

Transmission Service Agreement

ARTICLE: 10**10 BILLING AND PAYMENT OF TRANSMISSION CHARGES**

10.1 Subject to provisions of this Article 10, the Monthly Transmission Charges shall be paid to the TSP, in Indian Rupees, on monthly basis as per the provisions of this agreement, from the date on which an Element(s) has achieved COD until the Expiry Date of this Agreement, unless terminated earlier and in line with the provisions of Schedule 4 of this Agreement.

10.1.1 Delivery of Invoices:**10.1.1.1 TSP's Invoices:**

- a. Commencing with the month following the month in which the COD of an Element (which is first Commissioned) occurs, the TSP shall submit to Long Term Transmission Customer by the fifth day of such and each succeeding month (or, if such day is not a Business Day, the immediately following Business Day) an Invoice in the Agreed Form (the "Monthly Transmission Charge Invoice") signed by the authorised signatory of the TSP setting out the computation of the Monthly Transmission Charges to be paid by the Long Term Transmission Customer to the TSP in respect of the immediately preceding month in accordance with this Agreement; and
- b. Each Monthly Transmission Charge Invoice shall include detailed calculations of the amounts payable under it, together with such further supporting documentation and information as Long Term Transmission Customer may reasonably require / request, from time to time.

10.1.1.2 Long Term Transmission Customer Invoices:

- a. Long Term Transmission Customer shall (as and when any amount becomes due to be paid by TSP), on the fifth day of the month (or, if such day is not a Business Day, the immediately following Business Day) submit to the TSP an Invoice in the Agreed Form (the "Long Term Transmission Customer Invoice") setting out the computation of any amount that may be payable to it by the TSP for the immediately preceding month pursuant to this Agreement.
- b. Each Long Term Transmission Customer's Invoice shall include detailed calculations of the amounts payable under it, together with such further supporting documentation as the TSP may reasonably require/request, from time to time.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

10.1.2 Payment of Invoices:

10.1.2.1 Any amount payable under an Invoice shall be paid in immediately available and freely transferable clear funds, for value on or before the Due Date, to such account of the TSP or Long Term Transmission Customer as shall have been previously notified to Long Term Transmission Customer or the TSP, as the case may be.

10.1.2.2 Where in respect of any month there is both:

- a. an amount payable by the Long Term Transmission Customer to TSP pursuant to a Monthly Transmission Charge Invoice and
- b. an amount payable by the TSP to Long Term Transmission Customer pursuant to a Long Term Transmission Customer's Invoice as per provisions of this Agreement,

the two amounts, to the extent agreed to be set off by the TSP may, be set off against each other and the balance, if any, shall be paid by Long Term Transmission Customer to the TSP or by TSP to Long Term Transmission Customer, as the case may be.

10.1.2.3 The Long Term Transmission Customer shall pay the amount payable under the Monthly Transmission Charge Invoice and the Supplementary Bill on the Due Date to such account of the TSP, as shall have been previously notified by the TSP to the Long Term Transmission Customer in accordance with Article 10.1.2.6 below.

10.1.2.4 All payments made by the Long Term Transmission Customer shall be appropriated by the TSP in the following order of priority:

- i. towards Late Payment Surcharge, payable to the TSP, if any;
- ii. towards earlier unpaid Monthly Transmission Charge Invoice, if any;
- iii. towards earlier unpaid Supplementary Bill, if any;
- iv. towards the then current Monthly Transmission Charge Invoice, if any; and
- v. towards the then current Supplementary Bill.

10.1.2.5 All payments required to be made under this Agreement shall only include any deduction or set off for:

- i. deductions required by the Law; and
- ii. amounts claimed by the Long Term Transmission Customer from the TSP, through an Invoice duly acknowledged by the TSP, to be payable by the TSP, and


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

not disputed by the TSP within thirty (30) days of receipt of the said Invoice and such deduction or set-off shall be made to the extent of the amounts not disputed. It is clarified that the Long Term Transmission Customer shall be entitled to claim any set off or deduction under this Article, after expiry of the said thirty (30) day period.

Provided further, the maximum amounts that can be deducted or set-off by all the Long Term Transmission Customer taken together under this Article in a Contract Year shall not exceed Rupees 1.88 Crores (Rupees One Crore Eighty Eight lakh Only), except on account of payments under sub Article (i) above.

10.1.2.6 The TSP shall open a bank account at [Insert identified place or account] (the "Designated Account") for all payments to be made by the Long Term Transmission Customer to the TSP, and notify the Long Term Transmission Customer of the details of such account at least ninety (90) days before the Scheduled COD of the first Element to the Long Term Transmission Customer. The Long Term Transmission Customer shall, on the day of payment, notify the TSP of the payment made to the Designated Account. The Long Term Transmission Customer shall also designate a bank account at [Insert identified place] for payments to be made by the TSP to Long Term Transmission Customer and notify the TSP of the details of such account ninety (90) days before the Scheduled COD of the first Element.

10.2 Calculation of Monthly Transmission Charges:

The Monthly Transmission Charges for each Contract Year including Incentive & Penalty payment shall be calculated in accordance with the provisions of Schedule 4 of this Agreement.

10.3 Rebate & Late Payment Surcharge:

10.3.1 Rebate: In case the Long Term Transmission Customer pays to the TSP through any mode of payment in respect of a Monthly Transmission Charge Invoice or Supplementary Bill, the following shall apply:

- a. For payment of Invoices through any mode of payment, a Rebate of 2% shall be allowed on the Monthly Transmission Charge Invoice or Supplementary Bill for payments made in full within two Business Day of the receipt of the Invoice; or
- b. For payment of Invoices subsequently, but within the Due Date, a Rebate of 1% shall be allowed on the payments made in full.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

- c. Applicable rate of Rebate at (a) and (b) above shall be based on the date on which the payment has been actually credited to the TSP's account. Any delay in transfer of money to the TSP's account, on account of a statutory holiday, public holiday, or any other reasons shall be to the account of the Long Term Transmission Customer provided that the Invoice is not submitted on the day immediately preceding a statutory holiday or public holiday.
- d. No Rebate shall be payable on the bills raised on account of Change in Law relating to taxes, duties and cess;

Provided that if any Long Term Transmission Customer fails to pay a Monthly Transmission Charge Invoice/ Supplementary Bill or part thereof within and including the Due Date, the TSP shall recover such amount as per provisions of Article 10.4.3.1 (f).

- 10.3.2 Late Payment Surcharge:** Any amount due from one Party to the other, pursuant to this Agreement and remaining unpaid for thirty (30) days after the Due Date, shall bear Late Payment Surcharge @ 1.25% per month on the unpaid amount. Such Late Payment Surcharge shall be calculated on simple rate basis and shall accrue from the Due Date until the amount due is actually received by the payee.

10.4 Disputed Bills, Default in payment by the Long Term Transmission Customers & Annual Reconciliation:

10.4.1 Disputed Invoices:

- 10.4.1.1 If either Party does not question or dispute an Invoice within thirty (30) days of receiving it, the Invoice shall be considered correct, complete and conclusive between the Parties.

- 10.4.1.2 If either Party disputes any item or part of an item set out in any Invoice then that Party shall serve a notice (an "Invoice Dispute Notice") on the other Party setting out (i) the item or part of an item which is in dispute, (ii) its estimate of what such item or part of an item should be, (iii) and with all written material in support of its claim.

- 10.4.1.3 If the invoicing Party agrees to the claim raised in the Invoice Dispute Notice issued pursuant to Article 10.4.1.2, the invoicing Party shall revise such Invoice within seven (7) days of receiving such notice from the disputing Party and if the disputing Party has already made the excess payment, the invoicing Party shall refund to the disputing Party, such excess amount within fifteen (15) days


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
.. Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

of receiving such notice. In such a case, the excess amount shall be refunded along with interest at the same rate as the Late Payment Surcharge, which shall be applied from the date on which such excess payment was made to the invoicing Party and up to and including the date on which such payment has been received as refund.

10.4.1.4 If the invoicing Party does not agree to the claim raised in the Invoice Dispute Notice issued pursuant to Article 10.4.1.2, it shall, within fifteen (15) days of receiving the Invoice Dispute Notice, furnish a notice to the disputing Party providing (i) reasons for its disagreement; (ii) its estimate of what the correct amount should be; and (iii) all written material in support of its counter-claim.

10.4.1.5 Upon receipt of notice of disagreement to the Invoice Dispute Notice under Article 10.4.1.4, authorised representative(s) or a director of the board of directors/member of board of each Party shall meet and make best endeavours to amicably resolve such Dispute within fifteen (15) days of receiving such notice of disagreement to the Invoice Dispute Notice.

10.4.1.6 If the Parties do not amicably resolve the dispute within fifteen (15) days of receipt of notice of disagreement to the Invoice Dispute Notice pursuant to Article 10.4.1.4, the matter shall be referred to appropriate Commission for Dispute resolution in accordance with Article 16.

10.4.1.7 If a Dispute regarding a Monthly Transmission Charge Invoice or a Supplementary Invoice is settled by Dispute resolution mechanism provided in this Agreement in favour of the Party that issues the Invoice Dispute Notice, the other Party shall refund the amount, if any incorrectly charged and collected from the disputing Party or pay as required, within five (5) days of the Dispute either being amicably resolved by the Parties pursuant to Article 10.4.1.5 or settled by Dispute resolution mechanism, along with interest (at the same rate as Late Payment Surcharge) or Late Payment Surcharge from the date on which such payment had been made to the invoicing Party or the date on which such payment was originally due, as may be applicable.

10.4.1.8 For the avoidance of doubt, it is clarified that despite a Dispute regarding an Invoice, the concerned Long Term Transmission Customer's shall, without prejudice to its right to Dispute, be under an obligation to make payment, of the lower of (a) an amount equal to simple average of last three (3) months Invoices


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

(being the undisputed portion of such three months Invoices) and (b) Monthly Invoice which is being disputed, provided such Monthly Invoice has been raised based on the Regional Energy Account the Allocated Project Capacity and in accordance with this Agreement.

10.4.2 Payment of Supplementary Bill:

10.4.2.1 Either Party may raise a bill on the other Party ("Supplementary Bill") for payment on account of:

- i. adjustments (if any) required by the Regional Energy Account ; or
- ii. quarterly or annual reconciliation as per Article 10.5 ; or
- iii. Change in Law as provided in Article 12,

and such Bill shall be paid by the other Party.

10.4.3 Payment Security Mechanism:**10.4.3.1 Establishment of Letter of Credit:**

- (a) Not later than one (1) Month prior to the Scheduled COD of the first Element of the Project, each Long Term Transmission Customer shall, through a scheduled bank, open a Letter of Credit in favour of the TSP, to be made operative from a date prior to the Due Date of its first Monthly Transmission Charge Invoice under this Agreement and shall be renewed annually.
- (b) The draft of the proposed Letter of Credit shall be provided by each Long Term Transmission Customer to the TSP not later than the Financial Closure of the Project and shall be mutually agreed between the Parties.
- (c) The Letter of Credit shall have a term of twelve (12) Months and shall be for an amount:
 - i. for the first Contract Year or for each subsequent Contract Year, equal to one point one (1.1) times the estimated average Monthly Transmission Charges based on Target Availability of the Elements or Project with Scheduled COD in such Contract Year, as the case may be;
 - ii. Provided that, the TSP shall not make any drawl before the Due Date and shall not make more than one drawal in a month.

