

## **GENERAL REQUIREMENTS OF SPECIFICATIONS**

### **2.1 SCOPE:**

- 2.1.1 This specification covers design; manufacture performance, testing inspection packing and delivery of the equipment with accessories and auxiliary equipment required for variation destination in Western U.P. The item and quantities required are as detailed in Technical Schedule P & Q.
- 2.1.2 The equipment shall be supplied complete with all fitting/accessories, apparatus and parts that are necessary as usual for their efficient operation. Such part shall be deemed to be within contractor's scope whether specifically mentioned or not. Equipment in all respect shall incorporate the highest quality of modern engineering design and workmanship.
- 2.1.3 The "General Condition of Contract" Form 'B' copy of which are attached here to form an integral part of this specification. The contractor shall supply all material and perform all work in strict accordance there with. In the event of conflict between the "General Condition of Contract" Form 'B' and General requirement of specification as given here, purchaser's version shall pre vail.
- 2.1.4 The general requirement of specification comprise of this chapter and detailed technical specification. These are supplementary to each other and are essential for complete interpretation of the Purchaser's requirement.

### **2.2 PROJECT DATA**

- |      |                                                                    |                     |
|------|--------------------------------------------------------------------|---------------------|
| I.   | Location various sites in Uttar Pradesh                            |                     |
| II.  | Altitude not exceeding 1000 meters.                                |                     |
| III. | Climatic condition.                                                |                     |
| a.   | Design maximum ambient air temperature                             | 50 Deg. C           |
| b.   | Maximum daily average ambient temperature in shade                 | 47.2 Deg. C         |
|      | Maximum daily average ambient temperature in sun                   | 65.5 Deg. C         |
| c.   | Minimum ambient air temperature in shade                           | (-) 5 Deg. C        |
| d.   | Relative Humidity                                                  | 100% Max<br>10% min |
| e.   | Wind load                                                          | 195 Kg./Sqmm        |
| f.   | Seismic level                                                      | 0.33                |
| g.   | Isokeraunic level                                                  | 50                  |
| h.   | Average annual rainfall                                            | 1200 m.m.           |
| i.   | Hot and humid tropical climate conducive to rust and fungal growth |                     |

**2.3 SYSTEM PARTICULARS:**

- |      |                                                             |                                                                                                                                                                                                                                            |
|------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| i.   | Rated system voltage                                        | 33kv, 11kv, & 0.433kv                                                                                                                                                                                                                      |
| ii.  | System frequency                                            | 50 Hz this may vary by $\pm 5\%$                                                                                                                                                                                                           |
| iii. | No. of phase                                                | three                                                                                                                                                                                                                                      |
| iv.  | Neutral                                                     | Effectively earthed                                                                                                                                                                                                                        |
| v.   | Auxiliary power supply                                      | 250 V, 2 wires 50 Hz. A.C. Supply with one point grounded                                                                                                                                                                                  |
|      | a. for lighting, fixtures space heater & AC separated coils |                                                                                                                                                                                                                                            |
|      | b. D.C. Alarm control & protective devices                  | 24 volts, un-grounded DC supply from station battery. The above supply voltage will vary as follows AC voltage will vary $\pm 10\%$ frequency by $\pm 5\%$ and combine voltage and frequency $\pm 10\%$ D.C. voltage, 24 volts to 25 volts |

**2.4 DRAWING AND MANUALS:**

- 2.4.1 The contractor shall furnish four prints of each of the following to the Engineer of the contract within four weeks of the date of order.
- General arrangement drawing of the equipment offered.
  - Detailed dimensional drawing and descriptive literature of all the component supplied.
  - Basic Electrical diagram.

In addition, the contractor shall also submit four prints to the Engineer within 30 days of the complete bill of material with each items unidentifiable in the detailed drawing with reference. This will also form detailed packing list of the equipment.

- 2.4.2 The engineer shall return to the Contractor one print of each drawing (a) stamped "Approved" or (b) marked up with comments.

In case of (a), no further resubmission of drawing is required for Engineer's approval. In case of (b), the Contractor shall correct his original drawing to confirm to the comments made by the Engineer and resubmit in the same manner as stated above, within two weeks after the receipt of marked up the print by him.

- 2.4.3. The Contractor on receipt of print stamped "Approved" shall furnish to Engineer of the contract. One direct reading reproducible of each drawing and bill of material within two weeks of receipt of approved set.

**2.5. MANUALS:**

The contractor shall furnish three sets of bound copies of erection commissioning and operation, maintenance manual giving detailed instruction, procedures, precautions for all the equipment supplied by him to the Engineer. The Manuals shall be specific to the equipment supplied and not of general nature. One set of this manual shall also be packed with each set of equipment.

