



**JODHPUR VIDYUT VITARAN NIGAM LIMITED  
OFFICE OF THE SUPERINTENDING ENGINEER (MM&C)  
NEW POWER HOUSE, INDUSTRIAL AREA, JODHPUR –342 003**

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**SPECIFICATION NO. JDVVNL/SE (MM&C)/TN-1310  
SUPPLY OF 11 KV THREE PHASE HORN GAP FUSE SETS WITH 24 KV POST  
INSULATORS (UN ASSEMBLED)**

<b>Availability of tender documents on web site</b>	<b>:</b>	<b>onwards</b>
<b>Last date for downloading of tender documents</b>	<b>:</b>	<b>01.02.2017 (06:00 PM)</b>
<b>LAST DATE &amp; TIME OF UPLOADING OF TENDER / OFFER (E-TENDERING).</b>	<b>:</b>	<b>02.02.2017 (12.00 PM)</b>
<b>DATE &amp; TIME OF ONLINE OPENING OF TENDER</b>	<b>:</b>	<b>02.02.2017 (03.00 PM)</b>
<b>TENDER PROCESSING FEES (NON-REFUNDABLE)</b>	<b>:</b>	<b>Rs. 1000.00</b>
<b>COST OF SPECIFICATION (NON-REFUNDABLE)</b>	<b>:</b>	<b>Rs. 2500.00</b>
<b>VALIDITY OF TENDERS REQUIRED UPTO</b>	<b>:</b>	<b>120 Days from the Next Date of opening of Techno Commercial Bid.</b>
<b>EARNEST MONEY TO BE DEPOSITED</b>	<b>:</b>	<b>Rs. 2, 00,000.00 (Rs. Two Lac only) or Exemption Certificate or Vendor Registration Certificate of A,B,C category</b>
<b>TENDERING QUANTITY</b>	<b>:</b>	<b>5005 Sets.(for 11 KV)</b>
<b>CONTACT PERSON (AUTHORIZED BID SIGNATORY)</b>	<b>:</b>	<b>Superintending Engineer (MM) JdVVNL, Jodhpur</b>
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**Note:-** The bidder, in their own interest, are requested to read very carefully Section-I (Instruction to bidders), Section-II (General Condition of Contract) & Section-III (Technical Specification) before filling the bid. The Bid documents be downloaded from JdVVNL website [www.JdVVNL.com](http://www.JdVVNL.com) or [www.http://eproc.rajasthan.gov.in](http://eproc.rajasthan.gov.in) and upload the tender on website of RISL [www.http://eproc.rajasthan.gov.in](http://eproc.rajasthan.gov.in) No hard copy of the bidding documents will be provided to the bidders through this office. In case of any discrepancy found in bidding documents downloaded from the website and appended with the bid (as a bid document) and original copy of such document available in the office of Superintending Engineer (MM&C), Jodhpur Discom, Jodhpur then the copy available with Superintending Engineer (MM&C), Jodhpur Discom, Jodhpur will be considered as final document for all purpose. The cost of Bid document as published in NIT shall be furnished along with EMD one day prior to opening of bid i.e. and scan copy the be upload on website of RISL downloaded bid document in the manner prescribed in bid document.

**SECTION-III****TECHNICAL SPECIFICATION FOR SUPPLY 11 KV HORN GAP FUSE SETS WITH 1X24 KV POST INSULATORS (UN-ASSEMBLED) AGAINST TN-1310.****1.0 SCOPE:**

This specification covers the design, manufacture, testing before dispatch, packing & forwarding and delivery of 11 kV Horn Gap Fuses (including hardwares and post insulators). The Horn Gap Fuses shall be required for protection of lines and distribution Transformers at various sites of Jodhpur Discom, the details of principal parameters/various parts of horn gap fuses are indicated in subsequent clauses hereunder.

1.1 It is not the intent to specify completely herein all details of the design and construction of equipments. However, the equipment shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation upto the Bidder's guarantee in a manner acceptable to the Purchaser, who will interpret the meanings of drawings and specifications and shall have the power to reject any work or material which in his judgment is not in accordance therewith. The offered equipment shall be complete with all components necessary for its effective and trouble free operation along with associated equipments, interlocks, protection schemes etc. Such components shall be deemed to be within the scope of supply, irrespective of whether those are specially brought out in this specification and/or the commercial order or not.

**2.0 SERVICE CONDITIONS:**

Equipment to be supplied against this specification shall be suitable for satisfactory continuous operation under the following tropical conditions:

i) Location	In the state of Rajasthan
ii) Max. ambient air temp. in shade (Deg.C)	50
iii) Min. ambient air temp. (Deg.C)	(-) 5
iv) Average daily ambient air temperature (Deg.C.)	45
v) Max. yearly weighted ambient temp.(Deg.C.)	35
vi) Relative humidity (%)	100
vii) Average annual rainfall (mm)	100 to 1000mm (depending upon area)
viii) No. of rainy days P.A.	70
ix) Max. wind pressure (Kg/sq m)	195

x)	Max. altitude above mean sea level (mtrs)	1000
xi)	Isoceraunic level (month/year)	4 months (June to Sept)
xii)	Seismic level (horizontal acceleration)	0.08g

**Note:** Moderately hot and humid tropical climate conducive to rust and fungus growth. The climatic conditions are also prone to wide variations in ambient conditions. Smoke is also present in the atmosphere. Heavy lightning also occurs during June to October.

### 3.0 PRINCIPAL PARAMETERS:

3.1 The equipment i.e. horn gap fuse unit covered in this specification shall be a complete unit with 1X24 KV Post Insulator type E-32 for use on 11 kV system. The ratings of 11 KV Horn Gap Fuses with post insulators shall be as under :

<b>PARTICULARS/ RATINGS HG FUSES</b>	<b>Specified values (11 KV H.G.)</b>
a) Nominal system voltage kV (rms)	11
b) Rated voltage kV(rms)	12
c) Rated frequency(Hz)	50
d) One minute power frequency withstand voltage kV(rms) (To earth & between poles).	55
e) Impulse withstand voltage kV peak).(To earth & between poles).	125
f) Permissible temperature rise above ambient temp. ( 50 deg cent.)	40 deg. Cent.
g) Rated Current (Amp)	100

3.2 The minimum mechanical & electrical values/ characteristics of 24kV Post Insulators shall be as follows:

<b>S. No.</b>	<b>Particulars</b>	<b>Specified values</b>
1.	Torsional Strength	680mm
2.	Cantilever Strength	9000 N
3.	Tensile Strength	30000 N
4.	Compression Strength	40000 N
5	Highest system voltage (kV rms)	24
6.	Dry & wet power frequency withstand test voltage for one minute(kV rms)	55
7.	Impulse withstand test	125 (KV Peak)
8.	Visible discharge test	18 (KV rms)
9.	Power frequency puncture withstand test voltage (kV rms)	1.3 times the actual dry flash-over voltage of the unit.

### 3.3 DIMENSIONAL CHARACTERISTICS OF POST INSULATORS :

S.No.	Particulars.	1X24 kV (11 KV HG fuse)
1.	Nominal system voltage.	11 kV
2.	No. of units	one
3.	Total height of i) unit ii) Stack	254 mm
4.	Diameter of Insula- ting part (max.)	210 mm
5.	Minimum total creepage distance of each unit	430 mm
6.	Top fitting pitch circle diameter	76 mm
7.	Bottom fitting pitch circle diameter	76 mm

3.4 One set of Horn Gap Fuse Shall consist of three single phase units of Horn Gap Fuses.

#### 4.0 GENERAL TECHNICAL REQUIREMENTS:

##### HORN GAP FUSES :

4.1 The hardwares of horn gap fuses shall be designed and manufactured as per IS. The horn gap fuse sets are to be used for protection of lines and distribution transformers. The bill of material to complete one set (i.e. for Three phases) shall be as per requirement.

4.2 The hardwares of Horn Gap Fuses shall be constructed out of the best quality of material suitable for weather conditions prevailing in Rajasthan. The workmanship shall be in accordance with the modern engineering practice. All ferrous parts shall be given an anticorrosive finish. The other parts shall be substantially non corrosive. The details of various specific parts for manufacture are as under:

##### (1) BASE CHANNEL:

The base channel shall be of size 75X40x542 mm Long (for 11 KV HG Fuse sets) of **Hot Dip Galvanized** mild steel conforming to ISLC 75 of Tata Reference Book 1970. The base channel should have holes for mounting post insulators.

(2) HORN STOOL:

Two numbers of Horn Stools of **Hot Dip Galvanized** MS flat of size 50 x 6 mm will be used. The Horn Stool shall be fixed on the top of the post insulators with the help of electro galvanized bolts and spring washers. The Horn Stool must be rigid and strong enough for fixing the horn over the top of horn stool. Over the top of the horn stool, the horn will be fixed.

