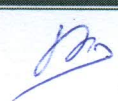


Corrigendum -1 Dt Mar 22, 2014 to Tender specification
BHEL: PSSR: SCT 1548

1	<p>It was mentioned in VOLUME-IA PART – II CHAPTER 1 (CORRECTIONS / REVISIONS IN GENERAL CONDITIONS OF CONTRACT AND FORMS & PROCEDURES) of the tender specification BHEL PSSR SCT 1548 that the clause 2.17 on Price Variation Compensation (PVC) published in General Conditions of Contract (Volume I Book-II) is being revised. The revised clauses shall be intimated in corrigendum. Accordingly the following revisions are intimated.</p> <p>The clause no 2.17 published in General Conditions of Contract (Volume I Book-II) is revised as below:</p> <p>2.17.5 Base date shall be first of the consecutive first month to the month in which contract period completes. (Explanatory statement: PVC shall not be applicable for the contract period and also for the portion of the days remaining after the contract period in the contract completion month. For example if the contract period completes in any day in the month of June 2014 the PVC shall be applicable July onwards with base index of July 2014.)</p> <p>2.17.9 PVC shall be applicable as defined in Clause 2.17.5. However the Total Quantum of Price Variation amount payable / recoverable shall be regulated as follows:</p> <p>2.17.9 (i) For the portion of backlog attributable to the contractor, no PVC shall be applicable.</p> <p>2.17.9 (iv) The total amount of PVC shall not exceed 10% of the cumulatively executed contract value. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary / Additional Items and Extra works.</p>															
2	<p>The clarifications issued by BHEL for the queries raised by a bidder are mentioned below:</p> <table border="1" data-bbox="305 1500 1398 2085"> <thead> <tr> <th data-bbox="305 1500 399 1590">No-</th> <th data-bbox="399 1500 1121 1590">Query raised by Bidder</th> <th data-bbox="1121 1500 1398 1590">Clarification issued by BHEL</th> </tr> </thead> <tbody> <tr> <td data-bbox="305 1590 399 1724">1</td> <td data-bbox="399 1590 1121 1724">Erection of cable trays are not mentioned in BOQ – Please confirm whether the same shall be erected by other contractor.</td> <td data-bbox="1121 1590 1398 1724">Not envisaged in the scope of this contract</td> </tr> <tr> <td data-bbox="305 1724 399 1814">2</td> <td data-bbox="399 1724 1121 1814">Whether Trefoil Clamps for HT Cable Laying shall be supplied by BHEL or in Contractor Scope.</td> <td data-bbox="1121 1724 1398 1814">Supply by BHEL</td> </tr> <tr> <td data-bbox="305 1814 399 1948">3</td> <td data-bbox="399 1814 1121 1948">Whether Bimetallic strip between aluminium and copper surface for the bus duct shall be supplied by BHEL or Contractor Scope.</td> <td data-bbox="1121 1814 1398 1948">Supply by BHEL</td> </tr> <tr> <td data-bbox="305 1948 399 2085">4</td> <td data-bbox="399 1948 1121 2085">Whether GI Conduits and PVC pipes for Cable laying shall be supplied by BHEL or Contractor Scope.</td> <td data-bbox="1121 1948 1398 2085">Supply by BHEL</td> </tr> </tbody> </table>	No-	Query raised by Bidder	Clarification issued by BHEL	1	Erection of cable trays are not mentioned in BOQ – Please confirm whether the same shall be erected by other contractor.	Not envisaged in the scope of this contract	2	Whether Trefoil Clamps for HT Cable Laying shall be supplied by BHEL or in Contractor Scope.	Supply by BHEL	3	Whether Bimetallic strip between aluminium and copper surface for the bus duct shall be supplied by BHEL or Contractor Scope.	Supply by BHEL	4	Whether GI Conduits and PVC pipes for Cable laying shall be supplied by BHEL or Contractor Scope.	Supply by BHEL
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3	The clause no 1.5.7 and 1.10.2.36 are deleted. However clause 1.5.8 and 1.10.2.39 prevails.
4	<p>THE FOLLOWING CLAUSE SHALL BE ADDED TO CHAPTER XIII OF TECHNICAL CONDITIONS OF CONTRACT (VOLUME-I BOOK-I)</p> <p>1.13.3.2 SCOPE OF WORKS FOR ERECTION & COMMISSIONING OF BUSDUCTS</p> <p>The general scope of works for Isolated/Segregated Phase Busduct is Receipt from BHEL stores / yards, unloading all the busduct materials and accessories and equipment as indicated in the BOM and relevant drawings at the area where the busducts are to be erected, inspection, installation of all the materials, testing and commissioning of total busduct items, painting and handing over.</p> <p>Dimensions & weights indicated in the specification / BOM indicated for isolated / segregated phase bus ducts is only approximate. The relevant drawings are enclosed for the purpose of tendering. The contractor has to ascertain the quantum of work involved and quote the lump sum value as called for in the rate schedule.</p> <p>There may be variations in the weight and dimensions. Any variation in the length of Busducts within $\pm 20\%$ shall not be considered for payment. However, for variations beyond $\pm 20\%$, payment shall be considered proportional to the length of the Busducts. Variations in width or height or weight including support structure shall not be considered for payment.</p> <p>Detailed scope of work shall as below:</p> <p>1.13.3.2.1 Transport of Busducts and associated items and equipment from BHEL Stores / yard to erection site. Cleaning of enclosure and conductors, insulators and other panels before assembly and erection.</p> <p>1.13.3.2.2 Placement of embedment and erection and alignment of steel support structures.</p> <p>1.13.3.2.3 Assembly and checking of busduct at ground level if necessary.</p> <p>1.13.3.2.4 Fixing of wall bushings / wall frame assembly</p> <p>1.13.3.2.5 Providing earthing connections as per site conditions.</p> <p>1.13.3.2.6 Minor civil work such as chipping and drilling holes on concrete if necessary and grouting of busduct support structures including supply of materials required for civil works.</p> <p>1.13.3.2.7 Carrying out required level of cleaning inside as well as outside of the busduct for the purpose of conducting high voltage test before commissioning of the unit.</p> <p>1.13.3.2.8 Grouting of bus duct and support structures and connecting to earth grid /earth pits as detailed in the relevant bus duct drawings.</p>