**2.6 RAW MATERIAL:**

The contractor shall be responsible for timely arrangement/procurement of all the raw materials required for the manufacture of all tendered items and shall furnish their test certificate to the purchaser. However depending on the policy of the Govt. of India, Purchaser may issue essentiality, certificates for arrangement of such raw materials through CEN, DOE, DGTD or other, who may allot the same to the Contractor at their discretion directly from any of the produces of such raw material or other source but without any financial liability to the affecting/linking the delivery of the equipment with the availability of raw material against such certificate or recommendation.

**2.7 INSPECTION & TESTING:**

As per clause 14 of General Condition of Contract Form 'B' the Contractors shall give 15 days notice to Dy. G.M. (Equator) PVVNL-Meerut under intimation to Dy. G.M. (MM) PVVNL-Meerut and the purchase of every lot of material being ready duly packed for dispatch along with routine test result of the material offered and details of dispatches made against last authorization for dispatch in addition to the test specified in the Technical Specification. The purchaser reserves the right of carrying out at site such test as he may decide upon. Such additional tests will be carried out at the Purchaser's expenses.

The contractor shall also render necessary assistance to the inspecting Officer (s) in making random sampling. Whether considered necessary, the material shall be marked, embossed or sealed by the inspection Officer after inspection has been carried out and the material approved for dispatch.

The purchaser shall reserve the right to draw required number of samples of other Major items of raw material. These samples shall however, be drawn and sealed in the presence of Contractor or his authorised representative. The purchaser further reserves the right to get these samples tested form any Govt. recognized Test house/Laboratory.

The Contractor shall record either of the following certificates on the invoice/packing list (Challan) as the case may be.

Certified that the consignment (lot) of material supplied through this invoice/packing list (Challan) has been inspected and tested by representative (s) of DGM (Equator), PVVNL-Meerut and has been approved for dispatch.

OR

Certified that the inspection and testing of consignment (lot) of material supplied through this invoice packing list (Challan) has been waived off by the purchaser vide his letter No. . Dated it is further certified that the material have been tested and results have been found to be with in values specified in the relevant ISS/Contract as per copies of test certificates enclosed.

Notwithstanding the inspection carried out by the Officers of PVVNL-Meerut, in case of any short/defective supply of material detected by the consignee the contractor shall be liable to make good such shortage/rectify the defects. The consignment shall also be subjected to joint inspection by Representative of the contractor and the purchaser in the stores of PVVNL in case of any dispute regarding quantity and/or quality of the material supplied.

In case the material offered for inspection is not found ready when the inspection party reaches to the works of the contractor, the cost incurred by the PVVNL-Meerut on this account will become payable by the Contractor on demand by M.D., PVVNL-Meerut with in 30 days but prior to next inspection.

## **2.8 PRODUCTION SCHEDULE & PROGRESS REPORT:**

The contractor shall furnish detailed production schedules for major components to be supplied.

The schedule shall include dates of completion of:

- a. Engineering work.
- b. Different phase of material procurement manufacture of fabrication.
- c. Delivery.

A report on actual progress in percentage and date of completion of each of the above item shall be sent to the purchaser every month, starting two months from the date of letter of indent o date of purchase order.

## **2.9 PACKING & DISPATCH OF EQUIPMENT:**

- 2.9.1 All equipment/material shall be suitably packed for transport cartage to site and outdoor storage during transit. The contractor shall be responsible for any damage to the equipment during transit due to improper and inadequate packing. The case containing fragile or material easily prone to damage shall be very carefully packed and marked with appropriate caution symbol i.e.. 'Fragile' Handle with care' use no Hook etc. The contents of each package shall bear/packing list. Packing shall provide complete protection from moisture, termites and mechanical shocks etc. Whenever necessary, proper arrangement of attaching slings, for lifting shall be provided. All packaged shall be clearly marked with gross weight sign showing 'UP and down side of boxes content of each packages orders No. and date, name of plane/equipment of which the material in package form part and any handling and unpacking instruction considered necessary. Any material found short inside the packing case shall be supplied by the contractor without any extra cost. Contractor shall ascertain prior to shipment from concerned authorities, the transport limitation, like within and maximum allowable package size of transportation. All packing cases and packing material shall become the property of the Purchaser.

- 2.9.2 The equipment/material shall be dispatched, as per advance dispatch instruction issued by MD, PVVNL-Meerut. A telegraphic intimation shall

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also be given to the consignee (s) immediately after the dispatch of equipment mentioning the specification number, name of equipment, R/R number, Date of dispatch, No. of packages, wagon number and approximate weight of each package to enable him to take the delivery and unload the material in case the dispatch documents are not received by him in time.