(3) ARCING HORN:

Two numbers arcing horns of 12 mm dia of **Hot Dip Galvanized** M.S. round rod will be used. It will be aluminum painted. The base of arching horns should be projecting to 25 mm. It shall be fitted on horn stool with the help of horn clamps, nuts, bolts and spring washers. The length of the horn/height should be maintained. The horn should have a hole & fixing brass thumb screw with fly nut and flat washer to tie and tighten with the fuse wire.

(4) BRASS THUMB SCREW:

There shall be one tapped hole on each arcing horn. The brass thumb screw will be fixed in the tapped hole provided in each arcing horn. The fuse wire is to be tied with brass thumb screw and tightened with help of fly nut (Brass) and flat washer (Brass). The length of brass thumb screw will be fully threaded and screwed up to the whole depth of the horn. The design must be such that the changing of fuse wire is convenient. There is no loose connection/contact and there should not be any possibility of thumb/jamming on account of arcing when fuse is blown off.

(5) HORN CLAMPING ARRANGEMENT:

There shall be two M.S. Horn clamp of size 50x105x6 mm fixed on horn stool with the help of bolts and nuts, spring washers for fixing the arcing horns and clamping the conductor. The lower part of the clamping for holding the required conductor shall be of size 50x50x6 mm. This shall be made from M.S. sheet.

(6) EARTHING TERMINAL :

One number earthing terminal shall be provided on the flange portion of base channel. The M.S bolt of 12 mm dia and 25 mm long shall be used with flat washer for this purpose.

(7) BOLTS, NUTS AND WASHERS:

All the bolts, nuts and washers shall be electro-galvanized. However the thumb screw and its connecting fly nut and flat washer, to be used to fix fuse wire, will be of brass only. The size of various bolts, nuts and washers which are in the scope of supply are as below:

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<b>S.NO.</b>	<b>SIZE OF BOLTS, NUTS AND WASHERS.</b>	<b>TO BE UTILISED FOR</b>	<b>qty. for 1 unit of 11KV</b>
1.	Bolt size 12mm dia, 25mm long with flat washer & nut.	Earthing terminal	4 Nos.
2.	Bolt size 12mm dia, 38mm long with nuts & spring washer.	For fixing post insulators on base.	8 Nos.
3.	Bolt size 12 mm dia, 25mm long with nuts spring washers.	For fixing horn stool above the post insulators.	4 Nos
4.	Bolt size 5/6 dia 1.25" long with nuts and spring washers.	For fixing arcing horn on horn stool and clamping	16 Nos.
5.	Brass thumb screw (6mm dia. 30mm long) with Brass fly nut (30mm wing dia) flat washer (1mm thick, 20mm outer dia and internal dia. such as to accommodate the 6mm dia brass screw).	For fixing fuse wire on the arcing horn.	2 Nos.

## **5.0 POST INSULATORS:**

5.1 The 24 kV post insulators units shall be pedestal post type (conforming to IS-5350 Part-III and IS-2544). The insulators shall be constructed out of the best quality of material suitable for weather conditions prevailing in Rajasthan. The workmanship shall be of the highest grade and the entire manufacture shall be in accordance with the modern Engineering practices.

5.2 Where Porcelain Insulators are offered, the insulator shall be made of homogeneous and vitreous porcelain of high mechanical and dielectric strength. It shall have sufficient mechanical strength to sustain electrical and mechanical loading on account of wind load, short circuit forces etc. Glazing of the porcelain shall be of uniform brown or dark brown colour with a smooth surface arranged to shed away rain water. The porcelain shall be free from laminations and other flaws or imperfections that might affect the mechanical or dielectric quality. It shall be thoroughly vitrified, tough and impervious to moisture. The porcelain and metal parts shall be assembled in such a manner and with such material that any thermal differential expansion between the metal and porcelain parts throughout the range of temperature specified in this specification shall not loosen the parts or create undue internal stresses which may affect the mechanical or electrical strength or rigidity of the unit as a whole or stack of two units. The assembly shall not have excessive concentration of electrical stresses in any section or across leakage surfaces. Cement used in the construction of post insulators shall not cause fracture by expansion or loosening by construction and proper care

shall be taken to locate correctly the individual parts during cementing. The cement used shall not give rise to chemical reaction with metal fittings and its thickness shall be uniform. The insulator shall be suitable for water washing by rain or artificial means in service condition. Profile of the insulator shall also conform to the relevant IS.

5.3 Cap to be provided on top of the insulator shall be of malleable steel casting or of aluminum alloy. It shall be machine finished and hot dip galvanized in case of malleable steel casting. The cap of 24 kV Post Insulators shall have four numbers of tapped holes spaced on a pitch circle diameter of 76mm. The threads of the tapped holes in the post insulator metal fittings shall be cut after giving anti corrosion protection and shall be protected against rust by greasing or other similar means, all other threads shall be cut before giving anticorrosion protection and shall conform to IS:4218 or latest version thereof. The tapped holes shall be suitable for bolts with threads having anticorrosive protection. The effective depth of threads shall not be less than the nominal diameter of the bolt. The cap shall be so designed that it shall be free from visible corona.

5.4 The casting shall be free from blow holes, cracks and such other defects.

5.5 All the ferrous metal parts shall be given an anticorrosive finish and shall be hot dip galvanized smoothly as per IS:3638 (as amended upto date), IS:2633 or any other equivalent authoritative standard. The other parts shall be substantially non corrosive. The material shall be galvanized only after shop operations upon it have been completed. The metal parts before galvanizing should be thoroughly cleaned of any paint, grease, rust, scales or alkali or any foreign deposit which are likely to come in the way of galvanizing process. The coating on the metal parts shall withstand minimum four one minute dips in copper sulphate solution as per the relevant IEC/IS.

5.6 The insulator unit shall be assembled in a suitable jig to ensure correct positioning of the top and bottom metal fittings relative to one another. The faces of the metal fittings shall be parallel and at right angles to the axis of the insulator and the corresponding holes in the top and the bottom metal fittings shall be in a vertical plane containing the axis of the insulator.

5.7 It shall be the sole responsibility of the Supplier to carry out thorough inspection and quality checks on the insulators at the insulator supplier's works, before offering the insulators for Purchaser's inspection.

5.8 Two Nos. of 1 x 24 kV Post Insulator shall be provided on each pole of 11 kV Horn Gap Fuse set. (Total six Nos. of 1 x 24 kV Post Insulator for three phases (Poles) of one set of H.G.)

5.9 The porcelain and hardware surface coming in contact with cement shall be coated with bituminous paint for cushioning to relieve mechanical stress caused by temperature variation and cement expansion.



5.10 The post insulators shall conform to IS: 5350. The total creepage distance of 24 kV post insulator as individual unit shall be minimum 430 mm.

**5.11 Following makes of the Post Insulators shall be acceptable for the supply of Horn gap Fuse Set**

- i) M/s.Jaipur Glass & Potteries, Jaipur.
- ii) M/s.India Potteries, Kolkata.
- iii) M/s.Bikaner Ceramices, Bikaner.
- iv) M/s.CJI Porcelain, Khurja.
- v) M/s.Vishal Melleable, Ankeleshwar.
- vi) M/s.Allied Ceramices Pvt. Ltd., Kolkata.
- vii) M/s.WSI, Chennai.
- viii) M/s.IEC, Bhopal.
- ix) M/s.MIL, Allahabad.
- x) M/s.Jay Shree Insulators, Vadodara.
- xi) M/s.Birla NGK Insulators Pvt. Ltd., Halol.
- xii) M/s.MIL, Abu Road.
- xiii) M/s.Sarvana Insulators Ltd., Kurinji Padi, Dist Cuddalore, (Tamilnadu).
- xiv) M/s B.H.E.L.

**5.12 Besides above, the Post Insulators manufactured by the vendors approved by the Power Grid Corporation of India Ltd (PGCIL) and National Thermal Power Corporation (NTPC) shall also be acceptable.**

**6.0 TESTS:**

**6.1 TESTS BEFORE DESPATCH:**

The parts of H.G. Fuses i.e. Hardwares and post insulators shall be subject to under mentioned tests separately at respective manufacturer's works before dispatch as per relevant standards.

**INSULATORS:**

**A) Routine test**

- i) Visual examination
- ii) Routine electrical test
- iii) Routine mechanical test

**B) TYPE TESTS**

- i) Visual examination
- ii) Verification of dimensions
- iii) Visible discharge test
- iv) Impulse voltage withstand test.
- v) Dry power-frequency voltage withstand test.
- vi) Wet power frequency voltage withstand test.
- vii) Temperature cycle test.

- viii) Mechanical strength:
  - a) Bending Test
  - b) Torsion Test.
  - c) Tensile or compressive test.
- ix) Puncture test.
- x) Porosity test.
- xi) Galvanizing test.