Provided further that if at any time, such Letter of Credit amount falls short of the amount specified in Article 10.4.3.1, otherwise than by reason of


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 56 of 169

Transmission Service Agreement

drawal of such Letter of Credit by the TSP, the relevant Long Term Transmission Customer shall restore such shortfall within seven (7) days.

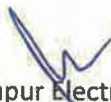
- (d) Long Term Transmission Customer shall cause the scheduled bank issuing the Letter of Credit to intimate the TSP, in writing regarding establishing of such Letter of Credit.
- (e) In case of drawal of the Letter of Credit by the TSP in accordance with the terms of this Article 10.4.3.1, the amount of the Letter of Credit shall be reinstated within seven (7) days from the date of such drawal.
- (f) If any Long Term Transmission Customer fails to pay a Monthly Transmission Charge Invoice / Supplementary Bill or part thereof within and including the Due Date, then, unless an Invoice Dispute Notice is received by the TSP as per the provisions of Article 10.4.1.2, the TSP may draw upon the Letter of Credit, and accordingly the bank shall pay without any reference or instructions from the Long Term Transmission Customer, an amount equal to such Monthly Transmission Charge Invoice/Supplementary Bill or part thereof plus Late Payment Surcharge, if applicable, in accordance with Article 10.3.2 above, by presenting to the scheduled bank issuing the Letter of Credit, the following documents:
- i. a copy of the Monthly Transmission Charge Invoice/Supplementary Bill which has remained unpaid by such Long Term Transmission Customer;
 - ii. a certificate from the TSP to the effect that the Invoice at item (i) above, or specified part thereof, is in accordance with the Agreement and has remained unpaid beyond the Due Date; and
 - iii. calculations of applicable Late Payment Surcharge, if any. Provided that failure on the part of the TSP to present the documents for negotiation of the Letter of Credit shall not attract any Late Payment Surcharge on the Long Term Transmission Customer.
- (g) Each Long Term Transmission Customer shall ensure that the Letter of Credit shall be renewed not later than thirty (30) days prior to its expiry.
- (h) All costs relating to opening and maintenance of the Letter of Credit shall be borne by the Long Term Transmission Customer. However, the Letter of Credit negotiation charges shall be borne and paid by the TSP.
- (i) If a Long Term Transmission Customer fails to pay (with respect to a Monthly Bill or Supplementary Bill) an amount exceeding thirty percent (30%) of the most recent undisputed Monthly Bill, for a period of seven (7) days after the Due Date and the TSP is unable to recover the amount outstanding to the TSP through the


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Letter of Credit, the TSP shall issue a notice to such Long Term Transmission Customer within seven (7) days from such period, with a copy to each of the other Long Term Transmission Customer, highlighting the nonpayment of such amount by such Long Term Transmission Customer;

(ii) If such Long Term Transmission Customer still fails to pay such amount within a period of thirty (30) days after the issue of notice by TSP as mentioned in (i) above, the TSP shall approach the RLDC / SLDC (as the case may be) requesting for the alteration of the schedule of dispatch of the lowest cost power of such Long Term Transmission Customer from the Central Generating Stations/ State Generating Stations (as the case may be), and the RLDC / SLDC shall continue to reschedule the lowest cost power till all the dues of the TSP are recovered;

- Provided that in this case, the quantum of electricity and the corresponding period in which it would be rescheduled for dispatch shall be corresponding to the amount of default. This electricity will then be dispatched to other utilities by the concerned RLDC/SLDC, as the case may be, during the peak hours, i.e., 7pm to 10 pm. The price of this electricity will be determined as per the UI rate;

- Provided further that the revenue from such diverted power would be used to pay the dues first of the generating company (which would include the capacity charges as well as the energy charges) and the remainder would be available for covering the default amount and the balance (if any), after recovering both the charges, would be paid to the defaulting Long Term Transmission Customer.

10.4.4 Payment Intimation

Long Term Transmission Customer shall remit all amounts due under an Invoice raised by the TSP to the TSP's account by the Due Date and notify the TSP of such remittance on the same day. Similarly, the TSP shall pay all amounts due under an Invoice raised by Long Term Transmission Customer by the Due Date to concerned Long Term Transmission Customer's account and notify such Long Term Transmission Customer of such payment on the same day.

10.5 Quarterly and Annual Reconciliation:

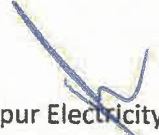
10.5.1 Parties acknowledge that all payments made against Monthly Bill(s) and Supplementary Bill(s) shall be subject to quarterly reconciliation at the beginning of the following quarter of each Contract Year and annual reconciliation at the end of each Contract Year to take into account Regional Energy Account, adjustments in Transmission Charges payments, Rebates, Late Payment Surcharge, Incentive, Penalty, or any other reasonable circumstance as may be mutually agreed between the Parties.

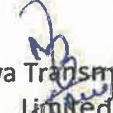

Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

10.5.2 The Parties, therefore, agree that as soon as all such data in respect of any quarter of a Contract Year or a full Contract Year, as the case may be, is available and has been finally verified and adjusted, the TSP and Long Term Transmission Customer's shall jointly sign such reconciliation statement. Within fifteen (15) days of signing of a reconciliation statement, the TSP or Long Term Transmission Customer's, as the case may be, shall raise a Supplementary Bill for the payments as may be due as a result of reconciliation for the relevant quarter/ Contract Year and shall make payment of such Supplementary Bill for the adjustments in Transmission Charges payments for the relevant quarter/ContractYear.

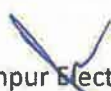
10.5.3 Interest / Late Payment Surcharge shall be payable in such a case from the date on which such payment had been made to the invoicing Party or the date on which any payment was originally due, as may be applicable. Any dispute with regard to the above reconciliation shall be dealt with in accordance with the provisions of Article 16.


Pashchimanchal Vidyut
Vitran Nigam Limited

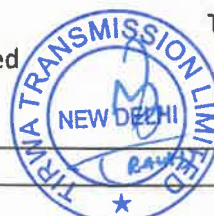

Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

ARTICLE: 11**11 FORCE MAJEURE****11.1 Definitions**

11.1.1 The following terms shall have the meanings given hereunder.

11.2 Affected Party

11.2.1 An Affected Party means any Party whose performance has been affected by an event of Force Majeure.

11.2.2 Any event of Force Majeure shall be deemed to be an event of Force Majeure affecting the TSP only if the Force Majeure event affects and results in, late delivery of machinery and equipment for the Project or construction, completion, commissioning of the Project by Scheduled COD and/or operation thereafter;

11.3 Force Majeure

A 'Force Majeure' means any event or circumstance or combination of events and circumstances including those stated below that wholly or partly prevents or unavoidably delays an Affected Party in the performance of its obligations/ roles under this Agreement, but only if and to the extent that such events or circumstances are not within the reasonable control, directly or indirectly, of the Affected Party and could not have been avoided if the Affected Party had taken reasonable care or complied with Prudent Utility Practices:

(a) Natural Force Majeure Events:

- i. act of God, including, but not limited to drought, fire and explosion (to the extent originating from a source external to the Site), earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, or exceptionally adverse weather conditions, which are in excess of the statistical measures for the last hundred (100) years; and


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

- ii. epidemic/ pandemic notified by Indian Governmental Instrumentality.

(b) **Non-Natural Force Majeure Events :**

i. Direct Non-Natural Force Majeure Events

- Nationalization or compulsory acquisition by any Indian Governmental Instrumentality of any material assets or rights of the Affected Party; or
- the unlawful, unreasonable or discriminatory revocation of, or refusal to renew, any Consents, Clearances and Permits required by the Affected Party to perform their obligations/ roles under the RFP Project Documents or any unlawful, unreasonable or discriminatory refusal to grant any other Consents, Clearances and Permits required for the development/ operation of the Project, provided that a Competent Court of Law declares the revocation or refusal to be unlawful, unreasonable and discriminatory and strikes the same down; or
- any other unlawful, unreasonable or discriminatory action on the part of an Indian Governmental Instrumentality which is directed against the Project, provided that a Competent Court of Law declares the action to be unlawful, unreasonable and discriminatory and strikes the same down.

ii. Indirect Non - Natural Force Majeure Events

- act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or
- radio active contamination or ionising radiation originating from a source in India or resulting from any other Indirect Non Natural Force Majeure Event mentioned above, excluding circumstances where the source or cause of contamination or radiation is brought or has been brought into or near the Site by the Affected Party or those employed

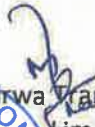

Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement
or engaged by the Affected Party; or

- industry-wide strikes and labour disturbances, having a nationwide impact in India.

11.4 Force Majeure Exclusions

11.4.1 Force Majeure shall not include (i) any event or circumstance which is within the reasonable control of the Parties and (ii) the following conditions, except to the extent that they are consequences of an event of Force Majeure:

- (a) Unavailability, late delivery, or changes in cost of the machinery, equipment, materials, spare parts etc. for the Project;
- (b) Delay in the performance of any Contractors or their agents;
- (c) Non-performance resulting from normal wear and tear typically experienced in transmission materials and equipment;
- (d) Strikes or labour disturbance at the facilities of the Affected Party;
- (e) Insufficiency of finances or funds or the Agreement becoming onerous to perform; and
- (f) Non-performance caused by, or connected with, the Affected Party's:
 - i. negligent or intentional acts, errors or omissions;
 - ii. failure to comply with an Indian Law; or
 - iii. breach of, or default under this Agreement or any Project Documents.
- (g) Any error or omission in the survey report provided by BPC during the bidding process.

11.5 Notification of Force Majeure Event


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

- 11.5.1** The Affected Party shall give notice to the other Party of any event of Force Majeure as soon as reasonably practicable, but not later than seven (7) days after the date on which such Party knew or should reasonably have known of the commencement of the event of Force Majeure. If an event of Force Majeure results in a breakdown of communications rendering it unreasonable to give notice within the applicable time limit specified herein, then the Party claiming Force Majeure shall give such notice as soon as reasonably practicable after reinstatement of communications, but not later than one (1) day after such reinstatement.

Provided that, such notice shall be a pre-condition to the Affected Party's entitlement to claim relief under this Agreement. Such notice shall include full particulars of the event of Force Majeure, its effects on the Party claiming relief and the remedial measures proposed. The Affected Party shall give the other Party regular reports on the progress of those remedial measures and such other information as the other Party may reasonably request about the Force Majeure.

- 11.5.2** The Affected Party shall give notice to the other Party of (i) the cessation of the relevant event of Force Majeure; and (ii) the cessation of the effects of such event of Force Majeure on the performance of its rights or obligations/ roles under this Agreement, as soon as practicable after becoming aware of each of these cessations.

11.6 Duty to perform and duty to mitigate

To the extent not prevented by a Force Majeure Event, the Affected Party shall continue to perform its obligations/ roles as provided in this Agreement. The Affected Party shall use its reasonable efforts to mitigate the effect of any event of Force Majeure as soon as practicable.

