in Price Variation Formulae for Instrumentation cable

In current applicable PV formulae of IEEMA for Instrumentation Cable effective from July 2014 there is no variation available on polymers which is having significant portion of cost of the cable.

IEEMA Cable technical committee discussed the subject and felt that there is need of revision in the PV clause by inclusion of Polymer factors and pairs up to 61. IEEMA collected the weight factors for Copper, Steel and Polymer for pair and triad instrumentation as per BSEN standard 502887 and prepared draft formulae and circulated to all stakeholders vide Cir. No. 32/DIV/CAB/05 dated 10th November 2022.

Since there are no adverse comments received; we are making these operational from 1st January 2023.

Although, these PV clauses are made effective from 1st January 2023, practically they can be incorporated in all the current new tenders/contracts starting from 1st February 2023.

We request and recommend all the users & stakeholders including Utilities, PSUs etc. to incorporate these new PV formulae in all the new tenders/contracts henceforth.

For pending contracts, for the date of delivery on or after 1st February 2023, to arrive at the final price variation, we recommend using the following two stage method, which is a standard institutionalized methodology adopted by IEEMA for change over in all IEEMA PV clauses.

1. Calculate price variation 'P' from applicable prices/indices as per your base date / date of tendering up to January 2023 i.e. considering all prices/indices published in PV circular of January 2023; using applicable IEEMA PV clause of Instrumentation cable which is effective from July 2014.
2. Treat the above calculated 'P' as 'P₀' and calculate final price variation considering all prices / indices published in PV circular of January 2023 applicable for revised PV clause of Instrumentation cables effective from 1st January 2023 as base prices/indices up to the applicable prices/indices as per the date of delivery; applicable as per revised relevant PV clause of Instrumentation Cables effective from 1st January 2023.

Director

Encl.: as above

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CIN No. U99999MH1970GAP014629



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IEEMA (PVC)/Instrumentation Cable/2022**Effective from: 01st January 2023****Material Price Variation Clause for Instrumentation Cables**

The Price quoted/confirmed is based on the input cost of raw materials/components as on the date of quotation, and the same is deemed to be related to the prices of raw materials as specified in the price variation clause given below. In case of any variation in these prices, the price payable shall be subject to adjustment up or down in accordance with the formulae provided in this document.

Terms used in price variation formulae:

- P Price payable as adjusted in accordance with above appropriate formula **(in Rs/Km)**
P₀ Price quoted/confirmed **(in Rs/Km)**

COPPER

CuF Variation factor for copper

Cu Price of CC copper rods.

Cu₀ Price of CC copper rods.**STEEL**

FeF Variation factor for steel

Fe Price of Steel Strips/steel wire.

Fe₀ Price of Steel Strips/steel wire.**POLYMER**

POCF Variation factor for polymer

POC Price of PVC/polymer.

POC₀ Price of PVC/polymer.

IEEMA(PVC)/Instrumentation Cable/2022/ 1 of 27

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IEEMA (PVC)/Instrumentation Cable/2022**Effective from: 01st January 2023**

The above prices and indices are as published by IEEMA vide Circular reference IEEMA(PVC)/CABLE/--/-- for the month i.e. **ONE** month prior to the date of tendering.

The date of delivery is the date on which the instrumentation cable is notified as being ready for inspection/dispatch (in the absence of such notification, the date of manufacturer's dispatch note is to be considered as the date of delivery) or the contracted delivery date (including any agreed extension thereto), whichever is earlier.

Notes:

- (a) All prices are exclusive of GST amount and exclusive of any other central, state or local taxes etc.
- (a) All Prices are applicable for the month.
- (b) The details of prices are as under:
1. Price of CC copper rods (in Rs/MT) is ex-works price as quoted by the primary producer.
 2. Price of galvanized steel strip / steel wire (in Rs/MT) is ex-works price as quoted by the manufacturer for Round steel Wire and Flat steel strip (the relevant price of steel strip or steel wire is to be selected depending upon the type of armouring of the cable).
 3. Price of Polymer Compound (in Rs/MT) is the ex-work price, as quoted by the manufacturer/s
 4. Price of PVC (in Rs/MT) is the ex-work price, as quoted by the manufacturer/s

Price variation formula for Instrumentation Cables

$$P = P_o + CuF (Cu - Cu_o) + FeF (Fe - Fe_o) + POCF (POC - POC_o)$$

Tables References for CuF, FeF and POCF:**For Pair Instrumentation - Over all Screen Cables**

Cu POS Copper factor
 Fe POS Steel factor
 POC POS Polymer factor

For Pair Instrumentation - Individual and Over all Screen Cables

Cu PIS Copper factor
 Fe PIS Steel factor
 POC PIS Polymer factor

IEEMA(PVC)/Instrumentation Cable/2022/ 2 of 27

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India W www.ieema.org

IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

For Triad Instrumentation - Over all Screen Cables

Cu TOS Copper factor
Fe TOS Steel factor
POC TOS Polymer factor

For Triad Instrumentation - Individual and Over all Screen Cables

Cu TIS Copper factor
Fe TIS Steel factor
POC TIS Polymer factor

Authorised Signatory

IEEMA(PVC)/Instrumentation Cable/2022/ 3 of 27

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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Copper Factors for Instrumentation Cables - Cu POS					
Pair Instrumentation Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.0142	0.0191	0.0237	0.0330	0.0513
2	0.0236	0.0336	0.0430	0.0615	0.0986
3	0.0330	0.0481	0.0619	0.0897	0.1452
4	0.0424	0.0626	0.0810	0.1182	0.1921
5	0.0518	0.0769	0.0999	0.1464	0.2390
6	0.0614	0.0914	0.1191	0.1748	0.2859
7	0.0708	0.1062	0.1383	0.2035	0.3335
8	0.0805	0.1207	0.1576	0.2320	0.3806
9	0.0899	0.1353	0.1765	0.2605	0.4275
10	0.0992	0.1498	0.1957	0.2890	0.4744
11	0.1089	0.1643	0.2149	0.3174	0.5215
12	0.1183	0.1786	0.2339	0.3456	0.5684
13	0.1277	0.1931	0.2532	0.3741	0.6153
14	0.1371	0.2076	0.2721	0.4026	0.6624
15	0.1462	0.2216	0.2906	0.4300	0.7075
16	0.1559	0.2361	0.3095	0.4583	0.7544
17	0.1653	0.2507	0.3288	0.4867	0.8013
18	0.1746	0.2652	0.3477	0.5152	0.8482
19	0.1845	0.2802	0.3677	0.5446	0.8973
20	0.1939	0.2947	0.3869	0.5731	0.9442
21	0.2033	0.3093	0.4059	0.6016	0.9911
22	0.2130	0.3238	0.4251	0.6300	1.0382
23	0.2224	0.3383	0.4440	0.6585	1.0851
24	0.2318	0.3526	0.4633	0.6867	1.1322
25	0.2412	0.3671	0.4822	0.7152	1.1791
26	0.2508	0.3816	0.5015	0.7437	1.2260
27	0.2597	0.3954	0.5194	0.7704	1.2699
28	0.2691	0.4097	0.5384	0.7986	1.3168
29	0.2785	0.4242	0.5573	0.8271	1.3636
30	0.2879	0.4387	0.5766	0.8553	1.4105

IEEMA(PVC)/Instrumentation Cable/2022/ 4 of 27



Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

- a. Please note the PVC related clarifications at clause no. 9.4 (applicable PVC formulae & factors have been added at last page of ATC as Annexure – I&II).

Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAP014629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Copper Factors for Instrumentation Cables - Cu POS					
Pair Instrumentation Over all Screen Cables					
Cable size in sq.mm	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
No. of Pairs					
31	0.2980	0.4542	0.5970	0.8858	1.4609
32	0.3074	0.4687	0.6160	0.9142	1.5080
33	0.3171	0.4832	0.6352	0.9427	1.5549
34	0.3265	0.4978	0.6542	0.9711	1.6018
35	0.3358	0.5120	0.6734	0.9993	1.6489
36	0.3453	0.5266	0.6924	1.0278	1.6958
37	0.3549	0.5411	0.7116	1.0563	1.7427
38	0.3643	0.5556	0.7305	1.0847	1.7898
39	0.3729	0.5689	0.7480	1.1105	1.8325
40	0.3823	0.5834	0.7670	1.1389	1.8791
41	0.3917	0.5977	0.7862	1.1671	1.9260
42	0.4011	0.6122	0.8052	1.1956	1.9729
43	0.4115	0.6282	0.8262	1.2268	2.0247
44	0.4211	0.6427	0.8454	1.2553	2.0716
45	0.4305	0.6572	0.8643	1.2837	2.1185
46	0.4399	0.6718	0.8835	1.3119	2.1656
47	0.4493	0.6861	0.9025	1.3404	2.2125
48	0.4590	0.7006	0.9217	1.3689	2.2594
49	0.4684	0.7151	0.9407	1.3973	2.3065
50	0.4778	0.7296	0.9599	1.4258	2.3534
51	0.4874	0.7441	0.9791	1.4543	2.4005
52	0.4968	0.7587	0.9981	1.4825	2.4474
53	0.5062	0.7732	1.0173	1.5110	2.4943
54	0.5156	0.7877	1.0363	1.5394	2.5414
55	0.5240	0.8003	1.0530	1.5642	2.5821
56	0.5334	0.8147	1.0720	1.5926	2.6289
57	0.5428	0.8293	1.0912	1.6208	2.6758
58	0.5522	0.8438	1.1102	1.6493	2.7227
59	0.5630	0.8601	1.1319	1.6815	2.7763
60	0.5724	0.8746	1.1511	1.7100	2.8232
61	0.5819	0.8891	1.1700	1.7384	2.8701

IEEMA(PVC)/Instrumentation Cable/2022/ 5 of 27

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Steel Factors for Instrumentation Cables - Fe POS					
Pair Instrumentation Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.1233	0.1319	0.1375	0.1487	0.1739
2	0.1832	0.1944	0.2031	0.2148	0.2477
3	0.1866	0.1993	0.2102	0.2299	0.2733
4	0.2036	0.2188	0.2314	0.2538	0.3347
5	0.2215	0.2411	0.2538	0.2791	0.4395
6	0.2373	0.2583	0.2722	0.3306	0.4795
7	0.2373	0.2583	0.2722	0.3306	0.4795
8	0.2681	0.3210	0.3390	0.4482	0.5427
9	0.3184	0.3434	0.4388	0.4881	0.5884
10	0.3336	0.4333	0.4594	0.5114	0.6118
11	0.3376	0.4398	0.4659	0.5179	0.6183
12	0.3490	0.4511	0.4797	0.5291	0.6894
13	0.4239	0.4678	0.4993	0.5542	0.7153
14	0.4362	0.4678	0.4993	0.5542	1.3096
15	0.4503	0.4968	0.5283	0.5803	1.4666
16	0.4568	0.4968	0.5348	0.5870	1.5058
17	0.4790	0.5164	0.5570	0.6176	0.9134
18	0.4790	0.5229	0.5570	0.6176	0.9134
19	0.4855	0.5229	0.5570	0.6176	0.9134
20	0.5181	0.5609	0.6019	0.7147	0.9760
21	0.5181	0.5609	0.6019	0.7147	0.9855
22	0.5432	0.5889	0.6813	0.8479	1.0403
23	0.5432	0.5889	0.6813	0.8479	1.0403
24	0.5657	0.6608	0.7093	0.8842	1.1638
25	0.5657	0.6608	0.7093	0.8842	1.1638
26	0.5722	0.6740	0.7223	0.9037	1.1833
27	0.5806	0.6871	0.7354	0.9268	1.1996
28	0.5976	0.7075	0.7584	0.9542	1.2487
29	0.5976	0.7075	0.7584	0.9542	1.2487
30	0.5976	0.7075	0.7584	0.9542	1.2487

IEEMA(PVC)/Instrumentation Cable/2022/ 6 of 27

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Steel Factors for Instrumentation Cables - Fe POS					
Pair Instrumentation Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
31	0.6816	0.7409	0.8977	0.9996	1.4648
32	0.6816	0.7409	0.8977	0.9996	1.4648
33	0.6816	0.7409	0.8977	0.9996	1.4648
34	0.7020	0.8710	0.9298	1.0270	1.5216
35	0.7020	0.8710	0.9298	1.0270	1.5216
36	0.7085	0.8775	0.9363	1.0335	1.5281
37	0.7085	0.8775	0.9363	1.0335	1.5281
38	0.7365	0.9006	0.9637	1.1527	1.5857
39	0.7430	0.9071	0.9702	1.1592	1.5924
40	0.7430	0.9071	0.9702	1.1592	1.5924
41	0.8667	0.9482	1.0023	1.2101	1.7887
42	0.8667	0.9547	1.0091	1.2101	1.7887
43	0.8732	0.9547	1.0091	1.2101	1.7952
44	0.9006	0.9822	1.0454	1.2540	1.8537
45	0.9006	0.9822	1.0519	1.2540	1.8537
46	0.9006	0.9887	1.0519	1.2540	1.8602
47	0.9071	0.9887	1.0519	1.2605	1.8602
48	0.9166	1.0028	1.1527	1.3661	1.8922
49	0.9392	1.0208	1.1756	1.4664	1.9433
50	0.9392	1.0275	1.1756	1.4729	1.9433
51	0.9457	1.0322	1.1830	1.4795	2.0691
52	0.9457	1.0322	1.1895	1.4795	2.0691
53	0.9457	1.0322	1.1895	1.4795	2.0756
54	0.9594	1.1369	1.2106	1.5222	2.2459
55	0.9731	1.1485	1.2222	1.5222	2.2794
56	0.9796	1.1485	1.2287	1.5222	2.2859
57	0.9796	1.1485	1.2287	1.5290	2.2859
58	0.9981	1.1877	1.2614	1.5791	2.3308
59	0.9981	1.1877	1.2614	1.5791	2.3376
60	1.0048	1.1877	1.2679	1.5856	2.3376
61	1.0048	1.1877	1.2679	1.5856	2.3376