- 1.13.3.2.9 Modification if any required in the support structures due to site conditions, the same shall be carried out without any extra cost. (Pockets will be provided during casting in which anchor bolts will be grouted for supporting the structures)
- 1.13.3.2.10 Extension of embedment if required and erection of required supports structures as detailed in the drawing.
- 1.13.3.2.11 Tightening of all bolts in the joints and flanges by torque wrench to the approved pressure (Anti oxidation compound will be used for joints which will be arranged by contractor)
- 1.13.3.2.12 Conducting air-tightness test after erection to meet the requirement of BHEL / Customer Standards.
- 1.13.3.2.13 Rectification of leakage, if any without any extra charges- For air tightness test, contractor shall arrange necessary pipe, PVC, hoses, fitting, valve, pressure regulator, Rotameters etc., at their cost. Contractors shall tap the air from nearest Instruments air tapping point available at site.
- 1.13.3.2.14 Conducting high voltage test for IP/SP busducts, short circuit test for IP bus ducts and other tests as per instruction of BHEL engineer after making necessary cleaning inside as well as outside of the busduct & arranging all testing equipment required for carrying out bus duct testing. Each bus duct pieces will have to be tested for IR value and HV test at working voltage before erection.
- 1.13.3.2.15 Fixing of Space Heaters wiring from space Heaters terminal to junction-box, taking through rigid / flexible conduit pipe, Fixing of flexible joints, seal off bushing, rubber bellows, CTs wiring ,conduit / GI pipes breather tapping etc. after testing.
- 1.13.3.2.16 Fixing of Current transformers and wiring from CT terminal to junction box / Marshalling box, taking through rigid/flexible conduit pipe.
- 1.13.3.2.17 Carrying out minor repair, rectification of enclosure and conductors if it has happened during transit without any extra cost.
- 1.13.3.2.18 Arranging all T&P material handling equipment required for erection, except those arranged by BHEL.
- 1.13.3.2.19 Calibration of all inspection, measuring and test equipment (IMTEs) before using.
- 1.13.3.2.20 Furnishing copy of the calibration certificate to the concerned BHEL Engineer for verification and approval.

1.13.3.2.21 Presentation of necessary log sheets, protocols, test certificate as per Field Quality Plan and getting them signed by BHEL / Customer Engineers, and submitting the same to BHEL as per the instructions of concerned BHEL Engineer.