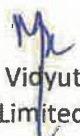
11.7 Available Relief for a Force Majeure Event

Subject to this Article 11,

- (a) no Party shall be in breach of its obligations/ roles pursuant to this Agreement to the extent that the performance of its obligations/ roles was prevented, hindered or delayed due to a Force Majeure Event;


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

- (b) each Party shall be entitled to claim relief for a Force Majeure Event affecting its performance in relation to its obligations/ roles under Articles 3.3.4, 4.4.2 and 6.3.1 of this Agreement.
- (c) For the avoidance of doubt, it is clarified that the computation of Availability of the Element(s) under outage due to Force Majeure Event, as per Article 11.3 affecting the TSP shall be as per Uttar Pradesh Electricity Regulatory Commission (Multi Year Tariff for Distribution and Transmission) Regulations, 2019, as on Bid Deadline. For the event(s) for which the Element(s) is/are deemed to be available as per Uttar Pradesh Electricity Regulatory Commission (Multi Year Tariff for Distribution and Transmission) Regulations, 2019, as amended from time to time, then the Transmission Charges, as applicable to such Element(s), shall be payable as per Schedule 4, for the duration of such event(s).
- (d) For so long as the TSP is claiming relief due to any Force Majeure Event under this Agreement, the Lead Long Term Transmission Customer may, if it so desires, from time to time on one (1) day notice, inspect the Project and the TSP shall provide the Lead Long Term Transmission Customer's personnel with access to the Project to carry out such inspections.
- (e) For avoidance of doubt, the TSP acknowledges that for extension of Scheduled COD a period up to one hundred eighty (180) days due to Force Majeure event, no compensation on the grounds such as interest cost, incident expenditure, opportunity cost will be made to the TSP.

However, if Scheduled COD is extended beyond a period of one hundred eighty (180) days due to Force Majeure event, the TSP will be allowed to recover the interest cost during construction corresponding to the period exceeding one hundred eighty (180) days by adjustment in the Transmission Charges in accordance with Schedule 9.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 64 of 169

Transmission Service Agreement

ARTICLE: 12**12 CHANGE IN LAW****12.1 Change in Law**

12.1.1 Change in Law means the occurrence of any of the following after the Bid Deadline resulting into any additional recurring / non-recurring expenditure by the TSP or any savings of the TSP:

- the enactment, coming into effect, adoption, promulgation, amendment, modification or repeal (without re-enactment or consolidation) in India, of any Law, including rules and regulations framed pursuant to such Law, subject to the provisions under Article 12.1.2;
- a change in the interpretation or application of any Law by any Indian Governmental Instrumentality having the legal power to interpret or apply such Law, or any Competent Court of Law;
- the imposition of a requirement for obtaining any Consents, Clearances and Permits which was not required earlier;
- a change in the terms and conditions prescribed for obtaining any Consents, Clearances and Permits or the inclusion of any new terms or conditions for obtaining such Consents, Clearances and Permits;
- any change in the licensing regulations of the State Commission, under which the Transmission License for the Project was granted if made applicable by such State Commission to the TSP;
- change in wind zone; or
- any change in tax or introduction of any tax made applicable for providing Transmission Service by the TSP as per the terms of this Agreement.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

12.1.2 Notwithstanding anything contained in this Agreement, Change in Law shall not cover any change:

- a) Taxes on corporate income; and
- b) Withholding tax on income or dividends distributed to the shareholders of the TSP.

12.2 Relief for Change in Law

12.2.1 During Construction Period, the impact of increase/decrease in the cost of the Project on the Transmission Charges shall be governed by the formula given in Schedule 9 of this Agreement.

12.2.2 During the Operation Period:

During the operation period, if as a result of Change in Law, the TSP suffers or is benefited from a change in costs or revenue, the aggregate financial effect of which exceeds 0.30% (zero point three percent) of the Annual Transmission Charges in aggregate for a Contract Year, the TSP may notify so to the Long Term Transmission Customers and propose amendments to this Agreement so as to place the TSP in the same financial position as it would have enjoyed had there been no such Change in Law resulting in change in costs or revenue as aforesaid.

12.2.3 For any claims made under Articles 12.2.1 and 12.2.2 above, the TSP shall provide to the Long Term Transmission Customers documentary proof of such increase / decrease in cost of the Project / revenue for establishing the impact of such Change in Law.

In cases where Change in Law results in decrease of cost and it comes to the notice of Long Term Transmission Customers that TSP has not informed Long Term Transmission Customers about such decrease in cost, Long Term Transmission Customers may initiate appropriate claim.

12.3 Notification of Change in Law:

12.3.1 If the TSP is affected by a Change in Law in accordance with Article 12.1 and wishes to claim relief for such Change in Law under this Article 12, it shall give


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 66 of 169

Transmission Service Agreement

notice to Lead Long Term Transmission Customer of such Change in Law as soon as reasonably practicable after becoming aware of the same.

12.3.2 The TSP shall also be obliged to serve a notice to the Lead Long Term Transmission Customer even when it is beneficially affected by a Change in Law.

12.3.3 Any notice served pursuant to Articles 12.3.1 and 12.3.2 shall provide, amongst other things, precise details of the Change in Law and its estimated impact on the TSP.

12.4 Payment on account of Change in Law

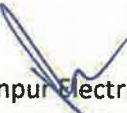
12.4.1 The payment for Change in Law shall be through a separate Bill. However, in case of any change in Monthly Transmission Charges by reason of Change in Law, as determined in accordance with this Agreement, the Bills to be raised by the Long Term Transmission Customers after such change in Transmission Charges shall appropriately reflect the changed Monthly Transmission Charges.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

ARTICLE: 13**13 EVENTS OF DEFAULT AND TERMINATION****13.1 TSP's Event of Default**

The occurrence and continuation of any of the following events shall constitute a TSP Event of Default, unless any such TSP Event of Default occurs as a result of any non-fulfilment of its obligations as prescribed under this Agreement by the Long Term Transmission Customers or a Force Majeure Event:

- a. After having taken up the construction of the Project, the abandonment by the TSP or the TSP's Contractors of the construction of the Project for a continuous period of two (2) months and such default is not rectified within thirty (30) days from the receipt of notice from the Lead Long Term Transmission Customer in this regard;
- b. The failure to commission any Element of the Project by the date falling six (6) months after its Scheduled COD unless extended by Long Term Transmission Customers as per provisions of this Agreement;
- c. If the TSP:
 - i. assigns, mortgages or charges or purports to assign, mortgage or charge any of its assets or rights related to the Project in contravention of the provisions of this Agreement; or
 - ii. transfers or novates any of its obligations pursuant to this Agreement, in a manner contrary to the provisions of this Agreement;

Except where such transfer is in pursuance of a Law and

- it does not affect the ability of the transferee to perform, and such transferee has the financial and technical capability to perform, its obligations under this Agreement;


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

- is to a transferee who assumes such obligations under the Project and this Agreement remains effective with respect to the transferee;

d. If:

- The TSP becomes voluntarily or involuntarily the subject of any bankruptcy or insolvency or winding up proceedings and such proceedings remain uncontested for a period of thirty (30) days; or
- any winding up or bankruptcy or insolvency order is passed against the TSP; or
- the TSP goes into liquidation or dissolution or a receiver or any similar officer is appointed over all or substantially all of its assets or official liquidator is appointed to manage its affairs, pursuant to Law,

Provided that a dissolution or liquidation of the TSP will not be a TSP's Event of Default, where such dissolution or liquidation of the TSP is for the purpose of a merger, consolidation or reorganization with the prior approval of the State Commission as per the provisions of Central Electricity Regulatory Commission (Procedure, terms and Conditions for grant of Transmission License and other related matters) Regulations, 2006 or as amended from time to time; or

- Failure on the part of the TSP to comply with the provisions of Article 19.2 of this Agreement; or
- the TSP repudiates this Agreement and does not rectify such breach even within a period of thirty (30) days from a notice from the Long Term Transmission Customers in this regard; or
- after Commercial Operation Date of the Project, the TSP fails to achieve monthly Target Availability of 98% [98% for AC system and 95% for HVDC system], for a period of six (6) consecutive months or within a non-consecutive period of six (6) months within any


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

continuous aggregate period of eighteen(18) months except where the Availability is affected by Force Majeure Events as per Article 11; or

- h. any of the representations and warranties made by the TSP in Article 17 of this Agreement being found to be untrue or inaccurate. Further, in addition to the above, any of the undertakings submitted by the Selected Bidder at the time of submission of the Bid being found to be breached or inaccurate, including but not limited to undertakings from its Parent Company / Affiliates related to the minimum equity obligation; or
- i. the TSP fails to complete / fulfil all the activities / conditions within the specified period as per Article 3; or
- j. except for the reasons solely attributable to Long Term Transmission Customers , the TSP is in material breach of any of its obligations under this Agreement and such material breach is not rectified by the TSP within thirty (30) days of receipt of notice in this regard from the Lead Long Term Transmission Customer ; or
- k. the TSP fails to take the possession of the land required for location specific substations, switching stations or HVDC terminal or inverter stations and / or fails to pay the requisite price to the parties and / or any State Government authority from whom the land is acquired, within twelve (12) months from the Effective Date.

13.2 Termination Procedure for TSP Event of Default

- a. Upon the occurrence and continuance of any TSP's Event of Default under Article 13.1 the Long Term Transmission Customers may serve notice on the TSP, with a copy to the CEA and the Lenders' Representative, of their intention to terminate this Agreement (a " Long Term Transmission Customer's Preliminary Termination Notice"), which shall specify in reasonable detail, the circumstances giving rise to such Long Term Transmission Customer's Preliminary Termination Notice.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

- b. Following the issue of a Long Term Transmission Customer's Preliminary Termination Notice, the Consultation Period shall apply and would be for the Parties to discuss as to what steps shall be taken with a view to mitigate the consequences of the relevant Event of Default having regard to all the circumstances.
- c. During the Consultation Period, the Parties shall, save as otherwise provided in this Agreement, continue to perform their respective obligations/ roles under this Agreement, and the TSP shall not remove any material, equipment or any part of the Project, without prior consent of the Long Term Transmission Customers.

Following the expiry of the Consultation Period, unless the Parties shall have otherwise agreed to the contrary or the circumstances giving rise to Long Term Transmission Customer's Preliminary Termination Notice shall have ceased to exist or shall have been remedied, this Agreement may be terminated by the Long Term Transmission Customers by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to STU and the Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement.

Further, the Long Term Transmission Customers may also initiate proceedings to blacklist the TSP & its Affiliates from participation in any RFP issued by BPCs for a period of 5 years.

13.3 Procedure for Long Term Transmission Customers non-fulfilment of Role

- a. Upon the Long Term Transmission Customers not being able to fulfil its role under Article 4.2, the TSP may serve notice on the Long Term Transmission Customers, with a copy to STU and the Lenders' Representative (a "TSP's Preliminary Notice"), which notice shall specify in reasonable detail the circumstances giving rise to such non-fulfilment of role by the Long Term Transmission Customers.
- b. Following the issue of a TSP's Preliminary Notice, the Consultation Period shall apply.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 71 of 169

Transmission Service Agreement

- c. The Consultation Period would be for the Parties to discuss as to what steps shall be taken with a view to mitigate the consequences of the relevant non-fulfilment of role by the Long Term Transmission Customers including giving time extension to TSP, having regard to all the circumstances.
- d. During the Consultation Period, both Parties shall, save as otherwise provided in this Agreement, continue to perform their respective obligations/ roles under this Agreement.

13.4 Termination due to Force Majeure

13.4.1 In case the Parties could not reach an agreement pursuant to Articles 3.3.4 and 4.4.2 of this Agreement and the Force Majeure Event or its effects continue to be present, the Long Term Transmission Customers shall have the right to cause termination of the Agreement. In case of such termination, the Contract Performance Guarantee shall be returned to the TSP as per the provisions of Article 6.5.1.