C) Acceptance Tests:

- i) Verification of dimensions
- ii) Temperature cycle test
- iii) Mechanical strength test
- iv) Puncture test
- v) Porosity test
- vi) Galvanizing test

**TEST ON HORN GAP FUSE UNIT COMPLETE WITH INSULATORS AND HARDWARES**

A TYPE TEST (S):

- i) Visual examination
- ii) Dimensional checkup
- iii) Temperature rise test
- iv) Power frequency H.V. Test, with inter phase distance as 600 mm.( for 11 KV HG fuse set)
- v) Impulse test. with inter phase distance as 600 mm.( for 11 KV HG fuse set)

B ACCEPTANCE TESTS:

- i) Visual examination
- ii) Dimensional checkup
- iii) Temperature Rise Test  
On one sample per lot

**6.2 TEST ON BOUGHT OUT ITEMS:**

Tests are not required to be performed on small bought out parts like Nuts, Bolts & Washers etc. at the works of manufacturer. Furnishing of test certificates from original manufacturer(s) shall be deemed to be satisfactory evidence. Inspection of the tests at sub contractor's works will be arranged by the supplier when ever required.

**6.3 ACCEPTANCE & ROUTINE TESTS:**

6.3.1 All acceptance & routine tests as stipulated at clause No.6.1 shall be carried out in presence of purchaser's representative at manufacturer's works of Insulators and Hardwares separately before dispatch.

6.3.2 Immediately after finalization of the programme of type/acceptance, routine testing, the supplier shall give sufficient advance intimation to the purchaser to enable him to depute his representative for witnessing the tests.

The test samples after having withstood the routine tests shall be subjected to the following **Acceptance tests** in the order indicated below:

#### **On Insulators**

- i) Verification of dimensions as per approved drawing / ISS.
- ii) Temperature cycle test.
- iii) Mechanical strength test.
- iv) Puncture test.
- v) Porosity test
- vi) Galvanizing test

#### **On Hardwares of Horn Gap Fuse sets**

- i) Visual examination
- ii) Dimensional checkup
- iii) Temperature Rise Test (only on one unit per lot)

#### **Fitment of Horn gap Fuse hardwares with Insulator test**

One percent of insulators inspected shall be brought at the contractor works for checking of fitment with hardware.

6.3.3 For conducting acceptance tests on post insulators the number of post insulators or post insulators unit shall be selected as under:-

<b>Lot size</b>	<b>number of post insulators unit to be selected</b>
Upto 800	6
801 to 1300	8
1301 to 3200	10
3201 to 8000	14
8001 and above	20

6.3.4 10% samples will be selected from offered lot of complete Horn Gap Fuse sets Hardwares for conducting acceptance tests on the same except fitment test which shall be carried out on one percent of offered lot.

#### **7.00 TYPE TEST CERTIFICATE:**

- a) The bidder shall furnish valid and authenticated type test certificate from a Govt. approved/ a Govt. recognized/ NABL accredited laboratory/ ILAC i.e. International Laboratory Accredited laboratory / ILAC i.e International Laboratory

Accreditation Cooperation ( In case of foreign laboratory) of similar rating and design. Such type test certificates should not be older than Five years as on the date of bid opening. For this purpose date of conducting type tests will be considered.

b) The type test certificates by inhouse laboratory of tendering firm even if it is a Govt approved/ Govt recognized/ NABL accredited/ ILAC accredited, shall not be accepted, in case of their own tender. This will not apply if tendering firm is Govt. Company/ Public Sector Undertaking.

c) The bidder should furnish documentary evidence in support of the laboratory whose type test have been furnished, that the said laboratory is a Govt/ a Govt. approved/ a Govt. recognized/ NABL accredited laboratory/ ILAC accredited ( in case of foreign laboratory)

d) The type test certificates shall be furnished either in original or duly attested by notary.

e) The bids of only those bidders shall be considered to be meeting the type test criteria who furnishes complete type test certificates with the bid as per above provision.

f) However, in the following cases the bid of the bidder may be considered meeting the type test criteria if the bidder furnishes an undertaking stating that valid type test certificates from a Govt. approved/ a Govt. recognized/ NABL accredited laboratory/ ILAC accredited shall be furnished from first lot (without asking for any delivery extension) along with Bank Guarantee, with the technical bid from a Nationalized/ Scheduled Bank in prescribed proforma at Schedule-III C or DD/ Pay order amounting Rs. 5,00,000/- (Five Lacs Only). The initial validity of BG shall be 9 months with claim period of 3 months in addition

- i) Where a new Rajasthan based firm is participating & technically competent.
- ii) Where one or more type test(s) is/ are older than 5 years.
- iii) Where Rajasthan / Outside Rajasthan firm furnishes requisite type test reports of higher rating material

However, the purchaser reserves the right to demand repetition of some or all the type tests in presence of purchaser's representative. For this purpose, the tenderer should indicate unit rate for carrying out such type tests. These test charges shall not be taken into consideration for bid evaluation.

During type tests the disconnector shall be mounted on its own support structure or equivalent support structure and installed with its own operating mechanism to make the type tests representative.

**8.0 TYPE TEST ON SAMPLES SELECTED FROM MATERIAL RECEIVED IN STORES FROM 1<sup>st</sup> OFFERED LOT ( Applicable to Successful bidders who have not furnished valid type test certificate but furnished BG in lieu of Type Test )**

The first lot offered shall not be less than 10 % of the ordered qty.

One sample of each type of Horn Gap Fuse sets from the 1st Lot received in purchaser's store shall be selected and sealed for getting it type tested at any Govt. approved/ Govt. recognized/ NABL accredited laboratory/ ILAC i.e. International Laboratory Accredited laboratory / ILAC i.e International Laboratory Accrediation Cooperation ( In case of foreign laboratory). The transportation charges of sample(s) from store to test house shall be borne by NIGAM, whereas the charges incurred towards type test of the material at test house shall be borne by the Supplier. The testing charges should be remitted through D.D. in favour the Test House by the supplier with the 1st inspection offer. The name of test house shall be intimated to successful bidder after issue of Purchase order.

At the option of the purchaser, the material received in the stores may be utilized in the field after receipt of successful test reports from CTL, Jodhpur for the mandatory test checking on the samples selected from the material received at stores against first lot and subsequent lot(s) in anticipation of successful type test report(s).

**The bidder shall have to deposit type test charge(s) immediately with the supply of 1<sup>st</sup> lot . If the type test charge(s) are not deposited then acceptance of 2<sup>nd</sup> offered lot shall be at the discretion of purchaser.**

A) In case sample(s) from first lot fails in type tests then:

**i) Supplier shall have to replace the full quantity of the respective inspected lot supplied to various stores which is lying unused.**

ii) For the quantity already utilized against the order in field, a deduction of 30% (thirty percent) of F.O.R. destination price of the material supplied shall be made.

**iii) Sample(s) from next lot shall be selected again for type test. All test charges incurred towards type test of the material for second time shall be borne by the Supplier for which the testing charges should be remitted through D.D. in favour of the Test House by the supplier with the 2nd inspection offer.**

B) In case sample again fails in the type test then:

**i) The quantity supplied/received in stores and lying unused in stores shall stand rejected and shall be lifted back by the supplier.**

ii) For the quantity already utilized against the order in field, a deduction of 30% (thirty percent) of F.O.R. destination price of the material supplied shall be made.

**iii) Further supplies shall not be accepted and order shall stand cancelled.**

**The various type tests as per relevant standards shall be conducted on each type of Horn gap.**

#### **9.0 INSPECTION:**

All the tests (as mentioned at Clause 6.4) and Inspection shall be made at the place of manufacturer unless otherwise especially agreed upon by the bidder and purchaser at the time of purchase. The bidder shall afford the inspection officer(s) representing the purchaser all reasonable facilities without charges, to satisfy him that the material is being supplied in accordance with this specification. The purchaser has the right to have the tests carried out at his own cost by an independent agency whenever there is a dispute regarding the quality of supply.

The Inspection may be carried out by the purchaser at any stage of manufacture/ before dispatch as per relevant standard.

Inspection and acceptance of any material under the specification by the purchaser, shall not relieve the bidder of his obligation of supplying material in accordance with the specification and shall not prevent subsequent rejection if the material is found to be defective. The Bidder shall keep the purchaser informed in advance, about manufacturing programme so that arrangements can be made for inspection.

The purchaser reserves the right to insist for witnessing the acceptance/ routine testing of the bought out items.

The Bidder shall give 15 days advance intimation to enable the purchaser to depute his representative for witnessing the acceptance and routine tests.

The inspection charges (Inspectors traveling, boarding & lodging) would be to the purchaser's account.

#### **Calibration Certificates:**

The supplier shall present the latest calibration certificate(s) of testing instruments / equipments to be used for the testing of the materials covered in the purchase order to the authorized inspecting officer/ inspecting agency of the purchaser. The testing instruments / meters/ apparatus etc. should be got calibrated by the supplier from time to time from independent laboratory accredited from NABL or the manufacturer of the testing instruments having traceability to NPL or NABL accredited laboratory. The calibration certificates should not in any case be older than one year at the time of presenting the same to the inspecting officer/ inspecting agency of the purchaser. The testing instruments / equipments should be duly sealed by the calibrating agency and mention thereof shall be indicated in the calibration certificates(s).