1.13.3.2.22 Maintaining the equipment after commissioning till taken over by customer

1.13.3.2.23 Carrying out final painting as per the standard color codes recommended by BHEL including supply of paints, thinner and other consumables etc. as required as part of erection. (For more details, refer VOLUME-IA PART – I CHAPTER – XVI (Painting). Name of the equipment shall be painted boldly as per the instruction of site engineer. Any danger boards required to be displayed shall be arranged by the contractor.

1.13.3.2.24 SCOPE OF WORK SPECIFIC FOR ISOLATED PHASE BUS DUCTS:

1. Erection and commissioning of NG cubicle with all its accessories
2. Assembly, erection and commissioning of SPVT cubicles with its equipment such as lightning arrestors, voltage transformers, fuses, etc.,
3. Erection and alignment of TAP OFF busducts for unit transformer, SPVT cubicle etc and formation of Delta at LT side of single phase GTs.
4. Erection and commissioning of Air Blower/drier equipment with all the accessories.
5. Erection and commissioning of air pressurization equipment with all the accessories.
6. Carrying out aluminum welding for bus conductor and on enclosure as detailed in the drawing using MIG/TIG machine with the Aluminum filler wire as per BHEL specification.
7. Providing of MIG/TIG welding machine, aluminum filler wire, Argon gas of high purity and other required consumables as per BHEL standard for efficient aluminum welding, covering supporting insulators with asbestos cloth whenever aluminum welding is carried out near the supporting insulator.
8. Making necessary modifications of make up pieces, if required, and welding of isolated phase busducts along with NGT, SP VT cubicle, UT tap-offs and delta connections.
9. Conducting 10 % X-Ray and 100 % DPT test and arranging the required X-Ray and NDT equipment.




10. Providing well-experienced Aluminium welder to meet the radiography quality.
11. Fixing of neutral side flexible connections to generator and position of neutral CTs after testing.
12. Grouting of bus duct support structures
13. Grouting the ground bus provided on the entire length of entire length of busducts, all parts of supporting structures and one end of each enclosure.
14. Carrying out minor repair, rectification of enclosure and conductors if it has happened during transit without any extra cost.
15. Arranging all T&P material handling equipment required for erection.
16. Calibration of all inspection, measuring and test equipment (IMTEs) before using.
17. Furnishing copy of the calibration certificate to the concerned BHEL Engineer for verification and approval.
18. Presentation of necessary log sheets, protocols, test certificate as per Field Quality Plan and getting them signed by BHEL / Customer Engineers, and submitting the same to BHEL as per the instructions of concerned BHEL Engineer.
19. Other requirement for Erection / Commissioning of IP Busducts.
 - a. Aluminium welders shall appear for test as directed by the BHEL welding Engineer and only test qualified welders shall be permitted to do the welding.
 - b. For MIG / TIG welding only high purity argon gas shall be used. If the contractor is unable to arrange the required high purity Argon gas, the same shall be arranged by BHEL on chargeable basis. The cost of gas shall be recovered from the running bills as per BHEL norms.
 - c. Aluminium filler wire / rod shall be procured in consultation with BHEL Welding Engineer from approved Vendors of BHEL.
 - d. Make up pieces shall be supplied along with bus ducts. Necessary MIG / TIG welding of different sections of enclosures, make up pieces and bus will be carried out at site.
 - e. Holes on the flanges may not be adequate or may not match and any additional holes required same shall be drilled at site to facilitate matching of busduct enclosure flanges including generator flange.
 - f. Connecting the Busduct with other equipment erected by other agencies is in the scope of Busduct erection.

- g. Any minor modification required in the bus conductor / enclosure of the bus duct for matching the switch gear in-comer and transformer adopted box shall be carried out without additional cost.
- h. BHEL will provide EOT crane at free of cost. In addition refer clauses of VOLUME-IA PART – I CHAPTER – V.

The rate for SP Busducts shall include fabrication of supports also. For SP Busducts, payment shall be made as per actual length erected. Variations in width or height or weight including support structure shall not be considered for payment.

All other terms and conditions remain unaltered.

For and on behalf of Bharat heavy Electricals Ltd.,


22/03/14
Manager / Sub Contracts Dept