13.4.2 In case of termination of this Agreement, the TSP shall provide to the Long Term Transmission Customers the full names and addresses of its Contractors as well as complete designs, design drawings, manufacturing drawings, material specifications and technical information, as required by the Long Term Transmission Customers within thirty (30) days of Termination Notice.

13.5 Termination or amendment due to non-requirement of any Element or Project during construction

13.5.1 In case any Element or Project, which is under construction, is no longer required due to any reason whatsoever, the Long Term Transmission Customers may issue a notice to this effect to the TSP.

13.5.2 Long Term Transmission Customers may also issue notice to the TSP seeking their response to the proposed termination/ amendment (as the case may be) of the Agreement. The Long Term Transmission Customers shall issue copy of such notice to Lenders. In the notice, Long Term Transmission Customers shall


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

also include an assessment of the physical progress made by TSP in the Element/ Project (as the case may be) that is no longer required.

13.5.3 The TSP shall neither carry out further investment nor carry out any work on the Element/ Project (as the case may be) that is no longer required after delivery of the notice.

13.5.4 After taking into account the comments of the TSP, the Long Term Transmission Customers may terminate the Agreement or amend it if both Parties agree to the amendment.

13.6 Revocation of the Transmission License

13.6.1 The State Commission may, as per the provisions of the Electricity Act, 2003, revoke the Transmission License of the ISTS Licensee. Further, in such a case, the Agreement shall be deemed to have been terminated.

13.7 Termination Payment

13.7.1 If Agreement is terminated on account of Force Majeure Events, non-requirement of any Element or Project during Construction, Long Term Transmission Customer's non-fulfilment of Role & TSP's Event of Default, the TSP shall be entitled for Termination Payment equivalent to valuation of Project Assets. Upon payment, the Long Term Transmission Customer(s) shall take over the Project Assets.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

ARTICLE: 14**14 LIABILITY AND INDEMNIFICATION****14.1 Indemnity**

14.1.1 The TSP shall indemnify, defend and hold the Long Term Transmission Customers harmless against:

- (a) any and all third party claims, actions, suits or proceedings against the Long Term Transmission Customers for any loss of or damage to property of such third party, or death or injury to such third party, arising out of a breach by the TSP of any of its obligations under this Agreement, except to the extent that any such claim, action, suit or proceeding has arisen due to a negligent act or omission, breach of this Agreement or non-fulfilment of statutory duty on the part of Long Term Transmission Customers ; and
- (b) any and all losses, damages, costs and expenses including legal costs, fines, penalties and interest actually suffered or incurred by the Long Term Transmission Customers from third party claims arising by reason of:
 - i. a breach by the TSP of any of its obligations under this Agreement, (provided that this Article 14 shall not apply to such breaches by the TSP, for which specific remedies have been provided for under this Agreement) except to the extent that any such losses, damages, costs and expenses including legal costs, fines, penalties and interest (together to constitute "Indemnifiable Losses") has arisen due to a negligent act or omission, breach of this Agreement or non-fulfilment of statutory duty on the part of the Long Term Transmission Customers or
 - ii. any of the representations and warranties of the TSP under this Agreement being found to be inaccurate or untrue.

14.1.2 The Long Term Transmission Customers shall, in accordance with the Regulations framed by UPERC in this regard, indemnify, defend and hold the TSP harmless against:


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 74 of 169

Transmission Service Agreement

- (a) any and all third party claims, actions, suits or proceedings against the TSP, for any loss of or damage to property of such third party, or death or injury to such third party, arising out of any material breach by the Long Term Transmission Customers of any of their roles under this Agreement, except to the extent that any such claim, action, suit or proceeding has arisen due to a negligent act or omission, breach of this Agreement or breach of statutory duty on the part of the TSP, its Contractors, servants or agents; and
- (b) any and all losses, damages, costs and expenses including legal costs, fines, penalties and interest ('Indemnifiable Losses') actually suffered or incurred by the TSP from third party claims arising by reason of:
 - i. any material breach by the Long Term Transmission Customers of any of its roles under this Agreement (provided that, this Article 14 shall not apply to such breaches by the Long Term Transmission Customers, for which specific remedies have been provided for under this Agreement), except to the extent that any such Indemnifiable Losses have arisen due to a negligent act or omission, breach of this Agreement or breach of statutory duty on the part of the TSP, its Contractors, servants or agents or
 - ii. any of the representations and warranties of the Long Term Transmission Customers under this Agreement being found to be inaccurate or untrue.

14.2 Patent Indemnity:**14.2.1**

- (a) compliance with Article 14.2.1 (b), indemnify and hold harmless the Long Term Transmission Customers and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Long Term Transmission Customers may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark,

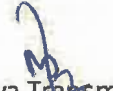

Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

copyright or other intellectual property right registered or otherwise existing at the date of the Agreement by reason of the setting up of the Project by the TSP.

Such indemnity shall not cover any use of the Project or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Agreement, any infringement resulting from the misuse of the Project or any part thereof, or any products produced in association or combination with any other equipment, plant or materials not supplied by the TSP, pursuant to the Agreement.

- (b) If any proceedings are brought or any claim is made against the Long Term Transmission Customers arising out of the matters referred to in Article 14.2.1(a), the Lead Long Term Transmission Customer shall promptly give the TSP a notice thereof, and the TSP shall at its own expense take necessary steps and attend such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. The TSP shall promptly notify the Long Term Transmission Customers of all actions taken in such proceedings or claims.
- (c) If the TSP fails to notify the Lead Long Term Transmission Customer within twenty-eight (28) days after receipt of such notice from the Long Term Transmission Customers under Article 14.2.1(b) above, that it intends to attend any such proceedings or claim, then the Long Term Transmission Customers shall be free to attend the same on their own behalf at the cost of the TSP. Unless the TSP has so failed to notify the Lead Long Term Transmission Customer within the twenty eight (28) days period, the Long Term Transmission Customers shall make no admission that may be prejudicial to the defence of any such proceedings or claims.
- (d) The Lead Long Term Transmission Customer shall, at the TSP's request, afford all available assistance to the TSP in attending to such proceedings or claim, and shall be reimbursed by the TSP for all reasonable expenses incurred in so doing.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

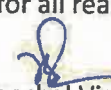


Transmission Service Agreement

14.2.2

- (a) The Long Term Transmission Customers, in accordance with the Regulations framed by UPERC in this regard, subject to the TSP's compliance with Article 14.2.2(b) shall indemnify and hold harmless the TSP and its employees, officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs and expenses of whatsoever nature, including attorney's fees and expenses, which the TSP may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Agreement by reason of the setting up of the Project by the TSP.
- (b) If any proceedings are brought or any claim is made against the TSP arising out of the matters referred to in Article 14.2.2 (a) the TSP shall promptly give the Lead Long Term Transmission Customer a notice thereof, and the Long Term Transmission Customers shall at its own expense take necessary steps and attend such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. The Lead Long Term Transmission Customer shall promptly notify the TSP of all actions taken in such proceedings or claims.
- (c) If the Lead Long Term Transmission Customer fails to notify the TSP within twenty-eight (28) days after receipt of such notice from the TSP under Article 14.2.2(b) above, that it intends to attend any such proceedings or claim, then the TSP shall be free to attend the same on its own behalf at the cost of the Long Term Transmission Customers. Unless the Lead Long Term Transmission Customer has so failed to notify the TSP within the twenty (28) days period, the TSP shall make no admission that may be prejudicial to the defence of any such proceedings or claim.
- (d) The TSP shall, at the Long Term Transmission Customers request, afford all available assistance to the Long Term Transmission Customers in attending to such proceedings or claim, and shall be reimbursed by the Long Term Transmission Customers for all reasonable expenses incurred in so doing.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited




Tirwa Transmission
Limited

Transmission Service Agreement

14.3 Monetary Limitation of liability

- 14.3.1** A Party ("Indemnifying Party") shall be liable to indemnify the other Party ("Indemnified Party") under this Article 14 for any indemnity claims made in a Contract Year only up to an amount of **Rs. 0.37 Crore (Rupees Thirty Seven Lakh Only)**.

14.4 Procedure for claiming indemnity

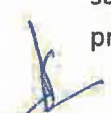
- 14.4.1** Where the Indemnified Party is entitled to indemnification from the Indemnifying Party pursuant to Articles 14.1 or 14.2 the Indemnified Party shall promptly notify the Indemnifying Party of such claim, proceeding, action or suit referred to in Articles 14.1 or 14.2 in respect of which it is entitled to be indemnified. Such notice shall be given as soon as reasonably practicable after the Indemnified Party becomes aware of such claim, proceeding, action or suit. The Indemnifying Party shall be liable to settle the indemnification claim within thirty (30) days of receipt of the above notice.

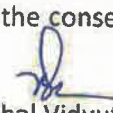
Provided however that, if:

- i. the Parties choose to contest, defend or litigate such claim, action, suit or proceedings in accordance with Article 14.4.3 below; and
- ii. the claim amount is not required to be paid/deposited to such third party pending the resolution of the Dispute,

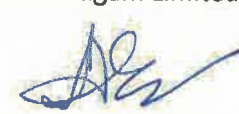
the Indemnifying Party shall become liable to pay the claim amount to the Indemnified Party or to the third party, as the case may be, promptly following the resolution of the Dispute, if such Dispute is not settled in favour of the Indemnified Party.

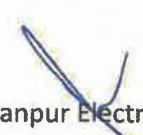
- 14.4.2** The Indemnified Party may contest, defend and litigate a claim, action, suit or proceeding for which it is entitled to be indemnified under Articles 14.1 or 14.2 and the Indemnifying Party shall reimburse to the Indemnified Party all reasonable costs and expenses incurred by the Indemnified Party. However, such Indemnified Party shall not settle or compromise such claim, action, suit or proceedings without first getting the consent of the Indemnifying Party, which


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

consent shall not be unreasonably withheld or delayed.

- 14.4.3** An Indemnifying Party may, at its own expense, assume control of the defence of any proceedings brought against the Indemnified Party if it acknowledges its obligation to indemnify such Indemnified Party, gives such Indemnified Party prompt notice of its intention to assume control of the defence, and employs an independent legal counsel at its own cost that is reasonably satisfactory to the Indemnified Party.

14.5 Limitation on Liability

- 14.5.1** Except as expressly provided in this Agreement, neither the TSP nor the Long Term Transmission Customers nor their respective officers, directors, agents, employees or Affiliates (including, officers, directors, agents or employees of such Affiliates), shall be liable or responsible to the other Party or its Affiliates including its officers, directors, agents, employees, successors, insurers or permitted assigns for incidental, indirect or consequential, punitive or exemplary damages, connected with or resulting from performance or non-performance of this Agreement, or anything done in connection herewith, including claims in the nature of lost revenues, income or profits (other than payments expressly required and properly due under this Agreement), any increased expense of, reduction in or loss of transmission capacity or equipment used therefore, irrespective of whether such claims are based upon breach of warranty, tort (including negligence, whether of the Long Term Transmission Customers, the TSP or others), strict liability, contract, breach of statutory duty, operation of law or otherwise.