IEEMA(PVC)/Instrumentation Cable/2022/ 7 of 27

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Polymer Factors for Instrumentation Cables - POC POS					
Pair Instrumentation Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.1073	0.1190	0.1233	0.1364	0.1643
2	0.1769	0.1953	0.2106	0.2312	0.2889
3	0.1793	0.1984	0.2032	0.2378	0.2973
4	0.2042	0.2255	0.2443	0.2752	0.3505
5	0.2341	0.2627	0.2861	0.3158	0.4240
6	0.2653	0.2941	0.3174	0.3753	0.4998
7	0.2595	0.2865	0.3079	0.3627	0.4801
8	0.3001	0.3380	0.3611	0.4188	0.5607
9	0.3312	0.3665	0.4117	0.4739	0.6256
10	0.3663	0.4074	0.4531	0.5212	0.6909
11	0.3686	0.4097	0.4551	0.5227	0.6923
12	0.3781	0.4336	0.4657	0.5307	0.7345
13	0.4030	0.4598	0.4929	0.5811	0.7763
14	0.4127	0.4717	0.5069	0.5979	0.8025
15	0.4571	0.5059	0.5601	0.6380	0.8792
16	0.4701	0.5207	0.5762	0.6575	0.9070
17	0.4964	0.5643	0.6033	0.7089	0.9729
18	0.5095	0.5792	0.6203	0.7298	1.0039
19	0.5090	0.5777	0.6180	0.7257	0.9972
20	0.5469	0.6235	0.6856	0.7822	1.0884
21	0.5554	0.6330	0.6959	0.7939	1.1049
22	0.5887	0.6679	0.7421	0.8704	1.2232
23	0.5966	0.6772	0.7525	0.8823	1.2413
24	0.6391	0.7092	0.7728	0.9293	1.3121
25	0.6473	0.7184	0.7831	0.9412	1.3301
26	0.6591	0.7320	0.7981	0.9582	1.3528
27	0.6624	0.7597	0.8297	0.9897	1.3569
28	0.6889	0.7840	0.8602	1.0276	1.4266
29	0.6986	0.7956	0.8730	1.0428	1.4493
30	0.7068	0.8049	0.8831	1.0548	1.4676

IEEMA(PVC)/Instrumentation Cable/2022/ 8 of 27

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Polymer Factors for Instrumentation Cables - POC POS					
Pair Instrumentation Over all Screen Cables					
Cable size in sq.mm	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
No. of Pairs					
31	0.7560	0.8780	0.9578	1.1024	1.5753
32	0.7697	0.8938	0.9758	1.1240	1.6084
33	0.7779	0.9032	0.9861	1.1361	1.6264
34	0.7987	0.9317	1.0110	1.1942	1.7045
35	0.8091	0.9436	1.0243	1.2102	1.7280
36	0.8262	0.9638	1.0472	1.2375	1.7693
37	0.8229	0.9590	1.0410	1.2289	1.7551
38	0.8727	0.9860	1.1023	1.2989	1.8217
39	0.8829	0.9978	1.1157	1.3145	1.8450
40	0.8940	1.0105	1.1294	1.3312	1.8695
41	0.9316	1.0705	1.1559	1.3625	1.9523
42	0.9508	1.0932	1.1812	1.3931	1.9981
43	0.9612	1.1051	1.1946	1.4088	2.0213
44	0.9826	1.1299	1.2540	1.4754	2.0903
45	0.9928	1.1417	1.2670	1.4911	2.1134
46	0.9940	1.1426	1.2678	1.4908	2.1130
47	1.0045	1.1545	1.2808	1.5065	2.1360
48	1.0393	1.1897	1.3007	1.5488	2.1913
49	1.0763	1.2267	1.3312	1.5929	2.2877
50	1.0865	1.2388	1.3443	1.6085	2.3107
51	1.0948	1.2487	1.3897	1.6248	2.3319
52	1.1058	1.2610	1.4037	1.6412	2.3565
53	1.1160	1.2729	1.4167	1.6566	2.3795
54	1.1474	1.3198	1.4514	1.6900	2.4387
55	1.1556	1.3256	1.4625	1.7421	2.4952
56	1.1713	1.3441	1.4836	1.7674	2.5333
57	1.1815	1.3560	1.4967	1.7829	2.5563
58	1.2046	1.4175	1.5269	1.8573	2.6381
59	1.2150	1.4294	1.5400	1.8727	2.6611
60	1.2290	1.4458	1.5585	1.8950	2.6946
61	1.2281	1.4440	1.5557	1.8907	2.6872

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Copper Factors for Instrumentation Cables - Cu PIS					
Pair Instrumentation Individual and Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.0170	0.0216	0.0267	0.0363	0.0545
2	0.0330	0.0430	0.0524	0.0709	0.1080
3	0.0472	0.0621	0.0759	0.1039	0.1594
4	0.0605	0.0814	0.0997	0.1369	0.2109
5	0.0745	0.1005	0.1235	0.1699	0.2625
6	0.0886	0.1196	0.1473	0.2030	0.3140
7	0.1027	0.1390	0.1713	0.2365	0.3665
8	0.1167	0.1583	0.1951	0.2696	0.4181
9	0.1308	0.1773	0.2188	0.3026	0.4696
10	0.1446	0.1967	0.2426	0.3359	0.5213
11	0.1586	0.2158	0.2665	0.3689	0.5730
12	0.1727	0.2349	0.2902	0.4019	0.6247
13	0.1867	0.2542	0.3140	0.4352	0.6764
14	0.2005	0.2733	0.3378	0.4683	0.7281
15	0.2143	0.2921	0.3610	0.5002	0.7780
16	0.2284	0.3112	0.3846	0.5333	0.8295
17	0.2422	0.3303	0.4084	0.5664	0.8812
18	0.2562	0.3496	0.4322	0.5996	0.9326
19	0.2705	0.3692	0.4567	0.6339	0.9863
20	0.2846	0.3886	0.4808	0.6670	1.0381
21	0.2986	0.4076	0.5045	0.7000	1.0897
22	0.3127	0.4270	0.5283	0.7332	1.1414
23	0.3265	0.4461	0.5521	0.7663	1.1931
24	0.3405	0.4652	0.5758	0.7993	1.2448
25	0.3546	0.4845	0.5996	0.8326	1.2963
26	0.3686	0.5036	0.6235	0.8656	1.3480
27	0.3819	0.5219	0.6460	0.8969	1.3966
28	0.3960	0.5410	0.6697	0.9299	1.4481
29	0.4098	0.5603	0.6935	0.9630	1.4998
30	0.4238	0.5794	0.7173	0.9960	1.5513

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Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAP014629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Copper Factors for Instrumentation Cables - Cu PIS					
Pair Instrumentation Individual and Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
31	0.4387	0.5995	0.7424	1.0313	1.6064
32	0.4525	0.6189	0.7661	1.0644	1.6582
33	0.4665	0.6380	0.7899	1.0974	1.7096
34	0.4805	0.6573	0.8137	1.1306	1.7613
35	0.4946	0.6764	0.8375	1.1637	1.8130
36	0.5084	0.6955	0.8613	1.1967	1.8647
37	0.5225	0.7148	0.8850	1.2300	1.9164
38	0.5365	0.7339	0.9088	1.2630	1.9681
39	0.5496	0.7518	0.9309	1.2936	2.0153
40	0.5636	0.7710	0.9546	1.3266	2.0667
41	0.5777	0.7901	0.9784	1.3596	2.1184
42	0.5915	0.8093	1.0022	1.3927	2.1699
43	0.6065	0.8298	1.0280	1.4284	2.2263
44	0.6206	0.8492	1.0518	1.4617	2.2780
45	0.6344	0.8683	1.0756	1.4947	2.3298
46	0.6484	0.8876	1.0993	1.5277	2.3814
47	0.6625	0.9067	1.1231	1.5610	2.4331
48	0.6766	0.9258	1.1469	1.5941	2.4846
49	0.6905	0.9451	1.1707	1.6271	2.5362
50	0.7044	0.9642	1.1945	1.6604	2.5880
51	0.7185	0.9836	1.2183	1.6935	2.6397
52	0.7325	1.0026	1.2420	1.7265	2.6914
53	0.7465	1.0217	1.2658	1.7597	2.7430
54	0.7603	1.0410	1.2896	1.7928	2.7948
55	0.7731	1.0584	1.3109	1.8223	2.8402
56	0.7872	1.0775	1.3347	1.8553	2.8917
57	0.8013	1.0966	1.3585	1.8884	2.9434
58	0.8151	1.1159	1.3823	1.9214	2.9948
59	0.8303	1.1370	1.4086	1.9584	3.0530
60	0.8444	1.1561	1.4326	1.9915	3.1047
61	0.8585	1.1754	1.4564	2.0245	3.1564

IEEMA(PVC)/Instrumentation Cable/2022/ 11 of 27



Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

- a. Please note the PVC related clarifications at clause no. 9.4 (applicable PVC formulae & factors have been added at last page of ATC as Annexure – I&II).

Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Steel Factors for Instrumentation Cables - Fe PIS					
Pair Instrumentation Individual and Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.1326	0.1381	0.1465	0.1575	0.1824
2	0.1958	0.2059	0.2146	0.2305	0.2619
3	0.2020	0.2159	0.2299	0.2494	0.3248
4	0.2201	0.2385	0.2494	0.2747	0.4298
5	0.2424	0.2594	0.2748	0.3332	0.4763
6	0.2597	0.3083	0.3279	0.4356	0.5097
7	0.2597	0.3083	0.3279	0.4356	0.5097
8	0.3224	0.4083	0.4450	0.4849	0.5823
9	0.4068	0.4497	0.4784	0.5278	0.6805
10	0.4299	0.4643	0.4904	0.5395	0.7919
11	0.4450	0.4795	0.5056	0.5575	0.8173
12	0.4562	0.4907	0.5194	0.5742	0.8447
13	0.4730	0.5100	0.5416	0.6453	0.8768
14	0.4730	0.5100	0.5481	0.6453	0.8833
15	0.5020	0.5390	0.5732	0.6826	0.9351
16	0.5020	0.5455	0.5797	0.6891	0.9416
17	0.5241	0.5735	0.6529	0.8202	0.9874
18	0.5306	0.5735	0.6529	0.8202	0.9874
19	0.5306	0.5735	0.6597	0.8267	0.9939
20	0.5546	0.6643	0.7076	0.8826	1.1405
21	0.5661	0.6690	0.7124	0.8920	1.1479
22	0.6430	0.6996	0.8427	0.9288	1.3591
23	0.6430	0.6996	0.8427	0.9288	1.3591
24	0.6660	0.8207	0.8790	0.9700	1.4233
25	0.6660	0.8207	0.8790	0.9700	1.4233
26	0.6792	0.8337	0.8920	0.9830	1.4428
27	0.6923	0.8521	0.9057	1.0014	1.4642
28	0.8070	0.8795	0.9378	1.1149	1.5144
29	0.8070	0.8795	0.9378	1.1149	1.5144
30	0.8070	0.8795	0.9378	1.1149	1.5144

IEEMA(PVC)/Instrumentation Cable/2022/ 12 of 27

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Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

- a. Please note the PVC related clarifications at clause no. 9.4 (applicable PVC formulae & factors have been added at last page of ATC as Annexure – I&II).

Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Steel Factors for Instrumentation Cables - Fe PIS					
Pair Instrumentation Individual and Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
31	0.8521	0.9199	0.9782	1.1673	1.7114
32	0.8521	0.9199	0.9782	1.1673	1.7114
33	0.8521	0.9199	0.9782	1.1673	1.7114
34	0.8795	0.9520	1.0895	1.3672	1.7766
35	0.8795	0.9520	1.0895	1.3737	1.7831
36	0.8795	0.9585	1.0962	1.3737	1.7831
37	0.8860	0.9585	1.0962	1.3737	1.7896
38	0.9134	1.0714	1.1380	1.4230	1.9677
39	0.9134	1.0779	1.1445	1.4230	1.9742
40	0.9199	1.0779	1.1445	1.4295	1.9742
41	0.9520	1.1153	1.1836	1.4863	2.1971
42	0.9520	1.1221	1.1836	1.4863	2.1971
43	0.9520	1.1221	1.1836	1.4928	2.2036
44	1.0719	1.1548	1.3877	1.5430	2.2705
45	1.0719	1.1548	1.3877	1.5495	2.2770
46	1.0719	1.1613	1.3877	1.5495	2.2770
47	1.0784	1.1613	1.3877	1.5495	2.2770
48	1.0826	1.1776	1.4156	1.6981	2.3170
49	1.1111	1.3598	1.4370	1.7237	2.3735
50	1.1111	1.3598	1.4370	1.7237	2.3802
51	1.1221	1.3672	1.4583	1.7557	2.3906
52	1.1221	1.3672	1.4583	1.7557	2.3971
53	1.1221	1.3737	1.4583	1.7557	2.3971
54	1.1432	1.3951	1.4928	1.7878	2.4421
55	1.1613	1.4099	1.5076	1.8133	2.4820
56	1.1613	1.4164	1.5076	1.8133	2.4820
57	1.1613	1.4164	1.5076	1.8198	2.4885
58	1.1897	1.4592	1.6774	2.1030	2.7680
59	1.1962	1.4592	1.6774	2.1030	2.7680
60	1.1962	1.4657	1.6774	2.1095	2.7745
61	1.1962	1.4657	1.6841	2.1095	2.7745

IEEMA(PVC)/Instrumentation Cable/2022/ 13 of 27



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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Polymer Factors for Instrumentation Cables - POC PIS					
Pair Instrumentation Individual and Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.1160	0.1170	0.1337	0.1346	0.1726
2	0.1950	0.2126	0.2285	0.2551	0.3100
3	0.1994	0.2191	0.2285	0.2644	0.3325
4	0.2289	0.2539	0.2723	0.3023	0.3985
5	0.2646	0.2885	0.3127	0.3540	0.4774
6	0.2929	0.3300	0.3576	0.4166	0.5515
7	0.2871	0.3226	0.3488	0.4046	0.5321
8	0.3429	0.3764	0.4043	0.4615	0.6250
9	0.3738	0.4275	0.4532	0.5160	0.7060
10	0.4110	0.4502	0.4997	0.5736	0.7657
11	0.4160	0.4702	0.5016	0.5718	0.7794
12	0.4433	0.4977	0.5299	0.6039	0.8152
13	0.4655	0.5268	0.5573	0.6607	0.8838
14	0.4767	0.5404	0.5731	0.6797	0.9122
15	0.5117	0.5772	0.6371	0.7281	0.9941
16	0.5266	0.5934	0.6557	0.7490	1.0244
17	0.5703	0.6232	0.6879	0.8042	1.0892
18	0.5846	0.6400	0.7071	0.8270	1.1223
19	0.5847	0.6397	0.7055	0.8238	1.1161
20	0.6153	0.6933	0.7631	0.8880	1.2007
21	0.6386	0.7250	0.7969	0.9252	1.2473
22	0.6811	0.7649	0.8360	0.9930	1.3768
23	0.6903	0.7753	0.8476	1.0062	1.3963
24	0.7362	0.8267	0.9054	1.0685	1.4608
25	0.7453	0.8371	0.9168	1.0817	1.4803
26	0.7606	0.8539	0.9355	1.1026	1.5077
27	0.7717	0.8870	0.9672	1.1344	1.5577
28	0.8026	0.9217	0.9932	1.1768	1.6222
29	0.8132	0.9343	1.0073	1.1934	1.6463
30	0.8224	0.9447	1.0186	1.2066	1.6659