#### **10.0 QUALITY ASSURANCE PLAN:**

10.1 The Bidder shall invariably furnish following information along with his offer, failing which his offer shall be liable for rejection. Information shall be separately given for Horn Gap fuses hardware unit and post insulators.

- i) Statement giving list of important raw materials.
- ii) Names of sub suppliers for the raw materials, list of standards according to which the raw materials are tested, list of tests normally carried out on raw materials in presence of Supplier's representative, and copies of test certificates.
- iii) Information and copies of test certificates as in (i) and (ii) above in respect of bought out accessories.
- iv) List of manufacturing facilities available.
- v) Level of automation achieved and list of areas where manual processing still exists.
- vi) List of areas in manufacturing process, where stage inspections are normally carried out for quality control and details of such tests and inspections.
- vii) List of testing equipments available with Bidder for final testing of equipment and test plant limitation if any, vis-a-vis the type, special, acceptance and routine tests specified in the relevant standards. These limitations shall be very clearly brought out in the specified test requirements.

10.2 The Supplier shall, within 30 days of placement of order shall submit following information to the Purchaser.

- i) List of raw materials as well as bought out accessories and the names of sub-suppliers selected from the lists furnished along with offer.
- ii) Type test certificates of the raw materials and bought out accessories.
- iii) Quality Assurance Plan (QAP) with hold points for Purchaser's inspection. The quality assurance plan and hold points shall be discussed between the Purchaser and Supplier before the QAP is finalized.

10.3 The supplier shall submit the routine test certificates of bought out accessories and central excise passes for raw materials at the time of routine testing.

## **11.0 DRAWING:**

11.1 The one set of following drawings/documents of the equipment covered by this specification shall be furnished by the Bidder along with their offer:-

- i) Outline dimensional drawings of Horn Gap Fuse Set with insulator and list mentioning bill of material with complete details regarding metal hardware fittings.

- ii) Assembly drawings showing complete details of all parts and separating mechanism and mass of main component part.
- iii) Drawings showing dimension of upper and lower metal parts along with PCD of post insulator.
- iv) Descriptive literature and manufacturing data on insulator shall be furnished.
- v) Type test reports (as per Clause 6.2 of Section-VII).
- vi) Test reports, literature, pamphlets of the bought out items and raw materials.
- vii) Detailed views of the insulator stacks & metallic and hardware unit.

11.2 The Supplier shall within 2 weeks of placement of order shall submit 3 sets of final versions of all the above said drawings along with bill of material, as per bidding documents, for purchaser's approval. The purchaser shall communicate his comments / approval on the drawing(s) to the supplier within two weeks. The supplier shall, if necessary, modify the drawings and resubmit 3 copies of the modified drawings within two weeks for purchaser's approval. The delay in submission of the modified drawings (if called for) complete in all respect and in acceptable form beyond two weeks time (as stated above), shall be on supplier's account.

11.3 The manufacturing of the equipment shall be strictly in accordance with the approved drawings and no deviation shall be permitted without the written approval of the Purchaser. All manufacturing and fabrication work in connection with the equipment prior to the approval of the drawing shall be at the Supplier's risk.

11.4 Approval of drawings/work by Purchaser shall not relieve the Supplier of his responsibility and liability for ensuring correctness and correct interpretation of the latest revision of applicable standards, rules and codes of practices.

## **12.0 PACKING AND FORWARDING:**

12.1 Each Horn Gap Fuse Set Hardwares shall be legibly and indelibly marked to show the following:

- a) Name or trade mark of manufacturer.

The Post Insulators shall be legibly and indelibly marked to show the following :

- a) Name or trade mark of manufacturer.
- b) Month and year of manufacture.

Such marking on porcelain shall be printed, not embossed and shall be applied before firing.

12.2 The Horn Gap Fuse sets (hardwares) shall be suitably packed in double gunny bags worthy of rail/ road transport. The supplies shall have to insert in each case / bag packing list giving item wise details of articles in the packing as mentioned in the list. The post insulators shall be packed in crates suitable for vertical/ horizontal transport as the case may be and suitable to withstand handling during transport and outdoor storage during transit. The Supplier shall be responsible for any damage to the equipment during transit due to improper and inadequate packing. The easily damageable material shall be carefully packed and marked with the appropriate caution symbols.



Wherever necessary, proper arrangement for lifting, such as lifting hooks etc., shall be provided. Any material found short inside the packing cases shall be supplied by Supplier without any extra cost.

The inspected lot of Post Insulators should be directly delivered / dispatched from their (manufacturer's) works to consignee's stores.

12.3 Each consignment shall be accompanied by a detailed packing list containing the following information:

- a) Name of the consignee.
- b) Details of consignment.
- c) Destination.
- d) Total weight of consignment.
- e) Handling and unpacking instructions.
- f) Bill of material indicating contents of each package.

### **13.0 QUANTITY AND DELIVERY REQUIREMENTS:**

The scope of supply shall include a supply of 1% extra quantity of bolts, nuts, washers, and such other small loose items free of cost.

### **14.0 DELIVERY SCHEDULE**

The delivery of quoted quantity should be completed in **Six months** period including commencement period of maximum 30 days. In case ordered quantity is different than quoted quantity, then monthly delivery shall be adjusted proportionately. Tenders in which monthly delivery schedule is not indicated shall be ignored.

The tenderers are required to indicate the delivery schedule in the schedule attached with the Specification.

### **15.0 TEST CHECKING OF MATERIAL AT STORES:**

The material received in the stores of the NIGAM shall be subjected to the test checking at stores before final acceptance of the material, the procedure for the same shall be as under:

#### **15.1 SAMPLING**

One sample out of each sub lot/ lot of 100 sets for 11 KV Horn Gap fuse sets or part thereof from each inspected lot received in stores shall be selected from each store for test checking of material and shall be got tested. The selection of sample from the material received at stores shall be done as soon as material is received in stores without the presence of the representative of the supplier. However, testing of sample(s) at CTL or elsewhere as arranged by JDVVNL shall be carried out in the presence of representative of the supplier after identification / confirmation by him that sample so selected belongs to them.

**15.1 (a) one extra sample of 24 KV post insulator for conducting Puncture test.**

At present since the facility for Puncture test is not available at Ajmer and Jodhpur Discom as such till such time this facility is made available, Puncture test on the samples selected from the supply received at stores of Ajmer & Jodhpur Discom shall be carried out at CTL, Jaipur. All other test(s) (on the first sample) shall be carried out at the respective CTL's of Discoms as per the practice in vogue.

**15.2 TESTS**

The following tests shall be carried out on the above items:

- a) Visual examination, verification of dimensions, weight and marking as per PO/ GTP / approved drawing.
- b) Post Insulators :
  - i) Mechanical strength test.
  - ii) Porosity Test
  - iii) Puncture Test
- c) All galvanized parts. - Uniformity of galvanization test.

Testing of the material shall be got done at the test laboratory of the Nigam i.e. at CTL in the presence of the representative of the supplier. Only those tests shall be conducted at CTL for which facility with CTL is available. Except mentioned at close no. 15.1(a).

i) For witnessing of the testing, clear 7 days notice shall be given to the supplier stating date, time & place where the test is to be conducted. The testing shall be started after identification / confirmation of sample by the representative of the supplier that sample selected for testing pertain from the lot supplied by them. In case the supplier does not attend for witnessing the testing, the testing shall be proceeded and completed and action be taken as per the contract.

ii) The CTL shall send copies of test reports to the purchaser, consignees and the supplier.

**15.3 CRITERIA FOR ACCEPTANCE**

In case of failure of any of sample (s) in any of the above tests, the material contained in the lot / sub-lot received in store to which the samples belong, shall be rejected. The rejected material shall have to be replaced by the supplier free of cost.

**15.4 TEST CHARGES:**

All test charges incurred towards test checking of the material received in our stores shall be borne by the NIGAM except that of personal expenses of the representative of the supplier for witnessing the tests.

**16.0 PAYMENT:**

The Payment shall be governed in accordance with the clause No. 1.42 of GCC with the following modifications:-

**A) If bidder have submitted valid type test reports with bid:**

The 100% payment shall be released after receipt of successful test reports from CTL for the mandatory test checking on the samples selected from the material received at stores against first lot and subsequent lot(s) in anticipation of successful type test reports.

**B) If bidder have not submitted valid type test reports with bid:**

- i) The 70% payment shall be released after receipt of successful test reports from CTL for the mandatory test checking on the samples selected from the material received at stores against first lot and subsequent lot(s) in anticipation of successful type test reports.
- ii) The balance 30% payment shall be released after receipt of successful type test reports on the samples selected from the material received in the stores.

C) The due dates for payment shall be considered from the date of submission of the bills along with receipted challans to Sr. Accounts Officer (CPC) of respective Discoms.