- 14.5.2** The Long Term Transmission Customers shall have no recourse against any officer, director or shareholder of the TSP or any Affiliate of the TSP or any of its officers, directors or shareholders for such claims excluded under this Article. The TSP shall also have no recourse against any officer, director or shareholder of the Long Term Transmission Customers, or any Affiliate of the Long Term Transmission Customers or any of its officers, directors or shareholders for such claims excluded under this Article.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

14.6 Duty to Mitigate

The party entitled to the benefit of an indemnity under this Article 14 shall take all reasonable measures to mitigate any loss or damage which has occurred. If the Party fails to take such measures, the other Party's liabilities shall be correspondingly reduced.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



ARTICLE: 15**15 ASSIGNMENTS AND CHARGES****15.1 Assignments:**

- 15.1.1** This Agreement shall be binding upon, and inure to the benefit of the Parties and their respective successors and permitted assigns. This Agreement shall not be assigned by any Party, except as provided in Article 15.3.

15.2 Permitted Charges:

- 15.2.1** Neither Party shall create or permit to subsist any encumbrance over all or any of its rights and benefits under this Agreement.

- 15.2.2** However, the TSP may create any encumbrance over all or part of the receivables, or the Project Assets of the Project in favour of the Lenders or the Lenders' Representative on their behalf, as security for amounts payable under the Financing Agreements and any other amounts agreed by the Parties.

Provided that:

- i. the Lenders or the Lenders' Representative on their behalf shall have entered into the Financing Agreements and agreed in writing to the provisions of this Agreement; and
- ii. any encumbrance granted by the TSP in accordance with this Article 15.2.2 shall contain provisions pursuant to which the Lenders or the Lender's Representative on their behalf agrees unconditionally with the TSP to release from such encumbrances upon payment by the TSP to the Lenders of all amounts due under the Financing Agreements.

15.2.3 Article 15.2.1 does not apply to:

- a. liens arising by operation of law (or by an agreement evidencing the same) in the ordinary course of the TSP developing and operating the Project;


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

- b. pledges of goods, the related documents of title and / or other related documents, arising or created in the ordinary course of the TSP developing and operating the Project; or
- c. security arising out of retention of title provisions in relation to goods acquired in the ordinary course of the TSP developing and operating the Project.

15.3 Substitution Rights of the Lenders

15.3.1 The TSP would need to operate and maintain the Project under the provisions of this Agreement and cannot assign the Transmission License or transfer the Project or part thereof to any person by sale, lease, exchange or otherwise, without the prior approval of the Long Term Transmission Customers.

15.3.2 However, in the case of default by the TSP in debt repayments or in the case of default by the TSP as per Article 13 of this Agreement during the debt repayments, the State Commission may, on an application from the Lenders, assign the Transmission License to the nominee of the Lenders subject to the fulfilment of the qualification requirements and provisions of the Central Electricity Regulatory Commission (Procedure, terms and Conditions for grant of Transmission License and other related matters) Regulations, 2006 and as amended from time to time.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



ARTICLE: 16**16 GOVERNING LAW AND DISPUTE RESOLUTION****16.1 Governing Law:**

This Agreement shall be governed by and construed in accordance with the Laws of India. Any legal proceedings in respect of any matters, claims or disputes under this Agreement shall be under the jurisdiction of appropriate courts in Lucknow.

16.2 Amicable Settlement:

16.2.1 Either Party is entitled to raise any claim, dispute or difference of whatever nature arising under, out of or in connection with this Agreement, including its existence or validity or termination or whether during the execution of the Project or after its completion and whether prior to or after the abandonment of the Project or termination or breach of the Agreement by giving a written notice to the other Party, which shall contain:

- (i) a description of the Dispute;
- (ii) the grounds for such Dispute; and
- (iii) all written material in support of its claim.

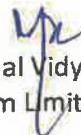
16.2.2 The other Party shall, within thirty (30) days of issue of notice issued under Article 16.2.1, furnish:

- (i) counter-claim and defences, if any, regarding the Dispute; and
- (ii) all written material in support of its defences and counter-claim.

16.2.3 Within thirty (30) days of issue of notice by the Party pursuant to Article 16.2.1, if the other Party does not furnish any counter claim or defense under Article 16.2.2, or thirty (30) days from the date of furnishing counter claims or defence by the other Party, both the Parties to the Dispute shall meet to settle such Dispute amicably. If the Parties fail to resolve the Dispute amicably within thirty (30) days from the later of the dates mentioned in this Article 16.2.3, the Dispute shall be referred for dispute resolution in accordance with Article 16.3.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

16.3 Dispute Resolution:

All Disputes shall be adjudicated by the State Commission.

16.4 Parties to Perform Obligations:

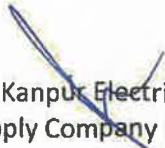
Notwithstanding the existence of any Dispute and difference referred to the State Commission as provided in Article 16.3 and save as the State Commission may otherwise direct by a final or interim order, the Parties hereto shall continue to perform their respective obligations/ roles (which are not in dispute) under this Agreement.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 84 of 169

ARTICLE: 17**17 REPRESENTATION AND WARRANTIES****17.1 Representation and warranties of the Long Term Transmission Customer**

17.1.1 The Long Term Transmission Customers hereby represents and warrants to and agrees with the TSP as follows and acknowledges and confirms that the TSP is relying on such representations and warranties in connection with the transactions described in this Agreement:

- a. It has all requisite powers and authority to execute and consummate this Agreement;
- b. This Agreement is enforceable against the Long Term Transmission Customers in accordance with its terms;
- c. The consummation of the transactions contemplated by this Agreement on the part of Long Term Transmission Customers will not violate any provision of nor constitute a default under, nor give rise to a power to cancel any charter, mortgage, deed of trust or lien, lease, agreement, license, permit, evidence of indebtedness, restriction, or other contract to which the Long Term Transmission Customers is a Party or to which the Long Term Transmission Customers is bound, which violation, default or power has not been waived;

17.2 Representation and Warranties of the TSP:

17.2.1 The TSP hereby represents and warrants to and agrees with the Long Term Transmission Customers as follows and acknowledges and confirms that the Long Term Transmission Customers is relying on such representations and warranties in connection with the transactions described in this Agreement:

- a. It has all requisite powers and has been duly authorized to execute and consummate this Agreement;
- b. This Agreement is enforceable against it, in accordance with its terms;


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 85 of 169

Transmission Service Agreement

- c. The consummation of the transactions contemplated by this Agreement on the part of the TSP will not violate any provision of nor constitute a default under, nor give rise to a power to cancel any charter, mortgage, deed of trust or lien, lease, agreement, license, permit, evidence of indebtedness, restriction, or other contract to which the TSP is a Party or to which the TSP is bound which violation, default or power has not been waived;
- d. The TSP is not insolvent and no insolvency proceedings have been instituted, nor threatened or pending by or against the TSP;
- e. There are no actions, suits, claims, proceedings or investigations pending or, to the best of the TSP's knowledge, threatened in writing against the TSP at law, in equity, or otherwise, and whether civil or criminal in nature, before or by, any court, commission, arbitrator or governmental agency or authority, and there are no outstanding judgments, decrees or orders of any such courts, commission, arbitrator or governmental agencies or authorities, which materially adversely affect its ability to execute the Project or to comply with its obligations under this Agreement.

17.2.2 The TSP makes all the representations and warranties above to be valid as on the Effective Date of this Agreement.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 86 of 169

ARTICLE: 18**18 INDEPENDENT ENGINEER****18.1 Appointment of Independent Engineer**

The Lead Long Term Transmission Customer shall appoint an agency/ company as Independent Engineer as per framework provided in the Guidelines for Encouraging Competition in Development of Transmission Projects for selection of Independent Engineer.

18.2 Roles and functions of Independent Engineer

The role and functions of the Independent Engineer shall include the following:

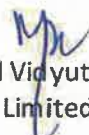
- a. Progress Monitoring as required under this Agreement;
- b. Ensuring Quality as required under this Agreement;
- c. determining, as required under the Agreement, the costs of any works or services and/or their reasonableness during construction phase;
- d. determining, as required under the Agreement, the period or any extension thereof, for performing any duty or obligation during construction phase;
- e. determining, as required under the Agreement, the valuation of the Project Assets.
- f. Assisting the Parties in resolution of Disputes and
- g. Undertaking all other duties and functions in accordance with the Agreement.

18.3 Remuneration of Independent Engineer

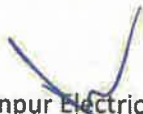
The fee and charges of the Independent Engineer shall be paid by the Lead Long Term Transmission Customer as per terms & conditions of appointment.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



18.4 Termination of appointment

18.4.1 The Lead Long Term Transmission Customer may, in its discretion, terminate the appointment of the Independent Engineer at any time, but only after appointment of another Independent Engineer.

18.4.2 If the TSP has reason to believe that the Independent Engineer is not discharging its duties and functions in a fair, efficient and diligent manner, it may make a written representation to the Lead Long Term Transmission Customer and seek termination of the appointment of the Independent Engineer. Upon receipt of such representation, the Lead Long Term Transmission Customer shall hold a tripartite meeting with the TSP and Independent Engineer for an amicable resolution, and the decision of Lead Long Term Transmission Customer is final. In the event that the appointment of the Independent Engineer is terminated hereunder, the Lead Long Term Transmission Customer shall appoint forthwith another Independent Engineer.

18.5 Authorised signatories

The Lead Long Term Transmission Customer shall require the Independent Engineer to designate and notify to the Lead Long Term Transmission Customer up to 2 (two) persons employed in its firm to sign for and on behalf of the Independent Engineer, and any communication or document required to be signed by the Independent Engineer shall be valid and effective only if signed by any of the designated persons; provided that the Independent Engineer may, by notice in writing, substitute any of the designated persons by any of its employees.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



ARTICLE: 19**19 MISCELLANEOUS PROVISIONS****19.1 Lead Long Term Transmission Customers**

19.1.1 The Long Term Transmission Customers hereby appoint and authorise **"Pashchimanchal Vidyut Vitran Nigam Limited"** (hereinafter referred to as the "Lead Long Term Transmission Customer") to represent all the Long Term Transmission Customers for discharging the rights and obligations of the Long Term Transmission Customers, which are required to be undertaken by all the Long Term Transmission Customers. All the Long Term Transmission Customers shall follow and be bound by the decisions of the Lead Long Term Transmission Customer on all matters specified in this Agreement. Accordingly each Long Term Transmission Customer agrees that any decision, communication, notice, action or inaction of the Lead Long Term Transmission Customer on such matters shall be deemed to have been on its/his behalf and shall be binding on each of the Long Term Transmission Customer. The TSP shall be entitled to rely upon any such action, decision or communication or notice from the Lead Long Term Transmission Customer. It is clarified that provisions under this Article 19.1 are not intended to and shall not render the Lead Long Term Transmission Customer liable to discharge Transmission Charges payments due to TSP from the other Long Term Transmission Customers.