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Polymer Factors for Instrumentation Cables - POC PIS					
Pair Instrumentation Individual and Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
31	0.8880	0.9893	1.1008	1.2919	1.7863
32	0.9027	1.0067	1.1205	1.3155	1.8214
33	0.9119	1.0171	1.1318	1.3286	1.8409
34	0.9402	1.0727	1.1664	1.3727	1.9228
35	0.9521	1.0861	1.1815	1.3903	1.9486
36	0.9707	1.1082	1.2061	1.4202	1.9929
37	0.9677	1.1041	1.2008	1.4122	1.9796
38	0.9956	1.1427	1.2649	1.4803	2.0606
39	1.0073	1.1561	1.2800	1.4978	2.0860
40	1.0194	1.1703	1.2955	1.5162	2.1129
41	1.0780	1.2328	1.3608	1.5876	2.2506
42	1.0983	1.2567	1.3876	1.6200	2.2985
43	1.1100	1.2701	1.4024	1.6374	2.3240
44	1.1484	1.3302	1.4412	1.7017	2.4034
45	1.1600	1.3436	1.4560	1.7192	2.4289
46	1.1625	1.3459	1.4582	1.7209	2.4308
47	1.1741	1.3593	1.4731	1.7383	2.4561
48	1.2063	1.3716	1.5157	1.7940	2.5204
49	1.2427	1.4171	1.5582	1.8357	2.6182
50	1.2544	1.4305	1.5731	1.8529	2.6434
51	1.2683	1.4765	1.5845	1.9048	2.6621
52	1.2806	1.4904	1.6002	1.9233	2.6891
53	1.2920	1.5038	1.6148	1.9404	2.7143
54	1.3260	1.5068	1.6580	1.9807	2.7652
55	1.3342	1.5463	1.7031	1.9972	2.8202
56	1.3514	1.5668	1.7258	2.0247	2.8611
57	1.3630	1.5799	1.7404	2.0418	2.8864
58	1.4284	1.6246	1.8115	2.1284	3.0240
59	1.4398	1.6377	1.8261	2.1458	3.0492
60	1.4556	1.6557	1.8465	2.1704	3.0854
61	1.4552	1.6549	1.8446	2.1669	3.0793

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Copper Factors for Instrumentation Cables - Cu TOS					
Triad Instrumentation Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.0187	0.0263	0.0332	0.0472	0.0748
2	0.0330	0.0481	0.0619	0.0900	0.1457
3	0.0472	0.0699	0.0907	0.1326	0.2160
4	0.0614	0.0917	0.1194	0.1751	0.2866
5	0.0757	0.1135	0.1481	0.2178	0.3569
6	0.0896	0.1350	0.1763	0.2600	0.4265
7	0.1038	0.1565	0.2047	0.3024	0.4968
8	0.1181	0.1783	0.2334	0.3449	0.5671
9	0.1323	0.2001	0.2621	0.3876	0.6374
10	0.1462	0.2216	0.2906	0.4300	0.7075
11	0.1604	0.2434	0.3193	0.4725	0.7779
12	0.1746	0.2652	0.3477	0.5152	0.8482
13	0.1891	0.2875	0.3772	0.5589	0.9208
14	0.2033	0.3093	0.4059	0.6016	0.9911
15	0.2176	0.3310	0.4346	0.6443	1.0616
16	0.2318	0.3526	0.4633	0.6867	1.1322
17	0.2455	0.3736	0.4907	0.7277	1.1998
18	0.2597	0.3954	0.5194	0.7704	1.2699
19	0.2736	0.4169	0.5479	0.8128	1.3402
20	0.2879	0.4387	0.5766	0.8553	1.4105
21	0.3021	0.4605	0.6050	0.8979	1.4808
22	0.3163	0.4820	0.6337	0.9404	1.5512
23	0.3303	0.5038	0.6622	0.9829	1.6215
24	0.3453	0.5266	0.6924	1.0278	1.6958
25	0.3595	0.5484	0.7211	1.0705	1.7664
26	0.3737	0.5701	0.7498	1.1132	1.8367
27	0.3879	0.5919	0.7785	1.1557	1.9073
28	0.4011	0.6122	0.8052	1.1956	1.9729
29	0.4153	0.6340	0.8339	1.2380	2.0432
30	0.4295	0.6557	0.8623	1.2805	2.1135

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022**Effective from: 01st January 2023**

Copper Factors for Instrumentation Cables - Cu TOS					
Triad Instrumentation Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
31	0.4438	0.6773	0.8910	1.3232	2.1838
32	0.4577	0.6991	0.9195	1.3656	2.2541
33	0.4720	0.7209	0.9482	1.4081	2.3244
34	0.4862	0.7424	0.9766	1.4508	2.3948
35	0.5014	0.7659	1.0076	1.4967	2.4709
36	0.5156	0.7877	1.0363	1.5394	2.5414
37	0.5298	0.8095	1.0650	1.5821	2.6117
38	0.5440	0.8313	1.0937	1.6248	2.6823
39	0.5570	0.8510	1.1196	1.6632	2.7461
40	0.5712	0.8726	1.1483	1.7060	2.8165
41	0.5852	0.8943	1.1768	1.7484	2.8868
42	0.5994	0.9161	1.2055	1.7909	2.9571
43	0.6136	0.9377	1.2339	1.8336	3.0274
44	0.6278	0.9594	1.2626	1.8760	3.0975
45	0.6420	0.9810	1.2911	1.9185	3.1678
46	0.6577	1.0050	1.3228	1.9657	3.2459
47	0.6717	1.0268	1.3515	2.0083	3.3165
48	0.6859	1.0486	1.3802	2.0511	3.3868
49	0.7001	1.0704	1.4089	2.0938	3.4574
50	0.7144	1.0922	1.4376	2.1362	3.5279
51	0.7286	1.1139	1.4663	2.1789	3.5983
52	0.7411	1.1330	1.4913	2.2163	3.6601
53	0.7553	1.1547	1.5199	2.2588	3.7302
54	0.7695	1.1763	1.5484	2.3013	3.8005
55	0.7835	1.1980	1.5771	2.3439	3.8708
56	0.7976	1.2199	1.6058	2.3864	3.9411
57	0.8119	1.2414	1.6342	2.4289	4.0115
58	0.8261	1.2631	1.6630	2.4715	4.0818
59	0.8421	1.2879	1.6954	2.5200	4.1621
60	0.8563	1.3097	1.7241	2.5627	4.2324
61	0.8705	1.3315	1.7528	2.6051	4.3030

IEEMA(PVC)/Instrumentation Cable/2022/ 17 of 27

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Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

- a. Please note the PVC related clarifications at clause no. 9.4 (applicable PVC formulae & factors have been added at last page of ATC as Annexure – I&II).

Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022**Effective from: 01st January 2023**

Steel Factors for Instrumentation Cables - Fe TOS					
Triad Instrumentation Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.1297	0.1368	0.1449	0.1548	0.1812
2	0.1977	0.2144	0.2271	0.2478	0.3074
3	0.2103	0.2286	0.2410	0.2658	0.3600
4	0.2314	0.2481	0.2632	0.3018	0.4608
5	0.2508	0.2718	0.3018	0.3615	0.5070
6	0.2733	0.3394	0.3587	0.4618	0.5563
7	0.2733	0.3394	0.3587	0.4618	0.5563
8	0.3480	0.4473	0.4702	0.5221	0.6339
9	0.4098	0.4877	0.5138	0.5777	0.7457
10	0.4611	0.5047	0.5334	0.5973	0.8776
11	0.4611	0.5047	0.5334	0.5973	0.8776
12	0.4788	0.5251	0.5540	0.6140	0.9115
13	0.5047	0.5511	0.5854	0.7015	0.9588
14	0.5047	0.5511	0.5854	0.7015	0.9588
15	0.5308	0.5799	0.6170	0.7387	1.0177
16	0.5308	0.5799	0.6170	0.7387	1.0177
17	0.5624	0.6144	0.7092	0.8290	1.0809
18	0.5624	0.6144	0.7092	0.8290	1.0809
19	0.5624	0.6144	0.7092	0.8290	1.0809
20	0.5911	0.6982	0.7444	0.9319	1.2189
21	0.5911	0.7029	0.7491	0.9366	1.2336
22	0.6318	0.7418	0.7925	0.9907	1.3783
23	0.6318	0.7418	0.7925	0.9907	1.3783
24	0.7168	0.7787	0.9414	1.0428	1.5368
25	0.7168	0.7787	0.9414	1.0428	1.5368
26	0.7168	0.7787	0.9414	1.0428	1.5368
27	0.7298	0.9077	0.9615	1.0677	1.5788
28	0.7568	0.9418	1.0001	1.1885	1.6428
29	0.7568	0.9418	1.0001	1.1885	1.6428
30	0.7568	0.9418	1.0001	1.1885	1.6428

IEEMA(PVC)/Instrumentation Cable/2022/ 18 of 27

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAP014629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Steel Factors for Instrumentation Cables - Fe TOS					
Triad Instrumentation Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
31	0.8331	0.9757	1.0432	1.2432	1.8271
32	0.8331	0.9757	1.0432	1.2432	1.8271
33	0.8331	0.9757	1.0432	1.2432	1.8271
34	0.9309	1.0144	1.0876	1.2942	1.9165
35	0.9309	1.0144	1.0876	1.2942	1.9165
36	0.9309	1.0144	1.0876	1.2942	1.9165
37	0.9309	1.0144	1.0876	1.2942	1.9165
38	0.9710	1.0617	1.2161	1.5235	1.9944
39	0.9710	1.0617	1.2161	1.5235	1.9944
40	0.9710	1.0617	1.2161	1.5235	1.9944
41	1.0096	1.1889	1.2716	1.5793	2.3468
42	1.0096	1.1889	1.2716	1.5793	2.3468
43	1.0096	1.1889	1.2716	1.5793	2.3468
44	1.0527	1.2372	1.3171	1.6498	2.4498
45	1.0527	1.2372	1.3171	1.6498	2.4498
46	1.0527	1.2372	1.3171	1.6498	2.4498
47	1.0527	1.2372	1.3171	1.6498	2.4498
48	1.0729	1.2600	1.3382	1.6777	2.4895
49	1.1737	1.2811	1.5449	1.8497	2.5629
50	1.1737	1.2811	1.5449	1.8497	2.5629
51	1.1784	1.2885	1.5514	1.8638	2.5629
52	1.1784	1.2885	1.5514	1.8638	2.5629
53	1.1784	1.2947	1.5514	1.8638	2.5629
54	1.2053	1.3158	1.5802	1.8959	2.6141
55	1.2174	1.5032	1.6007	1.9212	2.6540
56	1.2174	1.5032	1.6007	1.9212	2.6540
57	1.2174	1.5032	1.6007	1.9212	2.6540
58	1.2631	1.5457	1.6572	1.9852	2.9483
59	1.2631	1.5457	1.6572	1.9852	2.9483
60	1.2631	1.5457	1.6572	1.9852	2.9483
61	1.2631	1.5457	1.6572	1.9852	2.9483

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAP014629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Polymer Factors for Instrumentation Cables- POC TOS					
Triad Instrumentation Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.1229	0.1291	0.1414	0.1489	0.1884
2	0.2057	0.2293	0.2513	0.2848	0.3773
3	0.2162	0.2401	0.2603	0.2928	0.3895
4	0.2476	0.2776	0.3028	0.3474	0.4491
5	0.3007	0.3324	0.3591	0.4109	0.5423
6	0.3409	0.3830	0.4160	0.4857	0.6385
7	0.3359	0.3761	0.4075	0.4736	0.6191
8	0.3928	0.4376	0.4710	0.5411	0.7471
9	0.4365	0.5025	0.5432	0.6170	0.7832
10	0.4650	0.5354	0.5725	0.6541	0.8422
11	0.4646	0.5341	0.5707	0.6508	0.8370
12	0.4979	0.5485	0.6093	0.6925	0.9559
13	0.5451	0.6171	0.6637	0.7627	1.0687
14	0.5596	0.6338	0.6824	0.7846	1.1018
15	0.5993	0.6833	0.7553	0.8638	1.2061
16	0.6116	0.6972	0.7706	0.8817	1.2332
17	0.6501	0.7380	0.8235	0.9587	1.3575
18	0.6661	0.7565	0.8442	0.9837	1.3951
19	0.6652	0.7548	0.8416	0.9788	1.3870
20	0.7224	0.8058	0.8816	1.0300	1.4613
21	0.7156	0.8209	0.8967	1.0453	1.4777
22	0.7648	0.8706	0.9617	1.1454	1.6106
23	0.7760	0.8835	0.9759	1.1621	1.6359
24	0.8429	0.9776	1.0735	1.2715	1.8169
25	0.8552	0.9915	1.0890	1.2895	1.8439
26	0.8555	0.9913	1.0882	1.2875	1.8410
27	0.8921	1.0375	1.1338	1.3352	1.9078
28	0.9283	1.0803	1.1820	1.3945	2.0054
29	0.9428	1.0970	1.2004	1.4164	2.0384
30	0.9549	1.1110	1.2159	1.4344	2.0654

IEEMA(PVC)/Instrumentation Cable/2022/ 20 of 27



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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Polymer Factors for Instrumentation Cables- POC TOS					
Triad Instrumentation Over all Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
31	1.0261	1.1842	1.2887	1.5200	2.1807
32	1.0166	1.1742	1.2775	1.5077	2.1664
33	1.0279	1.1871	1.2918	1.5244	2.1916
34	1.0685	1.2293	1.3712	1.6104	2.2888
35	1.1108	1.2776	1.4252	1.6731	2.3798
36	1.1310	1.3013	1.4517	1.7053	2.4287
37	1.1260	1.2944	1.4432	1.6932	2.4094
38	1.2035	1.3712	1.4990	1.7877	2.5696
39	1.2155	1.3852	1.5145	1.8057	2.5969
40	1.2282	1.3997	1.5304	1.8243	2.6253
41	1.2651	1.4536	1.6138	1.9154	2.7553
42	1.2883	1.4811	1.6445	1.9525	2.8112
43	1.2624	1.4515	1.6112	1.9140	2.7575
44	1.3297	1.5317	1.6899	2.0110	2.8738
45	1.3410	1.5446	1.7042	2.0277	2.8988
46	1.3813	1.5900	1.7544	2.0850	2.9804
47	1.3935	1.6039	1.7699	2.1030	3.0074
48	1.4100	1.6502	1.8248	2.1518	3.1155
49	1.4594	1.6887	1.8761	2.2154	3.1799
50	1.4717	1.7027	1.8914	2.2333	3.2069
51	1.4823	1.7156	1.9048	2.2488	3.2389
52	1.4955	1.7306	1.9213	2.2681	3.2683
53	1.5137	1.7528	1.9463	2.2984	3.3133
54	1.5536	1.8012	1.9945	2.3870	3.4241
55	1.5932	1.8237	2.0406	2.4005	3.4925
56	1.5625	1.7894	2.0022	2.3567	3.4329
57	1.5737	1.8024	2.0164	2.3735	3.4581
58	1.6163	1.8777	2.0706	2.4604	3.5647
59	1.6801	1.9501	2.1518	2.5549	3.7008
60	1.6959	1.9686	2.1725	2.5798	3.7387
61	1.7055	1.9792	2.1846	2.5930	3.7578