**17.0 PRICE & PRICE VARIATION:**

- a) The prices shall be quoted in Rs. per unit on F.O.R. destination basis in the manner detailed in schedule of Prices(Schedule-IV) indicating details of ex-works price, Excise Duty, Sales tax / VAT, freight & Insurance charges and Entry Tax, etc. for delivery at our stores.
- b) The quoted price shall be variable as per Price Variation formula given in this specification at Schedule-II without any ceiling. The base date of price variation shall be **1.01.2017** and shall be governed as per clause No.1.10. of Instructions to bidders. The offers in which prices have not been quoted in prescribed manner are liable to rejection.
- c) If the price variation formula is changed, the same shall be applicable for the price variation. During the transit period when both old and new indices are being circulated, then the admissible Price Variation shall be applicable, which is advantageous to Nigam, and the period from which the old indices are discontinued then the P.V. shall be admissible with the new indices.

**18.0 Quantity tolerance:**

Quantity tolerance of plus minus 2% of ordered quantity shall be allowed for completion of supply.

**19.0 The tenderers are required to provide one extra 24 KV Post Insulator with per set.**

**SCHEDULE-I****SCHEDULE OF REQUIREMENT**

The quantity to be purchase is as under:

<u>PARTICULARS OF ITEM</u>	<u>QUANTITY (sets)</u>
11 KV HORN GAP FUSE SETS WITH 1X24 KV POST INSULATORS (UN-ASSEMBLED)	5005

The quantity indicated above is provisional and the purchaser reserves the right of revising the same at the time of placing the order.

**Note: - The tenderers are required to provide one extra 24 KV Post Insulator with per set as spare.**

**SCHEDULE-II A****PRICE VARIATION CLAUSE FOR HARDWARE PARTS**  
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The price quoted/confirmed is based on the input cost of raw material / components and labour cost as on the date of quotation and the same is deemed to be related to prices of raw material and all India Average consumer price index number for industrial workers as specified in the price variation clause given below.

$$P1 = Po (0.11 + 0.66 (SB1/ SB0) + 0.23 (L1/L0))$$

where:

**P1= Ex-works price payable as adjusted in accordance to above formula**

**Po= Ex-works price quoted/confirmed**

**SB1= Price of steel Billets-Retail (as published by IEEMA), prevailing as on first working day of the month, one month prior to the date of delivery.**

**SB0= Price of steel Billets-Retail (as published by IEEMA), prevailing as on first working day of the month, one month prior to the date of tender opening.**

**L1= All India Average consumer price index No. for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (base 2001= 100). This index number is as applicable on the first working day of the month, 4 months prior to the date of delivery.**

**Lo= All India Average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India(base 2001= 100). This index number is as applicable on the first working day of the month, 3 months prior to the date of tender opening.**

The base date of price variation shall be **1.01.2017**, and shall be governed as per clause No.1.10. of Instructions to bidders.

## SCHEDULE-II B

IEEMA/PVC/INSL/2003

Effective from: 1st April, 03

PRICE VARIATION CLAUSE FOR INSULATORS  
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The price quoted/confirmed is based on the cost of raw materials /components and labour cost as on the date of quotation and the same is deemed to be related to prices of raw materials, index number for insulators and all India average consumer price index number for industrial workers as specified below. In case of any variation in these prices and Index numbers, the prices shall be subject to adjustment, up or down, in accordance with the following formula.

$$P = \frac{Po}{100} (15 + 5 \frac{Zn}{Zno} + 53 \frac{IN-INSLR}{Ino\_INSLR} + 27 \frac{W}{Wo})$$

Wherein

P = Price payable as adjusted in accordance with the above formula.

Po = Price quoted/confirmed.

Zno = Price of electrolytic high grade zinc(refer notes).

Ino-INSLR = Index number for insulators based on relative prices and weightage (as given in brackets) of wholesale price index for fuel, power, light & lubricants (28), whole sale price index for basic metals, alloys & metal products (15), wholesale price index for wood & wood products(6) and Ball clay (4), calculated considering their values as on 1st January, 2003 as base equal to 100 (Refer Notes).

Wo = All India average consumer price index number for industrial workers (Base 2001=100) as published by the Labour Bureau, Ministry of Labour, Government of India.

NOTE: - The above and indices are as published by IEEMA vide circular reference N o. IEEMA/(PVC) INSLR --/-- of the month of **Jan'2017**

Zn = Price for electrolytic high grade zinc (refer notes). This price is as applicable on the first working day of the month , two months prior to the date of delivery.

IN - INSLR = Index number for insulators based on relative prices and weightages (as given in brackets) of whole-sale price index for fuel power, light and lubricants (28) wholesale price index for basic metals, alloys & metal products (15), wholesale price index for ball clay (4), wholesale price index for wood and wood products (6), calculated considering their values as on 1st January 2003 as base equal to 100

(Refer Notes). This index number is as applicable on the first working day of the month, two months prior to the date of delivery.

W = All India average consumer price index number for industrial workers (base 2001 = 100), as published by Labour Bureau, Ministry of Labour, Govt. of India. This index number is as applicable on the first working day of the month, four months prior to the date of delivery.

**BASE DATE: - 1.01.2017**

The "date of delivery" (i.e. date of readiness of material) is to be considered as per clause no. 1.10 of Section-I (Instructions to bidders)

**NOTES:**

a) All prices of raw material considered for arriving at the index number for insulators are exclusive of Modvatable excise duty and exclusive of any other central, state or local taxes, octroi etc.

b) All prices as on 1st working day of calendar month.

c) The details of the prices considered are as under :

1) The prices of electrolytic high grade Zn (in Rs. /MT) is ex-works price as quoted by primary producer of Zn.

2) The prices of ball clay (in Rs./Kg) is the average price of "N-1" type ball clay as quoted by the two manufacturer.

3) The wholesale price index for fuel, power, light & lubricants, basic metals, alloys and metal products and wood and wood products are as published by the office of the Economic Advisor, Ministry of Industry, Govt. of India, New Delhi with base 1993-94=100. These wholesale price indices are being published weekly on provisional basis. However, the same get finalized after eight weeks and are normally available after two months. Therefore, we are considering in our calculations these final indices published by Economical Advisor for the Saturday of the Month, two month prior to the date of which the price of ball clay and Zn is considered. For example for calculating index number for insulators on 1st working day of month of Oct., the basic price of Zn and ball clay are to be considered as on 1st working day of Oct., and the wholesale price indices for fuel, power, light and lubricant, basic metal, alloy and metal products and wood and wood products are to be considered as published by economic adviser for the first week ending Saturday of the month of August.

## Schedule – III



JODHPUR VIDYUT VITRAN NIGAM LIMITED

A Govt. of Rajasthan Undertaking  
Prescribed technical specification for supply of**(Name of Material/Equipment/Machinery/T&P etc.)**

Unless otherwise specified elsewhere in this specification, the rating as well as performance and testing of the Horn gap shall conform to the latest revisions and amendments of the following standards available at the time of placement of order.

S.No.	Technical Specification to which Material shall confirm	Name of IS/standard	other particulars
1.	Recommended practice for hot dip galvanizing of iron and steel	IS: 2629	
2.	Method of testing uniformity of coating on zinc coated articles	IS: 2633	
3.	Specification for porcelain post insulators for systems with nominal voltages greater than 1000 Volts	IS: 2544	
4.	ISO General purpose metric screw Threads	IS: 4218	
5.	Dimensions of indoor and outdoor porcelain post insulators and post insulator units for systems with nominal voltages greater than 1000Volts	IS: 5350	
6.	Expulsion high voltage fuses for above 1000 Volts.	IS: 9385	

Certified that we agree to all the aforesaid technical specification except at S.No..... for which our technical specification shall be as under:-

S.No.	Technical Specification to which Material shall confirm	Name of IS/standard	other particulars
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(Signature)  
Name & Designation  
with seal of the bidder.



**SCHEDULE-III (A)****TN-1310****ITEM: 11 KV Horn Gap Fuse Sets with 1X24 KV Post Insulators****PRE-QUALIFICATION REQUIREMENT**

The bidder should fulfill following qualification requirements for successful participating in the bid along with relevant documentary evidence supporting each qualifying requirement without which the offer shall be considered non responsive & rejected.

**1.0 Status of bidder:**

a) The bidder should be manufacturer of offered item. The offers from authorized dealer/ sole selling agent/sole distributor shall not be entertained.

b) Old / new Suppliers:- Any bidder located within or outside the state of Rajasthan has participated for the first time in a particular Discom & meeting minimum qualification requirement and has supplied the tendered material/or of higher rating in other utility shall be treated as an old supplier. Rajasthan's firms although supplied in past but not meeting minimum quantity supplied criterion including altogether new units which have not supplied any quantity but having adequate & required manufacturing and testing facility and technical know-how of the tendered material shall be considered as new firms and would be eligible for trial order only. In case of supply made to the licensed power utility outside India, the C.A. certificate furnished by firm shall be considered.