19.1.2 The Long Term Transmission Customers hereby also appoint and authorise **"Purvanchal Vidyut Vitran Nigam Limited"** (hereinafter referred to as the "Alternate Lead Long Term Transmission Customer"), to act as Lead Long Term Transmission Customer as per the provisions of this Article 19.1.2, on the occurrence of any Event of Default specified in Article 13 by the Lead Long Term Transmission Customer. In such an event, the TSP may, at its option, within a period of fifteen (15) days from the date of issue of the TSP's Preliminary Termination Notice referred to in Article 13 and if the said default by the Lead Long Term Transmission Customer subsists, specify in writing to all the Long Term Transmission Customers that the Alternate Lead Long Term Transmission Customer shall thereafter act as the Lead Long Term Transmission Customer. In such a case, if the TSP so notifies, the Alternate Lead Long Term Transmission Customer shall, thereafter, act as Lead Long Term Transmission Customer for the purposes of this Agreement, and the Lead Long Term Transmission Customer earlier appointed under Article 19.1.1 shall automatically cease to be the Lead Long Term Transmission Customer. It is clarified that


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

all decisions taken by the “**Pashchimanchal Vidyut Vitran Nigam Limited**” appointed under Article 19.1.1, in its capacity as Lead Long Term Transmission Customer before such change, shall continue to be valid, in accordance with this Agreement.

- 19.1.3** In the event of “**Purvanchal Vidyut Vitran Nigam Limited**” becoming the Lead Long Term Transmission Customer as per Article 19.1.2, all the Long Term Transmission Customers shall also appoint any of Long Term Transmission Customers, other than “**Pashchimanchal Vidyut Vitran Nigam Limited**”, appointed under Article 19.1.1, as an Alternate Lead Long Term Transmission Customer and thereafter the provisions of Article 19.1.2 shall be applicable.
- 19.1.4** Notwithstanding anything contained above, any decision which is required to be taken by the Long Term Transmission Customers jointly under the provisions of Article 13, shall be taken by all the Long Term Transmission Customers and in case of difference amongst the Long Term Transmission Customers, the said decision shall be taken by the Majority Long Term Transmission Customers, as defined in Article 19.1.5 below.
- 19.1.5** Any decision taken by Long Term Transmission Customers, who taken together constitute sixty five percent (65%) of the Allocated Project Capacity and constitute in number at least fifty percent (50%) of the total number of Long Term Transmission Customers (hereinafter referred to as “Majority Long Term Transmission Customers”), shall be binding on the Lead Long Term Transmission Customer and all other Long Term Transmission Customers. Majority Long Term Transmission Customers shall also have the right to replace the Lead Long Term Transmission Customer by any other Long Term Transmission Customer of their choice. All decisions taken by the Majority Long Term Transmission Customers in this Agreement shall be conveyed by the Lead Long Term Transmission Customer.

19.2 Equity Lock-in Commitment:

- 19.2.1** The aggregate equity share holding of the Selected Bidder in the issued and paid up equity share capital of **Tirwa Transmission Limited** shall not be less than Fifty one percent (51%) up to a period of one (1) year after COD of the Project.

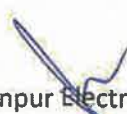
Provided that, in case the Lead Member or Bidding Company is holding equity through Affiliate/s, Ultimate Parent Company or Parent Company, such restriction as specified above shall apply to such entities.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 90 of 169

Provided further, that in case the Selected Bidder is a Bidding Consortium, the Lead Member shall continue to hold equity of at least twenty six percent (26%) upto a period of one (1) year after COD of the Project and any Member of such Bidding Consortium shall be allowed to divest its equity as long as the other remaining Members (which shall always include the Lead Member) hold the minimum equity specified above.

- 19.2.2** If equity is held by the Affiliates, Parent Company or Ultimate Parent Company of the Selected Bidder, then, subject to the second proviso to Article 19.2.1, such Affiliate, Parent Company or Ultimate Parent Company shall be eligible to transfer its shareholding in **Tirwa Transmission Limited** to another Affiliate or to the Parent Company / Ultimate Parent Company of the Selected Bidder. If any such shareholding entity, qualifying as an Affiliate / Parent Company / Ultimate Parent Company, is likely to cease to meet the criteria to qualify as an Affiliate / Parent Company / Ultimate Parent Company, the shares held by such entity shall be transferred to another Affiliate / Parent Company / Ultimate Parent Company of the Selected Bidder.
- 19.2.3** Subject to Article 19.2.1, all transfer(s) of shareholding of **Tirwa Transmission Limited** by any of the entities referred to in Article 19.2.1 and 19.2.2 above, shall be after prior written intimation to the Long Term Transmission Customers .
- 19.2.4** For computation of effective Equity holding, the Equity holding of the Selected Bidder or its Ultimate Parent Company in such Affiliate(s) or Parent Company and the equity holding of such Affiliate(s) or Ultimate Parent Company in **Tirwa Transmission Limited** shall be computed in accordance with the example given below:

If the Parent Company or the Ultimate Parent Company of the Selected Bidder A directly holds thirty percent (30%) of the equity in **Tirwa Transmission Limited** then holding of Selected Bidder A in **Tirwa Transmission Limited** shall be thirty percent (30%);

If Selected Bidder A holds thirty percent (30%) equity of the Affiliate and the Affiliate holds fifty percent (50%) equity in **Tirwa Transmission Limited** then, for the purposes of ascertaining the minimum equity/equity lock-in requirements specified above, the effective holding of Bidder A in **Tirwa Transmission Limited** shall be fifteen percent (15%), (i.e., 30% x 50%)


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

19.2.5 The provisions as contained in this Article 19.2 shall override the terms of the consortium agreement submitted as part of the Bid.

19.2.6 The TSP shall be responsible to report to Long Term Transmission Customers, within thirty (30) days from the occurrence of any event that would result in any change in its equity holding structure from that which existed as on the date of signing of the Share Purchase Agreement. In such cases, the Lead Long Term Transmission Customer would reserve the right to ascertain the equity holding structure and to call for all such required documents / information / clarifications as may be required.

19.3 Commitment of maintaining Qualification Requirement

19.3.1 The Selected Bidder will be required to continue to maintain compliance with the Qualification Requirements, as stipulated in RFP Document, till the COD of the Project. Where the Technically Evaluated Entity and/or the Financially Evaluated Entity is not the Bidding Company or a Member in a Bidding Consortium, as the case may be, the Bidding Company or Member shall continue to be an Affiliate of the Technically Evaluated Entity and/or Financially Evaluated Entity till the COD of the Project.

19.3.2 Failure to comply with the aforesaid provisions shall be dealt in the same manner as TSP's Event of Default as under Article 13 of this Agreement.

19.4 Language:

19.4.1 All agreements, correspondence and communications between the Parties relating to this Agreement and all other documentation to be prepared and supplied under the Agreement shall be written in English, and the Agreement shall be construed and interpreted in accordance with English language.

19.4.2 If any of the agreements, correspondence, communications or documents are prepared in any language other than English, the English translation of such agreements, correspondence, communications or documents shall prevail in matters of interpretation.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



19.5 Affirmation

The TSP and the Long Term Transmission Customers, each affirm that:

1. neither it nor its respective directors, employees, or agents has paid or undertaken to pay or shall in the future pay any unlawful commission, bribe, pay-off or kick-back; and
2. it has not in any other manner paid any sums, whether in Indian currency or foreign currency and whether in India or abroad to the other Party to procure this Agreement, and the TSP and the Long Term Transmission Customers hereby undertake not to engage in any similar acts during the Term of Agreement.

19.6 Severability

The invalidity or enforceability, for any reason, of any part of this Agreement shall not prejudice or affect the validity or enforceability of the remainder of this Agreement, unless the part held invalid or unenforceable is fundamental to this Agreement.

19.7 Counterparts

This Agreement may be executed in one or more counterparts, each of which shall be deemed an original and all of which collectively shall be deemed one and the same Agreement.

19.8 Breach of Obligations/ Roles

The Parties acknowledge that a breach of any of the obligations/ roles contained herein would result in injuries. The Parties further acknowledge that the amount of the liquidated damages or the method of calculating the liquidated damages specified in this Agreement is a genuine and reasonable pre-estimate of the damages that may be suffered by the non-defaulting Party in each case specified under this Agreement.

19.9 Restriction of Shareholders / Owners Liability

- 19.9.1** Parties expressly agree and acknowledge that none of the shareholders of the Parties hereto shall be liable to the other Parties for any of the contractual obligations of the concerned Party under this Agreement.

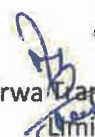

Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Transmission Service Agreement

- 19.9.2** Further, the financial liabilities of the shareholder(s) of each Party to this Agreement shall be restricted to the extent provided in the Indian Companies Act, 1956 / Companies Act, 2013 (as the case may be).

19.10 Taxes and Duties:

- 19.10.1** The TSP shall bear and promptly pay all statutory taxes, duties, levies and cess, assessed/levied on the TSP, its Contractors or their employees that are required to be paid by the TSP as per the Law in relation to the execution of the Project and for providing Transmission Service as per the terms of this Agreement.
- 19.10.2** The Long Term Transmission Customers shall be indemnified and held harmless by the TSP against any claims that may be made against the Long Term Transmission Customers in relation to the matters set out in Article 19.10.1.
- 19.10.3** The Long Term Transmission Customers shall not be liable for any payment of, taxes, duties, levies, cess whatsoever for discharging any obligation of the TSP by the Long Term Transmission Customers on behalf of TSP or its personnel, provided the TSP has consented in writing to Long Term Transmission Customers for such work, for which consent shall not be unreasonably withheld.

19.11 No Consequential or Indirect Losses

The liability of the TSP shall be limited to that explicitly provided in this Agreement.

Provided that, notwithstanding anything contained in this Agreement, under no event shall the Long Term Transmission Customers or the TSP claim from one another any indirect or consequential losses or damages.

19.12 Discretion:

Except where this Agreement expressly requires a Party to act fairly or reasonably, a Party may exercise any discretion given to it under this Agreement in any way it deems fit.

19.13 Confidentiality

- 19.13.1** The Parties undertake to hold in confidence this Agreement and RFP Project Documents and not to disclose the terms and conditions of the transaction contemplated hereby to


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 94 of 169

Transmission Service Agreement

third parties, except:

- (a) to their professional advisors;
- (b) to their officers, contractors, employees, agents or representatives, financiers, who need to have access to such information for the proper performance of their activities; or
- (c) disclosures required under Law,

without the prior written consent of the other Parties.

Provided that, the TSP agrees and acknowledges that the Long Term Transmission Customers, may, at any time, disclose the terms and conditions of the Agreement and the RFP Project Documents to any person, to the extent stipulated under the Law and the Competitive Bidding Guidelines.

19.14 Order of priority in application:

Save as provided in Article 2.5, in case of inconsistencies between the terms and conditions stipulated in Transmission License issued by the Appropriate Commission to the TSP, agreement(s) executed between the Parties, applicable Law including rules and regulations framed thereunder, the order of priority as between them shall be the order in which they are placed below:

- terms and conditions of Transmission License;
- applicable Law, rules and regulations framed thereunder;
- this Agreement;

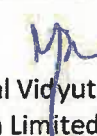
19.15 Independent Entity:

19.15.1 The TSP shall be an independent entity performing its obligations pursuant to the Agreement.

19.15.2 Subject to the provisions of the Agreement, the TSP shall be solely responsible for the manner in which its obligations under this Agreement are to be performed. All


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



employees and representatives of the TSP or Contractors engaged by the TSP in connection with the performance of the Agreement shall be under the complete control of the TSP and shall not be deemed to be employees, representatives, Contractors of the Long Term Transmission Customers and nothing contained in the Agreement or in any agreement or contract awarded by the TSP shall be construed to create any contractual relationship between any such employees, representatives or Contractors and the Long Term Transmission Customers.