- 2.9.3 Packing list containing details of equipment for verification at site shall be placed inside each package and shall correspond with the advice note and approved bill of materials, One set of manual as required in 2.5.5 shall also be placed inside the package.
- 2.9.4 Bill (s) dully pre-receipted in triplicate in accordance with approved terms of payment and together with all necessary dispatch document, shall be sent to consignee (s) under registered cover with additional copy to Engineer of the contract, as also to M.D., PVVNL- Meerut. Supplier's code and items as prescribed shall be marked on every bill/invoice/challan.
- 2.9.5 Any demurrage and wharfage or other charges payable due to non-implementation of any of the above instruction shall be to Contractor's account.
- 2.9.6 The material shall be dispatched within 3 days of completion of inspection in presence of the representative of purchaser to ensure that only inspected material is being dispatched. Supplier cannot pass on the responsibility of poor packing in case of damaged packing found at destination.

## **2.10 REJECTION:**

- 2.10.1 Purchaser reserves the right to reject any equipment if during the tests at work or at site. If the values achieved do not comply with the respective standard/specification and exceed the tolerable limits.
- 2.10.2 Contractor shall replace a rejected equipment with a new equipment, complying with the guaranteed value as promptly as possible and at no extra cost to the purchaser, purchaser reserve the right to take any rejected equipment in to service until the Contractor supplies the new equipment.
- 2.10.3 Rejection to any equipment will not be held as valid reason for delay in timely completion of the work.

## **2.11 DISPATCH INSTRUCTION:**

- 2.11.1 Detailed dispatch instructions shall be issued by the M.D., PVVNL- Meerut for the quantities authorized for dispatch who however reserve the right to amend the dispatch instructions at any time before the actual dispatch of the material. It may be noted that no materials is to be dispatched without satisfactory testing inspections and clearance by Representative of Superintending Engineer (Equator) & M.D., PVVNL- Meerut.

**2.11.2** Telegraphic intimation shall be sent to consignee immediately after the goods are booked and following documents shall be sent by the Contractor to the bankers and additional copy each shall also be sent directly to the Purchaser and to the consignee by registered mail on the same day.

- a. Evidence of dispatch i.e. Railway Receipt
- b. Packing list (3 copies)
- c. Invoice (3 copies)
- d. Test Certification (3 copies)

**2.11.3** In case of transport by Road, the Contractor shall deliver the material/equipment to the consignee at the specified place of delivery with the following documents and one additional copy of each sent directly to the purchaser.

- a. Delivery Challan (2 Copies)
- b. Invoice (2 Copies)
- c. Test Certificate (2 Copies)

**2.11.4** A statement of dispatches shall be sent by the Contractor on the first day of every month of dispatch made by him during preceding Month on the following proforma.

No. & Dt.	Name of Consignee	Name of material	Quantity	
			Allotted	Dispatched
1	2	3	4	5

  

GR/RR No & Dt.	Bill No & Dt.	Amount	Remarks
6	7	8	9

## **2.12 INSURANCE:**

**2.12.1** The Contractor shall arrange, secure and maintain insurance that may be necessary to protect his own interest and the interest of the Purchaser, against all risks that are to be covered under the insurance shall include, but not be limited to the loss of damage in transit, theft pilferage/not civil commotion, weather conditions, accident of all kinds, fire war risks during ocean transportation only etc.

**2.12.2** Insurance is to be taken for the F.O.R. destination value of the equipment for transit from manufacture's warehouse to Purchaser's warehouse plus 30 days storage there after.

**2.12.3** All damages and shortages of the equipment after its delivery, destination Railway station and transportation to stores and storage there after shall be notified by the consignee by registered post to contractor or his authorized representative within 30 days of making good the damage or loss by way of replacement of the equipment damaged or lost.

2.12.4 The Contractor shall take up the matter with insurance company for finalization of claim and purchaser shall provide required information. All further action in connection with making and setting of claims, if any, will be carried out by the contractor for which no extra payment will be made.

The contractor shall be responsible to make good the damage or loss by way of repairs and/or replacement of equipment free of cost irrespective of fact whether claims are accepted by the insurance company or not. without waiting for claims settlement.

2.12.5 The scope of such insurance shall cover the entire value of the contract from time to time.

## **2.13 TERMS OF PAYMENT:**

2.13.1 The terms of payment shall be as per clause-21 of Form 'B'

2.13.2 "For equipment to be dispatched by road transport the payment will be made after the receipt of goods at site. For equipment dispatched by Rail, the Contractor can claim 90% of the contracted value of equipment (including price variation, if any) together with 100% of excise duty, sales/trade Tax against R/R through bank of Consignee choice provided that :

- a. The Contractor submits a certificate along with invoice to the effect that the material detailed in the said advice note which has actually been dispatched is under the said Railway receipt and the value of the material as dispatched is not less than the amount entered in the invoice.
- b. The bank commission shall be borne by the Contractor.
- c. The Contractor shall be responsible for timely intimation to the consignee about R.R. etc. and in the event of this lapse, the damage/wharfage shall be responsibility of the contractor.