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Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAP014629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Copper Factors for Instrumentation Cables - Cu TIS					
Triad Instrumentation Individual & Overall Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.0215	0.0289	0.0364	0.0509	0.0782
2	0.0424	0.0575	0.0713	0.0993	0.1551
3	0.0614	0.0841	0.1048	0.1466	0.2302
4	0.0802	0.1104	0.1381	0.1939	0.3054
5	0.0992	0.1368	0.1714	0.2414	0.3805
6	0.1177	0.1631	0.2044	0.2882	0.4546
7	0.1366	0.1895	0.2377	0.3352	0.5295
8	0.1556	0.2158	0.2709	0.3824	0.6047
9	0.1743	0.2422	0.3042	0.4297	0.6795
10	0.1932	0.2686	0.3375	0.4769	0.7544
11	0.2122	0.2949	0.3708	0.5242	0.8296
12	0.2309	0.3215	0.4040	0.5715	0.9045
13	0.2502	0.3483	0.4383	0.6200	0.9816
14	0.2691	0.3750	0.4716	0.6673	1.0568
15	0.2880	0.4013	0.5048	0.7145	1.1319
16	0.3068	0.4276	0.5383	0.7618	1.2073
17	0.3251	0.4532	0.5703	0.8076	1.2794
18	0.3442	0.4798	0.6039	0.8548	1.3543
19	0.3629	0.5062	0.6371	0.9018	1.4295
20	0.3817	0.5326	0.6704	0.9491	1.5044
21	0.4005	0.5588	0.7036	0.9963	1.5795
22	0.4195	0.5852	0.7369	1.0436	1.6544
23	0.4383	0.6116	0.7702	1.0909	1.7293
24	0.4578	0.6392	0.8050	1.1404	1.8084
25	0.4769	0.6658	0.8385	1.1877	1.8835
26	0.4957	0.6921	0.8718	1.2352	1.9587
27	0.5147	0.7184	0.9050	1.2824	2.0338
28	0.5325	0.7436	0.9365	1.3269	2.1042
29	0.5515	0.7699	0.9698	1.3742	2.1794
30	0.5703	0.7965	1.0031	1.4212	2.2542

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Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022**Effective from: 01st January 2023**

Copper Factors for Instrumentation Cables - Cu TIS					
Triad Instrumentation Individual & Overall Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
31	0.5891	0.8228	1.0363	1.4685	2.3291
32	0.6079	0.8492	1.0696	1.5158	2.4043
33	0.6269	0.8756	1.1029	1.5630	2.4791
34	0.6457	0.9019	1.1361	1.6103	2.5543
35	0.6657	0.9300	1.1719	1.6611	2.6352
36	0.6845	0.9566	1.2052	1.7083	2.7103
37	0.7035	0.9829	1.2387	1.7556	2.7855
38	0.7223	1.0096	1.2720	1.8031	2.8606
39	0.7399	1.0339	1.3028	1.8464	2.9293
40	0.7588	1.0602	1.3360	1.8936	3.0041
41	0.7777	1.0866	1.3693	1.9409	3.0790
42	0.7965	1.1132	1.4026	1.9879	3.1542
43	0.8152	1.1395	1.4358	2.0352	3.2291
44	0.8343	1.1659	1.4691	2.0825	3.3039
45	0.8531	1.1923	1.5024	2.1298	3.3791
46	0.8735	1.2208	1.5386	2.1815	3.4617
47	0.8923	1.2474	1.5721	2.2290	3.5368
48	0.9111	1.2738	1.6054	2.2763	3.6120
49	0.9301	1.3004	1.6387	2.3235	3.6874
50	0.9489	1.3267	1.6722	2.3708	3.7625
51	0.9680	1.3531	1.7055	2.4183	3.8377
52	0.9850	1.3769	1.7352	2.4603	3.9040
53	1.0038	1.4032	1.7685	2.5076	3.9789
54	1.0228	1.4296	1.8017	2.5546	4.0538
55	1.0416	1.4562	1.8353	2.6019	4.1290
56	1.0604	1.4826	1.8685	2.6491	4.2039
57	1.0792	1.5089	1.9018	2.6964	4.2788
58	1.0982	1.5353	1.9350	2.7437	4.3539
59	1.1190	1.5646	1.9723	2.7966	4.4388
60	1.1377	1.5912	2.0056	2.8442	4.5139
61	1.1568	1.6176	2.0389	2.8915	4.5891

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Corrigendum 01 to BUYER ADDED BID SPECIFIC ATC CLAUSES:

- a. Please note the PVC related clarifications at clause no. 9.4 (applicable PVC formulae & factors have been added at last page of ATC as Annexure – I&II).

Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Steel Factors for Instrumentation Cables - Fe TIS					
Triad Instrumentation Individual & Overall Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.1381	0.1465	0.1545	0.1660	0.1939
2	0.2145	0.2315	0.2437	0.2647	0.4189
3	0.2272	0.2454	0.2594	0.3135	0.4447
4	0.2482	0.2679	0.3137	0.3800	0.4943
5	0.2720	0.3347	0.3525	0.4544	0.5463
6	0.3332	0.4250	0.4544	0.4972	0.5919
7	0.3332	0.4250	0.4544	0.4972	0.5919
8	0.4453	0.4798	0.5121	0.5575	0.8243
9	0.4834	0.5298	0.5617	0.6635	0.9033
10	0.5030	0.5523	0.5813	0.6886	0.9444
11	0.5030	0.5523	0.5813	0.6886	0.9444
12	0.5233	0.5636	0.6016	0.7134	0.9783
13	0.5494	0.5954	0.6813	0.8492	1.0326
14	0.5494	0.5954	0.6813	0.8492	1.0326
15	0.5787	0.6842	0.7213	0.9080	1.1759
16	0.5787	0.6842	0.7213	0.9080	1.1759
17	0.6620	0.7242	0.8699	0.9513	1.4008
18	0.6620	0.7242	0.8699	0.9513	1.4008
19	0.6620	0.7242	0.8699	0.9513	1.4008
20	0.6944	0.8634	0.9127	1.0052	1.4699
21	0.6944	0.8681	0.9174	1.0147	1.4847
22	0.7766	0.9179	0.9765	1.1553	1.5695
23	0.7766	0.9179	0.9765	1.1553	1.5695
24	0.8793	0.9608	1.0241	1.2109	1.7861
25	0.8793	0.9608	1.0241	1.2109	1.7861
26	0.8793	0.9608	1.0241	1.2109	1.7861
27	0.9020	0.9907	1.1282	1.3071	1.8248
28	0.9359	1.0985	1.1674	1.4573	2.0168
29	0.9359	1.0985	1.1674	1.4573	2.0168
30	0.9359	1.0985	1.1674	1.4573	2.0168