19.16 Amendments:

19.16.1 This Agreement may only be amended or supplemented by a written agreement between the Parties.

19.17 Waiver:

19.17.1 No waiver by either Party of any default or breach by the other Party in the performance of any of the provisions of this Agreement shall be effective unless in writing duly executed by an authorised representative of such Party.

19.17.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement nor time or other indulgence granted by one Party to the other Parties shall act as a waiver of such breach or acceptance of any variation or the relinquishment of any such right or any other right under this Agreement, which shall remain in full force and effect.

19.18 Relationship of the Parties:

This Agreement shall not be interpreted or construed to create an association, joint venture, or partnership or agency or any such other relationship between the Parties or to impose any partnership obligation or liability upon either Party and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 96 of 169

Transmission Service Agreement

19.19 Entirety:

19.19.1 This Agreement along with its sections, schedules and appendices is intended by the Parties as the final expression of their agreement and is intended also as a complete and exclusive statement of the terms of their agreement.

19.19.2 Except as provided in this Agreement, all prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement or the provision of Transmission Service under this Agreement to the Long Term Transmission Customers by the TSP shall stand superseded and abrogated.

19.20 Notices:

19.20.1 All notices or other communications which are required to be given under this Agreement shall be in writing and in the English language

19.20.2 If to the TSP, all notices or communications must be delivered personally or by registered post or facsimile or any other mode duly acknowledged to the addressee below:

Address :
 Attention : *M. Raghv Kumar*
 Email : *raghukumar.m@meilgroup.com*
 Fax. No. : *040-44336800*
 Telephone No.: *9676520044*



19.20.3 If to the Long Term Transmission Customer(s), all notices or communications must be delivered personally or by registered post or facsimile or any other mode duly acknowledged to the addresses below:

(i) Paschimanchal Vidyut Vitran Nigam Ltd.

Address : *Executive Engineer (Comm)*
P.V.V.N.L., Meerut
 Attention : *Sonam Singh*
 Email :
 Fax. No. : *9193330053*

[Signature]
 Paschimanchal Vidyut
 Vitran Nigam Limited

[Signature]
 Purvanchal Vidyut
 Vitran Nigam Limited

[Signature]
 Dashinanchal Vidyut
 Vitran Nigam Limited

[Signature]
 Madhyanchal Vidyut
 Vitran Nigam Ltd.

[Signature]
 Kanpur Electricity
 Supply Company Limited

[Signature]
 Tirwa Transmission
 Limited



Transmission Service Agreement

Telephone No. :

(ii) Madhyanchal Vidyut Vitran Nigam Ltd.

Address :

Attention :

Email :

Fax. No. :

Telephone No. :

ASHOK KUMAR

Superintending Engineer (Comm)
MVNL, Lucknow

9415901104

(iii) Purvanchal Vidyut Vitran Nigam Ltd.

Address :

Attention :

Email :

Fax. No. :

Telephone No. :

SUPERINTENDING ENGINEER (COM.)
Purvanchal Vidyut Vitran Nigam Limited
Vidyut Nagar, P.O. D.L.W., Varanasi

9451971954

(iv) Dakshinanchal Vidyut Vitran Nigam Ltd.

Address :

Attention :

Email :

Fax. No. :

Telephone No. :

M.P. Singh
अधीक्षण अभियन्ता (वाणिज्य)
द०वि०वि०निलि०, आगरा

9412721350

(v) Kanpur Electricity Supply Co. Ltd.

Address :

Attention :

Email :

Fax. No. :

Telephone No. :

अधीक्षण अभियन्ता (वा०)
केस्को, कानपुर

R.C. Srivastava

8189045101

Pashchimanchal Vidyut
Vitran Nigam LimitedPurvanchal Vidyut
Vitran Nigam LimitedDashinanchal Vidyut
Vitran Nigam LimitedMadhyanchal Vidyut
Vitran Nigam Ltd.Kanpur Electricity
Supply Company LimitedTirwa Transmission
Limited

19.20.4 All notices or communications given by facsimile shall be confirmed by sending a copy of the same via post office in an envelope properly addressed to the appropriate Party for delivery by registered mail. All notices shall be deemed validly delivered upon receipt evidenced by an acknowledgement of the recipient, unless the Party delivering the notice can prove in case of delivery through the registered post that the recipient refused to acknowledge the receipt of the notice despite efforts of the postal authorities.

19.20.5 Any Party may by notice of at least fifteen (15) days to the other Party change the address and/or addresses to which such notices and communications to it are to be delivered or mailed.

19.21 Fraudulent and Corrupt Practices

19.21.1 The TSP and its respective officers, employees, agents and advisers shall observe the highest standard of ethics during the subsistence of this Agreement. Notwithstanding anything to the contrary contained in the Agreement, the Long Term Transmission Customers may terminate the Agreement without being liable in any manner whatsoever to the TSP, if it determines that the TSP has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bid process. In such an event, the Long Term Transmission Customers shall forfeit the Contract Performance Guarantee of the TSP, without prejudice to any other right or remedy that may be available to the hereunder or subsistence otherwise.

19.21.2 Without prejudice to the rights of the Long Term Transmission Customers under Clause 19.21.1 hereinabove and the rights and remedies which the Long Term Transmission Customers may have under this Agreement, if a TSP is found by the Long Term Transmission Customers to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bid process, or after the issue of Letter of Intent (hereinafter referred to as Lol) or after the execution of the TSA, the Long Term Transmission Customer(s) may terminate the Agreement without being liable in any manner whatsoever to the TSP. Further, the TSP & its Affiliates shall not be eligible to participate in any tender or RFP issued by any BPC for an indefinite period from the date such TSP is found by the Long Term Transmission Customer(s) to have directly or


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practices, as the case may be.

19.21.3 For the purposes of this Clause 19.21, the following terms shall have the meaning hereinafter respectively assigned to them:

(a) **"corrupt practice"** means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bid process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the BPC who is or has been associated or dealt in any manner, directly or indirectly with the Bid process or the Lol or has dealt with matters concerning the RFP Project Documents or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the BPC, shall be deemed to constitute influencing the actions of a person connected with the Bid Process); or (ii) engaging in any manner whatsoever, whether during the Bid Process or after the issue of the Lol or after the execution of the RFP Project Documents, as the case may be, any person in respect of any matter relating to the Project or the Lol or the RFP Project Documents, who at any time has been or is a legal, financial or technical adviser of the BPC in relation to any matter concerning the Project;

(b) **"fraudulent practice"** means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bid process;

(c) **"coercive practice"** means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the Bid process;

(d) **"undesirable practice"** means (i) establishing contact with any person connected with or employed or engaged by the BPC with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bid process; or (ii) having a Conflict of Interest; and

(e) **"restrictive practice"** means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bid process;


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Transmission Service Agreement

19.22 Compliance with Law:

Despite anything contained in this Agreement but without prejudice to Article 12, if any provision of this Agreement shall be in deviation or inconsistent with or repugnant to the provisions contained in the Electricity Act, 2003, or any rules and regulations made there under, such provision shall be deemed to be amended to the extent required to bring it into compliance with the aforesaid relevant provisions as amended from time to time.

IN WITNESS WHEREOF, THE PARTIES HAVE CAUSED THIS AGREEMENT TO BE EXECUTED BY THEIR DULY AUTHORISED REPRESENTATIVES AS OF THE DATE AND PLACE SET FORTH ABOVE.

1.


 M. Raghu Kumar

For and on behalf of TSP



[Signature, Name, Designation and Address]

2.


 Executive Engineer (Comm)
 P.V.V.N.L., Meerut
 Sonam Singh

For and on behalf of Paschimanchal Vidyut Vitran Nigam Ltd.

[Signature, Name, Designation and Address]

3.



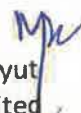
Superintending Engineer (Comm)
MVVNL, Lucknow

For and on behalf of Madhyanchal Vidyut Vitran Nigam Ltd.

[Signature, Name, Designation and Address]


 Pashchimanchal Vidyut
 Vitran Nigam Limited


 Purvanchal Vidyut
 Vitran Nigam Limited


 Dashinanchal Vidyut
 Vitran Nigam Limited


 Madhyanchal Vidyut
 Vitran Nigam Ltd.


 Kanpur Electricity
 Supply Company Limited


 Tirwa Transmission
 Limited



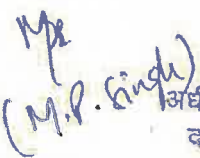
Transmission Service Agreement

4. For and on behalf of Purvanchal Vidyut Vitran Nigam


 SUPERINTENDING
 Executive Engineer (COM.)
 Purvanchal Vidyut Nigam Ltd. (COM.)
 VVNL Meerutasi
 Vidyut Nagar, P.O. D.L. Meerutasi
 BRAJESH KUMAR, SECCOM, PUVNL

[Signature, Name, Designation and Address]

5. For and on behalf of Dakshinanchal Vidyut Vitran Nigam Ltd.


 अधीक्षण अभियन्ता (वाणिज्य)
 दक्षिणविद्युतनिलो, आगरा

[Signature, Name, Designation and Address]

6. For and on behalf of Kanpur Electricity Supply Co. Ltd.


 अधीक्षण अभियन्ता (वा०)
 केस्को, कानपुर

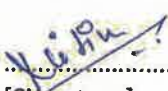
[Signature, Name, Designation and Address]

WITNESSES:

1. For and on behalf of

: BPC

Nitin Shrivastava
 EA - PFCC


 [Signature]


 Pashchimanchal Vidyut
 Vitran Nigam Limited


 Purvanchal Vidyut
 Vitran Nigam Limited


 Dashinanchal Vidyut
 Vitran Nigam Limited


 Madhyanchal Vidyut
 Vitran Nigam Ltd.


 Kanpur Electricity
 Supply Company Limited


 Tirwa Transmission
 Limited



Transmission Service Agreement

.....
 [Insert, Name, Designation and Address of the Witness]

2. For and on behalf of

: STU



.....
 [Signature]

.....
 [Designation]

.....
 [Insert Name, Designation and Address of the Witness]



Pashchimanchal Vidyut
 Vitran Nigam Limited



Purvanchal Vidyut
 Vitran Nigam Limited



Dashinanchal Vidyut
 Vitran Nigam Limited



Madhyanchal Vidyut
 Vitran Nigam Ltd.



Kanpur Electricity
 Supply Company Limited



Tirwa Transmission
 Limited

Tirwa Transmission Limited

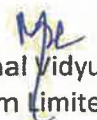


Page 103 of 169

SCHEDULES


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Schedule: 1

Project Description and Scope of Project

1. Brief description of Transmission line:

I. 220/132/33 KV Tirwa (2x160+2x63MVA) substation.

At present, Kannauj district is being fed at 33kV voltage level from 220/132/33 kV Chhibramau, 132/33KV Substation, Kannauj and Talgram sub-stations. Generally 132 kV substation, Kannauj and Talgram is fed at 132 kV voltage level from 220 kV Substation Chibramau and in contingency these are fed from 220 KV Neebkarori sub-station. At present both of the above 220 kV substations are overloaded. Due to excessive long 33 kV lines in Tirwa area of Kannauj the problem of low voltage and overloading persists especially in summer. Therefore to overcome the low voltage problem and to strengthen the transmission system, 220/132/33 KV Tirwa (2x160+2x63MVA) substation alongwith few lines associated to it are proposed for construction.