## **2.14 DELIVERY:**

2.14.1 The commencement of delivery period shall be counted from the date of letter of indent or as per detailed order as the case may be.

2.14.2 Date of R/R shall be deemed to be the date of delivery for dispatch by rail, the date of receipt of materials in purchaser's store shall be deemed to be date of delivery for dispatch by Road. In the case of supply of PCC Poles 8.5 M, long transportation is required to be done by the purchaser. In this case, the date of clearance of PCC Poles by Dy. GM. (Equator's representative) or purchaser M.D., PVVNL- Meerut shall be deemed to be the date of delivery provided the payment or Excise Duty for the poles authorized for dispatch shall be deposited by the supplier within 15 days from the date of issue of dispatch authorization, failing which actual date of depositing of Excise duty shall be treated as the date of delivery.

2.14.3. The delivery should be affected in serviceable lots/sets of equipment, in case of part dispatch the delivery shall be deemed to have been affected when last component part of the equipment of serviceable lot/set has been delivered.

**2.15. SECURITY:**

The contractor shall deposit security as required under Clause-3 of the "General Condition of the Contract" Form "B" minimum @ 1% (one percent) of the F.O.R. destination price of material in the form of Bank draft, FDR/CDR or Govt interest bearing security duly pledged in favour of the MD, PV VNL, Meerut or guarantee bond from a schedule Bank of India duly executed on on judicial stamp paper of requisite value (at present Rs. 100/-) in the enclosed Performa.

The above security shall be sent within 30 days of the award of contract. The validity of the security deposit in any of the above form shall be for a period of 18 months from the date of receipt of last lot of material with a claim period of six months there after, in case the supplies are delayed beyond the delivery schedule mentioned in the order, the contractor shall extend the validity of the security deposit so as to cover a period of 18 months for the day by which he anticipates to complete the supplies, failing which the Purchaser shall have the right to encash the bank Guarantee without making any reference to him. This order is liable to be cancelled if security is not deposited within the time specified and in the event Earnest Money shall be forfeited. The contractor shall not commence the supply of material till such time he deposits security as above and the intimation regarding receipt and correctness of the same is received by him in writing from Engineer of Contract.

The security will be released to the contractor after expiry of consignment against the contract.

**2.16. TRAINING OF ENGINEERS:**

2.16.1 The Purchaser may depute his engineer for a period as mutually agreed, at the manufacture's works for a purpose of familiarization with equipment and techniques covered under the specification, including training in commissioning, operation, maintenance and trouble shooting aspect etc. The contractor shall provide the necessary training facilities free of cost to the purchaser and also indicate/suggest training programmes etc. In case, this training course is being run regularly by the manufacturer or his principles, this may be indicated in the tender, along with details of training duration, schedules date, course content etc. The traveling expenses from U.P. to their place of training and back and maintenance of the deputed trainees shall be borne by the purchaser.

2.16.2 The Contractor shall depute his Senior Engineer/Specialists to the Training Institute/Staff colleges of the purchasers for training familiarization course when requested by the purchaser.

**2.17. JUDICIAL JURISDICTION:**

All the disputes arising out of and touching or relating to subject matter of agreement/contract shall be subject to jurisdiction of local courts of Meerut and High Court of Judicature at Allahabad only.

**2.18 PRICE VARIATION:**

Where the contracted ex-works prices are variable the contractor shall immediately after dispatch submit to engineer detailed calculation



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supported by photocopy of the relevant indexes of applicable price variation formula. The engineer will check these calculations and notify within 15 days of receipt of information, the revised prices to contractor as well as to consignees.

In principal, price variation shall be payable as determined on the basis of the date of offer or contractual delivery whichever is earlier.

In case of delivery (date of R/R) for dispatch by rail or date of receipt at purchaser's warehouse for dispatched by road) falling after the contractual delivery schedule, the price variation shall be payable for applicable contractual / amended delivery schedule notified for price variation purposes.

2.19 **ARBITRATION CLAUSE 31 OF FORM 'B':**

The following is deemed to be added at the of the Part-I in the Arbitration Clause 31 of Form 'B' " In case of refusal/neglect by such nominee, Chairman, Cum M.D. U.P. Power Corporation Ltd. may nominate another person in his place"