IEEMA(PVC)/Instrumentation Cable/2022/ 24 of 27

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Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Steel Factors for Instrumentation Cables - Fe TIS					
Triad Instrumentation Individual & Overall Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
31	0.9698	1.1419	1.2156	1.5135	2.2294
32	0.9698	1.1419	1.2156	1.5135	2.2294
33	0.9698	1.1419	1.2156	1.5135	2.2294
34	1.0938	1.1932	1.4220	1.5767	2.3315
35	1.0938	1.1932	1.4220	1.5767	2.3315
36	1.0938	1.1932	1.4220	1.5767	2.3315
37	1.0938	1.1932	1.4220	1.5767	2.3315
38	1.1329	1.4024	1.4861	1.7654	2.4344
39	1.1329	1.4024	1.4861	1.7654	2.4344
40	1.1329	1.4024	1.4861	1.7654	2.4344
41	1.1885	1.4656	1.5495	1.8551	2.5362
42	1.1885	1.4656	1.5495	1.8551	2.5362
43	1.1885	1.4656	1.5495	1.8551	2.5362
44	1.2987	1.5149	1.7334	2.0413	2.8585
45	1.2987	1.5149	1.7334	2.0413	2.8585
46	1.2987	1.5149	1.7334	2.0413	2.8585
47	1.2987	1.5149	1.7334	2.0413	2.8585
48	1.3286	1.5431	1.7728	2.2075	2.9159
49	1.4442	1.7095	1.8049	2.2592	2.9742
50	1.4442	1.7095	1.8049	2.2592	2.9742
51	1.4516	1.7095	1.8164	2.2772	3.0028
52	1.4516	1.7095	1.8164	2.2772	3.0028
53	1.4516	1.7095	1.8164	2.2772	3.0093
54	1.4795	1.7481	1.8624	2.3276	3.2700
55	1.5009	1.7671	1.8806	2.3506	3.5370
56	1.5009	1.7671	1.8806	2.3506	3.5370
57	1.5009	1.7671	1.8806	2.3506	3.5370
58	1.5430	1.8246	1.9406	2.4190	3.6397
59	1.5430	1.8246	1.9406	2.4190	3.6397
60	1.5430	1.8246	1.9406	2.4190	3.6397
61	1.5430	1.8246	1.9406	2.4190	3.6397

IEEMA(PVC)/Instrumentation Cable/2022/ 25 of 27

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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAP014629



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IEEMA (PVC)/Instrumentation Cable/2022

Effective from: 01st January 2023

Polymer Factors for Instrumentation Cables - POC TIS					
Triad Instrumentation Individual & Overall Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.1233	0.1405	0.1426	0.1613	0.1850
2	0.2242	0.2528	0.2738	0.3046	0.4104
3	0.2400	0.2650	0.2849	0.3215	0.4184
4	0.2742	0.3014	0.3310	0.3834	0.4974
5	0.3246	0.3703	0.3970	0.4439	0.5936
6	0.3775	0.4204	0.4510	0.5193	0.6968
7	0.3728	0.4137	0.4426	0.5075	0.6780
8	0.4318	0.4754	0.5285	0.6006	0.7373
9	0.4958	0.5431	0.6012	0.6901	0.9313
10	0.5245	0.5763	0.6377	0.7265	1.0061
11	0.5251	0.5761	0.6374	0.7245	1.0027
12	0.5427	0.6139	0.6794	0.7750	1.0612
13	0.6086	0.6688	0.7406	0.8635	1.1738
14	0.6242	0.6868	0.7605	0.8869	1.2085
15	0.6704	0.7650	0.8358	0.9798	1.3294
16	0.6836	0.7799	0.8523	0.9993	1.3582
17	0.7305	0.8266	0.9070	1.0719	1.4969
18	0.7479	0.8465	0.9296	1.0986	1.5369
19	0.7475	0.8452	0.9271	1.0942	1.5293
20	0.7870	0.9151	1.0070	1.1562	1.6060
21	0.8033	0.9079	0.9987	1.1738	1.6249
22	0.8594	0.9988	1.0821	1.2805	1.7817
23	0.8717	1.0127	1.0977	1.2984	1.8085
24	0.9577	1.1053	1.2035	1.4129	2.0025
25	0.9710	1.1202	1.2200	1.4321	2.0313
26	0.9723	1.1212	1.2207	1.4316	2.0296
27	1.0239	1.1690	1.2765	1.4892	2.0989
28	1.0623	1.2236	1.3284	1.5790	2.2108
29	1.0779	1.2416	1.3481	1.6024	2.2455
30	1.0909	1.2568	1.3649	1.6217	2.2740

IEEMA(PVC)/Instrumentation Cable/2022/ 26 of 27



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Project	2X800MW NTPC KARIMNAGAR SG PACKAGE PHASE-1
Package	SCREENED CONTROL CABLES
Subject	Bid specific ATC
GeM Bid No.	GEM/2023/B/3699078 Dated 15.07.2023

CIN No. U99999MH1970GAPO14629



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Effective from: 01st January 2023

Polymer Factors for Instrumentation Cables - POC TIS					
Triad Instrumentation Individual & Overall Screen Cables					
Cable size in sq.mm No. of Pairs	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
31	1.1639	1.3365	1.4418	1.7150	2.4025
32	1.1558	1.3281	1.4320	1.7047	2.3902
33	1.1681	1.3420	1.4475	1.7226	2.4170
34	1.2195	1.3857	1.5425	1.8070	2.5685
35	1.2628	1.4355	1.5977	1.8713	2.6613
36	1.2845	1.4606	1.6260	1.9052	2.7126
37	1.2798	1.4541	1.6179	1.8936	2.6935
38	1.3479	1.5470	1.6986	2.0001	2.8623
39	1.3612	1.5622	1.7154	2.0196	2.8910
40	1.3750	1.5780	1.7326	2.0398	2.9211
41	1.4230	1.6564	1.8307	2.1352	3.0490
42	1.4472	1.6848	1.8627	2.1738	3.1065
43	1.4222	1.6565	1.8308	2.1365	3.0543
44	1.5099	1.7490	1.9168	2.2371	3.2019
45	1.5221	1.7631	1.9322	2.2551	3.2289
46	1.5638	1.8095	1.9837	2.3138	3.3120
47	1.5767	1.8246	2.0005	2.3330	3.3408
48	1.6219	1.8739	2.0627	2.4040	3.4196
49	1.6659	1.9210	2.1084	2.5024	3.5355
50	1.6789	1.9360	2.1251	2.5219	3.5643
51	1.6909	1.9494	2.1391	2.5385	3.6401
52	1.7051	1.9658	2.1571	2.5592	3.6713
53	1.7253	1.9892	2.1841	2.5912	3.7191
54	1.7741	2.0439	2.2294	2.6525	3.8075
55	1.8258	2.0989	2.2897	2.7070	3.8918
56	1.7964	2.0660	2.2528	2.6651	3.8346
57	1.8087	2.0802	2.2684	2.6831	3.8614
58	1.8452	2.1171	2.3549	2.7792	3.9710
59	1.9100	2.1908	2.4374	2.8747	4.1088
60	1.9272	2.2110	2.4599	2.9016	4.1488
61	1.9381	2.2233	2.4733	2.9170	4.1700

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