**2.0 Past supply and performance criteria:**

The bidder shall meet both past supply and performance criteria as detailed below for opening of bids.

**2.01) PAST SUPPLY**

2.01.1 The bidder is required to quote for minimum 10% of tendered quantity failing which their offer may be considered Non-Responsive.

2.01.2 The bidder should have designed, manufactured / fabricated, tested and supplied to utility / Discoms / Govt. Departments at least 2 X QQ (QQ being the quoted quantity) of similar item / higher rating of tendered material / equipment in last 3 financial years from the date of opening of technical-commercial bid.

Note: Requirement of quantity manufactured, minimum quantity to be offered and amount of Bank Guarantee to be furnished in absence of test certificate shall be reduced to 25% for Rajasthan based units.

2.01.3 In support of fulfillment of the past supply criteria, the bidder shall furnish documentary evidence in the form of certificate from Chartered Accountant in the enclosed prescribed proforma only. This prescribed proforma should be furnished either in original or copy duly attested by Notary. The bidder shall also sign and affix seal on the C.A. Certificate. The certificate should have membership number with the name & address of the chartered accountant. Certificate should clearly indicate the quantity supplied, period of supply, voltage Class, Rating of the Transformer etc. in the format prescribed, any deviation to format or information diverted format, will not be considered and rejected.

Note:-The material supplied and accepted for same/higher rating for Turnkey projects to a licensed power utility/Govt. shall be considered for the purpose of evaluating criteria. The certificate given by C.A. shall indicate above quantity separately.

### **3. PERFORMANCE CRITERIA**

(i) If a bidder could supply upto 50% of ordered quantity in previous bid upto date of opening of subsequent bid and scheduled delivery period expired, the bid of such bidder will not be opened in the Discom for that item.

(ii) However, if the supplies have been completed for a quantity more than 50% but not completed upto date of opening of subsequent bid and scheduled delivery period expired, then quantity equal to the quantity pending in previous bid for that item shall be reduced from the subsequent bid quantity to be allocated to the bidder.

### **4. TYPE TEST CRITERIA**

a) The bidder shall furnish valid and authenticated type test certificate from a Govt. approved/ a Govt. recognized/ NABL accredited laboratory/ ILAC i.e. International Laboratory Accredited laboratory / ILAC i.e International Laboratory Accreditation Corporation ( In case of foreign laboratory) of similar rating and design of tendered material. The bid of the bidders be also considered for meeting the Type Test criterion if the bidder have the requisite type test conducted successfully on the samples selected from the 1st Lot supplied to JdVVNL against previous tenders and its report are available with the Nigam & furnish certified copy of such Type Test Reports with the bid or reference of order / tender be mentioned in Bid document for verification purpose . Such type test certificates should not be older than five years as on the date of bid opening. For this purpose date of conducting type tests will be considered.

b) The type test certificates by in house laboratory of bidding firm even if it is a Govt approved/ Govt recognized/ NABL accredited Laboratory / ILAC accredited, shall not be accepted, in case of their own bid. This will not apply if bidding firm is Govt. Company/ Public Sector Undertaking.

c) The bidder should furnish documentary evidence in support of the laboratory whose type test have been furnished, that the said laboratory is a Govt. / a Govt. approved / a Govt. recognized / NABL accredited laboratory / ILAC accredited (in case of foreign laboratory).

d) The type test certificates shall be furnished either in original or duly attested by notary.

e) The bids of only those bidders shall be considered to be meeting the type test criteria who furnishes complete type test certificates with the bid as per above provision.

f) However, in following cases the Bidder is not in a position to furnish Type Test Certificate as mentioned above, the bid of the bidder may be considered meeting the type test criteria if the bidder furnishes an undertaking stating that valid type test certificate from a Govt. approved / Govt. recognized / NABL Accredited laboratory / ILAC Accredited laboratory shall be furnished from first lot received in Nigam store (without asking any delivery extension) along with bank guarantee with the technical bid from a Nationalized / Scheduled Bank in prescribed proforma at Schedule-III C or DD / Pay Order amounting to Rs. **5,00,000/- (Five Lacs Only)** on non judicial stamp of Rs. 0.25% of BG or Rs 25000 whichever is lower. The initial validity of bank guarantee shall be nine months with claim period of three months in addition

i) Where a new Rajasthan based firm is participating & is technically competent.

ii) Where one or more type test(s) is/ are older than 5 years.

iii) Where Rajasthan/out side Rajasthan firm furnishes requisite type test report of higher rating material.

## 5. POOR RECORD OF PERFORMANCE AND DELIVERY

The bidders who have been black listed or with whom business relations have been severed in any of the State Discom shall not be considered. Severment of business relations will be done in case of following circumstances for the period and with the recovery mentioned against each.

When vendor does not accept order awarded on its accepted prices and terms and conditions and does not comply with contractual formalities	Forfeiture of EMD/cancellation of vendor registration to recover amount of EMD along with severment of business relations for three years from the date of issue of order.
When vendor complies with contractual formalities but does not commence supplies	Levy of maximum recovery on account of delay in delivery along with severment of relation for a period of two years from the date of issue of order or in next two bids whichever is later along with forfeiture of EMD/cancellation of vendor registration.

## 6. BLACK LISTING

After having given Show Cause Notice of 30 days, and having established & cogent reasons for blacklisting of the firm as given below, the firm should immediately be blacklisted for a period of 5 years indicating reasons of doing so, in the letter itself, and a copy of such blacklisting should be given to the firm, with the approval of CLPC:-

(i) There are sufficient and strong reasons to believe that the supplier or his employee has been guilty of malpractices such as manhandling/misbehavior with Government official by supplier or his partner/employee, bribery, corruption or abatement of such an offence in a position where he could corrupt Nigam's official, fraud, vitiating fair tender process including substitution of or interpolation in tender, mis-representation, pilfer-aging or unauthorized use or disposal of Nigam's material issued for specific work etc.

(ii) Where a supplier or his partner or his representative has been convicted by a court of Law for offences involving moral turpitude in relation to the business dealing or where security considerations including suspected disloyalty to the Nigam/state so warrant the blacklisting.

(iii) If the State Bureau of Investigation or any other authorized investigating agency recommends for blacklisting after completing the investigation.

Note: - 1 If a supplier after having tendered for a supply or after negotiations gives application voluntarily vitiating the fair tendering process, it shall also tantamount to malpractice.

Note: - 2 A register containing the reasons for blacklisting the supplier as also the names of all the partner of the suppliers and the allied concerns coming within the effective influence of the blacklisted supplier will be maintained.

Note: - 3 A register of black listed supplier will be maintained which will not only include suppliers enlisted with the Enlisting Authority but also black listed suppliers in Nigam.

Note :- 4 A Black listed supplier (i) shall not be entitled for registration in any of the Discom (ii) shall not be awarded any supply order in future in any Discom during the notified period.(iii) his registration if any shall stand cancelled immediately and his registration security /EMD/S.D. shall stand forfeited. (iv) In case of blacklisting of the firm by any one of Discom for the cogent prescribed reason(s) as stipulated above, the same shall be applicable to all the three Discoms and as a consequence of blacklisting, all the pending orders to that firm, will be cancelled in all three (3) Discoms with immediate effect. However in respect of completed/executed contract G.P. obligations as well as other liabilities shall be fulfilled by the supplier.

**(B) Severment of Business relation:**

(a) After having given Show Cause Notice of 30 days, and having established & cogent reasons for Severment of business relation as given below, the firm should immediately be severed the business relations for a period of 2 to 3 years indicating reasons of doing so, in the letter itself, and a copy of such severment should be given to the firm, with the approval of CLPC:-

(i) The supplier continuously refuses to pay Nigam dues without showing adequate reasons and where the purchasing authority is satisfied that no reasonable dispute attracting reference to Settlement Committee or Court of Law exists for the supplier's action of non-supply.

(ii) When vendor does not accept LOI/detailed purchase order awarded on its accepted prices and terms & conditions or does not comply with the contractual formalities.

(iii) When vendor/supplier who otherwise completed contractual formalities but does not commence supplies on the date of opening of technical bid of the fresh tender/completion of schedule delivery period whichever is later.

Note-1-In case supplier does not deposit outstanding dues towards Nigam, even after completion of severment period, the period of severment will continue.

2. Severment done purely/ mainly on account of non-deposition of dues against the supplier/vendor/contractor could be lifted by CLPC, if the dues are deposited prior to the expiry of such severment period.

3. Severment done by one Discom for non-supply of material and /or corresponding non-recovery of dues will not be effective in other Discoms except in respect of common purchase cases of three Discom.

4. On severment of business, the EMD/SD/vendor registration security will be forfeited.

5. The orders in execution satisfactorily will not be cancelled other than the order on which severment have been done.

**(C) DEBARMENT**

Reasons on which Debarment can be made:-

(i) The competent authority may debar the supplier on account of his performance or other disabilities, if it is no longer considered fit to remain under vendor registration as per his obligation under vendor registration.

(ii) If at any subsequent stage of inspection of firms after award of contract, it is found that firm does not have sufficient tech. staff or required/necessary technical equipments, the purchasing authority can debar the firm for one year

or next tenders whichever is later. The debarment will be lifted only on re-inspection of firm's works; the defects noticed earlier are fully rectified to the satisfaction of Nigam.

(iii) When contract agreement executed and supplies commenced but could supply only up to 50% of ordered quantity and scheduled delivery period expired, then the firm can be debarred for one year or next tender whichever is later in that Discom only for that particular item/rating/ capacity/size etc.

(iv) The suppliers who have been awarded contract for supply of material is not adhering to the periodic delivery schedule, the contract awarding authority reserve the right to terminate the contract and may debar the firm in participating in tender for a period of 2 to 3 years.

Note:-1. On debarment, the EMD/ SD/Vendor Registration security shall be forfeited.

Note:-. 2. If the firm is debarred in one Discom for any reasons then the same should not be applicable in other Discom subject to exception that in case of common Discoms purchases such debarment of a firm would be applicable to all three Discoms for that particular item and rating/capacity/size etc.

## **6.0 APPEALS AND APPLICATIONS:-**

Appeal against the order of blacklisting, severment and debarment can be filed before BOD within a period of 3 months from the date of intimation. The letter of appeal will be addressed to the order placing authority. Who will process the case for placing the matter in B.O.D. with in a period 60 days. The BOD may reduce or waive the penalty, if sufficient reasons/supporting documents are furnished by the supplier.

### **GENERAL CONDITIONS : - (ALL CONDITIONS BE DULY SIGNED & SEALED)**

The bidder shall clearly indicate the deviations such as 'Technical Deviation & Commercial Deviations' in the prescribed proforma only. The deviations indicated elsewhere in the bid shall not be accepted.

The bidder must clearly fill up each and every particular of guaranteed technical particulars annexed with Technical Specifications otherwise he will be responsible for Technical Non-responsiveness.

All documents required in the prescribed format are to be furnished along with the bid itself only except an attested copy of BIS license (wherever it is required), failing which the bid will be summarily rejected.

However, a copy of BIS License may be submitted by the bidder up to the official working hours of one working day prior to the schedule / notified date of opening of price bid.

**Schedule-III-B**

**BANK GUARANTEE IN LIEU OF FURNISHING OF TYPE TEST CERTIFICATE**

**(On Rajasthan Non-Judicial Stamp Paper worth Rs... 0.25% Of BG or Rs 25000 whichever is lower)**

To,

**The Superintending Engineer (MM&C),  
Jodhpur Vidyut Vitran Nigam Limited,  
New Power House,  
Jodhpur.**

Dear Sir,

Whereas Jodhpur Vidyut Vitran Nigam Limited, Jodhpur (hereinafter called the Purchaser) has issued a tender enquiry under TN-1310 for procurement of \_\_\_\_\_(name of material).

Whereas M/s \_\_\_\_\_(hereinafter called the bidder) has furnished a bid for supply of \_\_\_\_\_to the Superintending Engineer(MM&C), Jodhpur Vidyut Vitran Nigam Limited.

Whereas in accordance with the provision of the specification of the aforesaid TN\_\_\_\_\_, the bidder can deposit a bank guarantee in lieu of the requirement of furnishing the type test certificates.

Whereas M/s\_\_\_\_\_(the bidder) have requested us (Name of the Bank) to furnish the bank guarantee, in lieu of the type test certificate, for an amount equivalent to Rs.\_\_\_\_\_(in words also) only.

Under this Bank Guarantee, we (Name of the Bank) hereby undertake unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to the purchaser on his first demand without whatsoever right of objection on our part and without his first claim to the bidder, in the amount not exceeding (amount of guarantee in figures and words).

Payment pursuant to this undertaking will be demanded by the purchaser from the Bank and will be met by the Bank without question in the case in which the bidder, on receipt of the order and/or after the acceptance of this tender, makes default in furnishing the required type test certificates as to whether the occasion or ground has arisen for such demand the decision of the Superintending Engineer (MM&C.), Jodhpur Vidyut Vitran Nigam Limited shall be final.

The liability of the Bank shall not at any time exceed Rs.\_\_\_\_\_(Rupees\_\_\_\_\_).

The undertaking will be determined on but will not withstanding such determination, continue to be in force till the expiry of 3 months from that date.

No indulgence or grant of time by the purchaser to the bidder without the acknowledgement of the Bank will discharge the liabilities of the Bank under this guarantee.

The guarantee herein contained shall not be affected by any change in the constitution of the bidder.

All disputes arising under the said guarantee between the Bank and the bidder or between the bidder and the purchaser pertaining to the guarantee shall be subject to the jurisdiction of Courts only at JODHPUR in Rajasthan.

The Bank further undertake not to revoke this guarantee during its currency except with the previous consent of the Superintending Engineer (MM&C), Jodhpur Vidyut Vitran Nigam Limited, Jodhpur.

Notwithstanding anything contained herein before, the Bank's liability under this guarantee i.e. restricted to Rs.\_\_\_\_\_ (Rupees\_\_\_\_\_ ) and the guarantee shall remain in force within three months from that date, the Bank shall be released and discharged from all liabilities thereunder. However, the validity of the bank guarantee shall be extended as and when required by the purchaser.

IN WITNESS WHEREOF THE Bank has executed these presents the day \_\_\_\_ month \_\_\_\_ and year \_\_\_\_\_.

**Yours faithfully,**

**(Bankers)  
EXECUTANT**

**Witnesses:**

1.

2.



Schedule-IV-A

**TN-1310****ITEM: 11KVHorn Gap Fuse Sets with 1X24 KV Post Insulators**Must be filled in by the tenderer and attached with Technical Bid (Part-I)

To,  
**The Superintending Engineer (MM&C),**  
**Jodhpur Vidyut Vitran Nigam Limited,**  
**Jodhpur.**

Dear Sir,

With reference to your invitation to tender against specification No. No.JD/SE(MM&C)/ TN-1310, we agree to supply the following quantity :

<b>S. No.</b>	<b>Particulars of Items</b>	<b>Tendered Quantity</b>	<b>Qty. Offered</b>	<b>Justification of quantity offered as per Qualifying Requirement</b>	<b>Status of Type Test Certificates.</b>
<b>1.</b>	<b>2.</b>	<b>3.</b>	<b>4.</b>	<b>5.</b>	<b>6.</b>
<b>1.</b>	<b>11KV Horn Gap Fuse Sets with 1X24 KV Post Insulators</b>	<b>5005 Sets</b>			

- The offer is valid for a period of 120 days after the date of opening of this tender.
- The prices are variable with base date of different component as per PV formula given at Schedule-II
- It is noted that the quantity as mentioned in the specification are approximate and we agree to supply any quantity as per your requirement.
- The delivery shall strictly be in accordance with our delivery schedule as given in Schedule-VIII of this specification. In case we fail to deliver the materials as indicated in the clause No.1.23 of GCC (Section-II), we are liable to pay recovery for delay in delivery as per clause No.1.24 of this Schedule-II of this specification.  
The material shall conform to your specification No. JDVVNL/SE (MM&C)/ TN-1310 and as per relevant ISS in all respect.
- We conform that we agree to all the terms & conditions as well as the technical stipulation of your specification No. JDVVNL/SE (MM&C)/ TN-1310 and there are no deviations other than as specified in the Schedule-VI (A & B).

Yours faithfully,  
Signature of tenderer with stamp  
Dated.

**SCHEDULE-V A**

<b>GUARANTEED TECHNICAL PARTICULARS FOR 11 KV HORN GAP FUSES WITH POST INSULATORS(TO BE FILLED IN BY BIDDERS SEPARATELY FOR HARDWARE PART AND INSULATOR PART OF HORN GAP FUSES)</b>		
<b>A. SCHEDULE OF GUARANTEED TECHNICAL PARTICULARS FOR HARDWARE PART OF HORN GAP FUSES :</b>		
<b>S.No</b>	<b>Particulars</b>	<b>11 KV Horn Gap Fuse</b>
1	<b>Name of Manufacturer</b>	
2	<b>Weight of one complete Horn Gap Fuse (Hardwares only) single phase.</b>	
3	<b>a) Size of brass thumb screw with fly nut.</b>	
	b) Size and Nos. of brass washers with each unit	
4	Nos. and size of various electro plated nuts,bolts and spring washers	
5	Whether holes of base of horn stool and channel & relevant bolts shall match with the holes of post Insulator unit designation No. E-32 (as detailed at Table No. 1 of IS: 5360 (Part-III)/1971.	
6	Tolerances (As per IS):	
	a) Dimensions.	
	b) Metal parts.	
7	Standard to which galvanisation conforms	
8	a) Arcing Horn size	
	b) Material	
9	Whether suitable to withstand temperature rise of 40 deg. Cent at 50 deg cent ambient.	
<b>B) For Insulator Port (24KV Post Insulators) of Horn Gap Fuse Set</b>		
1	<b>Manufacturer's Name and Country of Manufacture</b>	
2	<b>Standard(s) according to which the Post Insulators are manufactured.</b>	
3	<b>a) Manufacturer's type/ designation of post insulators.</b>	
	b) Make	
	c) Drawing No	
	d) Catalogue No.	
4	<b>Glaze</b>	
5	<b>Mass of insulator unit in Kg</b>	
6	<b>No. of insulators per stack</b>	
7	<b>Total height of post insulator Unit (mm).</b>	
8	<b>Height of</b>	
	a) Upper metal fitting.(mm)	
	b) Bottom metal fitting.(mm)	

9	<b>Diameter of Insulating part in mm.</b>	
10	<b>Minimum creepage distance in mm.:</b>	
	i) Total	
	ii) Protected	
11	<b>Dry arcing distance (mm)</b>	
12	<b>Diameter of base plate(mm)</b>	
13	<b>Details of holes in bottom and Upper metal fitting for assembly with metal hardware and middle metal fittings</b>	
	i) Nos. and dia of holes with PCD in upper metal fitting.	
	ii) Nos. and dia of holes with PCD in bottom metal fitting.	
14	<b>Material used for :</b>	
	i) Cap	
	ii) Cement	
	iii)Sanding	
	iv) Cushion	
	v) Porcelain Shell	
	vi) Paint	
	vii)Pedestal	
	<b>Mechanical Values</b>	
15	Ultimate bending strength _ upright	
16	Ultimate bending strength _ inverted	
17	Ultimate torsional strength	
18	Ultimate tensile strength	
19	Ultimate compression strength	
	<b>ELECTRICAL VALUES</b>	
20	Rated voltage (kV)	
21	Rated frequency (Hz.)	
22	Dry one minute power frequency withstand voltage (kV rms)	
23	Wet one minute power frequency withstand voltage (kV rms)	
24	Dry power frequency flashover voltage (kV rms)	
25	Wet power frequency flashover voltage (kV rms)	
26	Dry impulse withstand voltage of 1.2/50 micro sec. positive wave(kVP)	
27	Dry impulse withstand voltage of 1.2/50 micro sec. negative wave(kVP)	
28	Dry impulse flashover voltage of 1.2/50 micro sec. Positive wave(kVP)	

29	Dry impulse flashover voltage of 1.2/50 micro sec. negative wave(kVP)	
30	Power frequency puncture withstand voltage of unit in kV (rms).	
31	Visible discharge voltage KV(rms)	
32	Does the post insulator unit conform to the latest version of IS:2544 (Yes/No)	
33	<b>Whether post insulator marked with ISI certification mark (YES/NO)</b>	
33	<b>Statement of type test reports furnished</b>	
	Name of test lab	
	Dt. of test	
	Dt of report	
	Rating of Equipment Tested	
34	<b>Marking</b>	

Signature of tenderer with stamp  
Dated.



**JODHPUR VIDYUT VITRAN NIGAM LIMITED**

A Govt. of Rajasthan Undertaking

Schedule – V (B)

**Statement of guaranteed technical particulars and other performance data for supply of ..... (Name of material) against specification no.....**

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**S.No. Particulars of technical & other performance data guaranteed.**

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**Certified that we agree to all the aforesaid technical particulars and other performance data except following :-**

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<b>S.No.</b>	<b>Particulars of technical &amp; other Performance data</b>	<b>Reasons for deviations/departure.</b>
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(Signature)  
**Name & Designation**  
**with seal of the bidder**



JODHPUR VIDYUT VITRAN NIGAM LIMITED

A Govt. of Rajasthan Undertaking

DEPARTURE/DEVIATION FROM TECHNICAL SPECIFICATION

Schedule – VI (A)

**The bidder shall state under this schedule the departure from the Purchaser's specification in respect of technical is as under:-**

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**S.No.      Main Deviations from Technical Specification.**

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**Certified that we agree to all the technical specification of the NIT except for the deviation to the extent indicated above.**

(Signature)  
**Name & Designation  
with seal of the bidder.**



**JODHPUR VIDYUT VITRAN NIGAM LIMITED**

A Govt. of Rajasthan Undertaking  
DEPARTURE FROM COMMERCIAL TERMS & CONDITIONS OF THE  
SPECIFICATION

**The bidder shall state under this schedule the departure from the Purchaser's specification in respect of Commercial terms & conditions:-**

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<b>S.No.</b>	<b>Main Deviations from Specification.</b>
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**Certified that we agree to all the commercial terms & conditions as laid down in General Conditions of Contract to the specification except for the deviation to the extent indicated above.**

(Signature)  
**Name & Designation**  
**with seal of the bidder.**



**JODHPUR VIDYUT VITRAN NIGAM LIMITED**

A Govt. of Rajasthan Undertaking  
LIST OF PAST SUPPLIES

The bidder shall state under this schedule whether material and equipments, similar to those offered in the tender have been previously supplied by him. A list shall be given of such orders executed by him together with information regarding the names of purchasing organizations, quantities supplied and when the supplies were effected. This list should be in form given below:-

S.No.	Detailed particulars of items supplied Completion	Qty in MT	Order No. & Date	Name & details of purchasing authority	Date of
1	2	3	4	5	6

If executed partially to be mentioned (Qty. in M.T.)	whether still to be executed	Delivery stipulated in order	Remarks
7	8	9	10

Note: Separate schedules are to be furnished by the bidder for past supply to the JdVVNL, JODHPUR other State Electricity Boards and other Departments /Organisations.

(Signature)  
Name & Designation  
with seal of the bidder.



TN-1310

Schedule-VII-A

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that M/s. \_\_\_\_\_ (Complete with address) have manufactured and supplied the goods/ equipments/ material during the following financial year(s) to the Electrical Utilities/ Government Departments/ Discoms/ SEBs as detailed out below:

S.No	Last Three Financial year in which material supplied	Detailed particulars of item(s) supplied	Name & particulars of purchasing authority	Order No. & Date against which item(s) supplied	Unit	Ordered		Actual Supplied		Remarks
						Qty	Value (Rs.)	Qty	Value (Rs.)	

**Signature**

**Signature of C.A.**

**Name & Designation  
With Seal of the Bidder  
Date \_\_\_\_\_  
Place \_\_\_\_\_**

**Name:  
Address  
  
Membership No.**

The above particulars are true and correct based on explanations, records and books of accounts produced before us. Further the above certificate issued on the request of the company.

CA Firm ( \_\_\_\_\_ )

## SCHEDULE-VIII

## JODHPUR VIDYUT VITRAN NIGAM LIMITED

## DELIVERY SCHEDULE

**TN-1310****PART – A**

The delivery Schedule of the material by the Purchaser Officer is as mentioned hereunder:-

S.No	Particular Of Material	Commencement Period	Rate Of Supply per Month	Period for Completion of delivery of Entire material
1.	11 KV HORN GAP FUSE SETS WITH 1X24 KV POST INSULATORS (UN-ASSEMBLED)	30 Days from the date of receipt of detailed Purchase Order	In equal monthly installments	Five Months after commencement period

**PART - B**

In case tenderer deviates from the delivery schedule mentioned by the purchaser in Part-A , then the delivery Schedule of the material by the tenderer shall be indicated / mentioned as under:-

S.No	Particular Of Material	Commencement Period	Rate Of Supply per Month	Period for Completion of delivery of Entire material

Note: (i) During the commencement period, the process of model assembly and submission of B.O.M. for approval shall be got completed.

(ii) During the commencement period the contractual formalities shall be got completed.

Signature  
Name & Designation  
With Seal of the Tenderer

## Schedule – IX

**JODHPUR VIDYUT VITRAN NIGAM LIMITED**

A Govt. of Rajasthan Undertaking

**List of Equipments and Technical Hands Available with the Firm****(To be filled in by the bidders & enclosed with the bid)**

Manufacturers who are quoting against this bid are requested to furnish the following information along-with the bid. The Purchaser will have the discretion to ignore the bid without the under noted particulars and/or ignore the bid particulars.

1. Name and Address of Manufacturer.
2. Place where works exist.
3. Details of machinery particularly with B.H.P. of each item installed.
4. Details of staff employed in the works.
5. Date when started the manufacturing of item under reference.
6. List of items manufactured.
7. Literature and drawings of items manufactured showing their description, size, design and other important technical particulars.
8. Details of order so far, executed alongwith the names of organization to whom supplied.
9. Manufacturing capacity.
10. Is the workshop open for inspection by the representative of the board, if required?
11. Statement of financial resources and Banking Reference alongwith Balance-Sheet for previous two years.
12. Testing facilities available for the manufactured articles in the testing laboratory of works.
13. Whether the Firm is a small/medium/large scale industry.
14. Registration No. with :-
  - i. Small Scale, National/State.
  - ii. DGTD
  - iii. State Industries Department.

(Signature)  
Name & Designation  
with seal of the bidder.