II. LILO of Shamli-Aligarh line at THDC Khurja

In addition to above as per Power Purchase Agreement (PPA), 60% of the generated power of THDC Khurja STTP (2x 660 MW) has been allocated to the state of Uttar Pradesh. The power evacuation of Khurja TPS is to be done by constructing LILO of one circuit of Shamli-Aligarh line at THDC Khurja Power Plant.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 105 of 169

Transmission Service Agreement

2. Scope of the Project:

S. No.	Name of the Transmission Element	Scheduled COD from Effective Date
	Construction of 220/132/33kV Tirwa (Kannauj) Substation with associated lines	
1.	Construction of 220/132/33kV substation, Tirwa (Kannauj) (including following Bay at S/S):- 2x160 + 2x63 MVA (i) 220kV 160MVA ICT Bay- 02 Nos. (ii) 132kV 160MVA ICT Bay- 02 Nos. (iii) 132kV 63MVA ICT Bay- 02 Nos. (iv) 33kV 63 MVA ICT Bay- 02 Nos. (v) 220kV Bay : Feeder Bay- 02 Nos. Bus Coupler Bay- 01 Nos. Transfer Bus Bay- 01 Nos. (vi) 132kV Bay : Feeder Bay- 02 Nos. Bus Coupler Bay- 01 Nos. Transfer Bus Bay-0 1 Nos. (vii) 33kV Bay : Feeder Bay- 10 Nos. Transfer Bus Coupler Bay- 01 Nos.	18 Months
2.	LILO of 220kV Mainpuri (220) – Bhauti PG (400) S/C line at 220kV Tirwa S/s	
3.	LILO of 132kV Dibiyapur-Bidhuna S/C line at 220kV Tirwa S/s	
B.	Construction of LILO of one circuit of 400kV D/C (Twin Moose) Shamli-Aligarh Line at THDC 2x660 MW Khurja Power Plant	
1.	LILO of one circuit of 400 kV D/C (Twin Moose) Shamli-Aligarh Line at THDC 2x660 MW Khurja Power Plant*	7 Months

* 02 Nos. Bays of 400kV will be provided by THDC Khurja Power Plant


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 106 of 169

Transmission Service Agreement

ANNEXURE C

Technical Specifications of Transmission System
SPECIFIC TECHNICAL REQUIREMENTS FOR TRANSMISSION LINES

- 1.0 The Tower shall be fully galvanized using mild steel or/ and high tensile steel sections. Bolts and nuts with spring washer are to be used for connection.
- 2.0 IS Steel section of tested quality in conformity with IS 2062:2011, grade E 250 (Designated Yield Strength 250 MPa) and/or grade E 350 (Designated Yield Strength 350 MPa) are to be used in towers, extensions, gantry structures and stub setting templates. However, use of steel grade having designated yield strength more than 350 MPa is not permitted. The steel used for fabrication of towers shall be manufactured by primary steel producers only.
- 3.0 Towers shall be designed as per IS-802:2015. However, drag coefficient of the tower shall be as follows:-

Sl No.	Solidity Radio Φ	Force Coefficient, C_t		
		Flat Sided Members	Circular Sect	
			Sub-Critical Flow ($DV_d < 6 \text{ m}^2/\text{s}$)	Super Critical Flow ($DV_d \geq 6 \text{ m}^2/\text{s}$)
(1)	(2)	(3)	(4)	(5)
i)	0.1	1.9	1.2	0.7
ii)	0.2	1.8	1.2	0.8
iii)	0.3	1.7	1.2	0.8
iv)	0.4	1.7	1.1	0.8
v)	0.5	1.6	1.1	0.8
vi)	0.75	1.6	1.5	1.4
vii)	1.00	2.0	2.0	2.0


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

As per Clause 12.1.2.1 b) 2) of IS 802:2015, Under security condition for tension and dead end towers, the transverse loads due to line deviation shall be the component of 100 percent mechanical tension of conductor and ground wire/OPGW corresponding to 100% of design wind pressure at everyday temperature or 36% design wind pressure at minimum temperature after accounting for drag coefficient and gust response factor.

Transmission Service Provided (TSP) may adopt any additional loading/ design criteria for ensuring reliability of the line, if so desired and/ or deemed necessary.

Transmission line shall be designed considering wind zones as specified in wind map given in National Building Code 2016, Vol. 1. The developer shall also make his own assessment of local wind conditions and frequent occurrences of high intensity winds (HIW) due to thunderstorms, dust- storms, downburst etc. along the line route and wherever required, higher wind zone than that given in wind map shall be considered for tower design for ensuring reliability of line.

Towers with more than two sub-conductors per phase up to 400 kV shall be designed for reliability for reliability level 2.

4.0

- A. For power line crossing of 400 kV or above voltage level, large angle & dead end towers (i.e. D/DD/QD) shall be used on either side of power line crossing (i.e. D/DD/QD- D/DD/QD arrangement).
- B. For power line crossing of 132 kV and 220 kV voltage level, angle towers (B/C/D/DB/DC/DD/QB/QC/QD) shall be used on either side of power line crossing depending upon the merit of the prevailing site condition and line deviation requirement.
- C. For power line crossing of 66 kV and below voltage level, suspension/tension towers shall be provided on either side of power line crossing depending upon the merit of the prevailing site condition and line deviation requirement.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

- D. For crossing of railways, national highways and state highways, transmission line with large angle & dead end towers (i.e. D/DD/QD) shall be used on either side of crossing.

5.0 The conductor configuration shall be as follows:

5.1 For transmission lines with ACSR conductor

Transmission line	ACSR Conductor specified	Sub- Conductor Spacing
400kV , D/C (Twin Moose) transmission lines	Moose: Stranding 54/3.53mm- Al + 7/3.53 mm- Steel, 597sq mm, Total Sectional Area, 31.77mm diameter	450mm
220kV transmission lines	Zebra: Stranding 54/3.18mm-Al + 7/3.18mm-Steel, Total Sectional Area 28.62mm diameter	NA
132kV transmission lines	Panther: Stranding 30/3.00mm-Al + 7/3.00 mm-Steel, Total Sectional Area 21.00mm diameter	NA

Note: The transmission lines shall have to be designed for a maximum operating conductor temperature of 85 deg C for ACSR only.

- 6.0 The required phase to phase spacing and horizontal spacing for 400 kV D/C line shall be governed by the tower design as well as minimum live metal clearances for 400 kV voltage level respectively under different insulator swing angles.

For 400 kV transmission lines:

The minimum live metal clearances for 400 kV D/C transmission lines may be considered as follow:

- (i) Under stationary condition
From tower body:
For 400 kV D/C : 3.05 m
- (ii) Under swing conditions:


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Wind pressure Condition	Minimum electrical clearance
a) Nil	3.05 m
b) Swing angle (22°)	3.05 m
c) Swing angle (44°)	1.86 m

The phase to phase spacing for 400 kV D/C line shall not be less than 8.0 m.

For 220 kV Transmission Lines:

The minimum live metal clearances for 220 kV D/C Line shall be considered as follows:

- (i) Under stationary conditions
From tower body: 2.13m
- (ii) Under swing conditions

Wind pressure Condition	Minimum electrical clearance
a) Swing angle (15°)	1.98 mtrs
b) Swing angle (30°)	1.83 mtrs
c) Swing angle (45°)	1.675 mtrs

However, the phase spacing for 220 kV D/C Line shall be not less than 5m.

For 132 kV Transmission Lines:

The minimum live metal clearances for 132 kV D/C transmission line shall be considered as follows:

- (i) Under stationary conditions
From tower body: 1.53m
- (ii) Under swing conditions


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 110 of 169

Transmission Service Agreement

Wind pressure Condition	Minimum electrical clearance
a) Swing angle (15°)	1.53 mtrs
b) Swing angle (30°)	1.37 mtrs
c) Swing angle (45°)	1.22 mtrs
d) Swing angle (60°)	1.07 mtrs

However, the phase spacing for 132kV D/C Line shall be not less than 4m.

- 7.0 The minimum ground clearance for 400 kV D/C transmission lines shall be 8.84 m, for 220kV D/C line shall be 7.015m and for 132kV D/C line shall be 6.10m so that maximum electric field does not exceed 10kV/m within the ROW and does not exceed 5kV/m at the edge of the ROW as per international guidelines.
- 8.0 The minimum mid span separation between earth wire and conductor shall be 9.0 m for 400 kV D/C transmission lines, 8.5m for 220kV D/C transmission lines and 6.1m for 132kV D/C transmission lines. Shielding angle shall not exceed 20 deg for 400 kV D/C line D/C transmission lines & 30deg for 220kV D/C lines and 132 kV D/C lines.
- 9.0 Transposition is to be done for all transmission lines whose length is greater than 100 km. Transposition should be carried out at 1/3 and 2/3 of line length tower positions. Transposition of the transmission line after construction of LILLO shall be maintained by developer.
- 10.0 The switching impulse withstand voltage (wet) for 400 kV line shall be 1050 kVp. Lightning impulse withstand voltage (dry) for 400kV line shall be 1550 kVp, for 220kV line shall be 1050kVp & for 132kV line shall be 650kVp.
- 11.0 The Fault current for design of line shall be 63 kA for 1 sec for 400 kV, 50kA for 1sec for 220kV and 40Ka for 132kV.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

12.0 Porcelain/ glass/ polymer insulators shall be used in the line as per requirement and site conditions. However, porcelain/ glass disc insulators string shall be required to be used for Pilot string irrespective of type of insulators used for suspension/tension location.

13.0 Each tower shall be earthed such that tower footing resistance does not exceed 10 ohms. Pipe type or Counterpoise type earthing shall be provided in accordance with relevant IS. If the value (before stringing) has been recorded higher than 10 ohm, earthing shall be changed to Counterpoise type. Additional earthing shall be provided on every 7 to 8 kms distance at tension tower for direct earthing of both shield wires.

14.0 The factors of safety for design of towers/ Monopoles and extensions shall be as under:-

Normal condition -1.1

Broken wire condition -1.1

15.0 The minimum factors of safety/load factor based on the ultimate strength of the foundation material when the towers are under full Ultimate loads under conditions of loadings combine with the other loads specific for the foundations shall be as given below :-

Normal condition -1.2

Broken wire condition -1.2

The above factors of safety will be considered on design loads of tower without factor of safety (1.1)

16.0 Pile type foundation shall be used for towers located in river or creek bed or on bank of river having scourable strata or in areas where river flow or change in river course is anticipated, based on detailed soil investigation and previous years' maximum flood discharge of the river, maximum velocity of water, highest flood level, scour depth & anticipated change in course of river based on river morphology data of at least past 20 years to ensure availability and reliability of the transmission line.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

- 17.0 In case of 400kV voltage class lines, at least one out of two earth wires shall be OPGW and second earth wire, if not OPGW, shall be either of galvanized standard steel (GSS) or AACSR or any other suitable conductor type depending upon span length and other technical consideration.
- 18.0 Transmission line route shall be finalized, in consultation with appropriate authorities so as to avoid the habitant zones of endangered species and other protected species. Bird diverters, wherever required, shall be provided on the line.
- 19.0 The raised chimney foundation is to be provided in areas prone to flooding/water stagnation like paddy field/agricultural field & undulated areas to avoid direct contact of water with steel part of tower. The top of the chimney of foundation should be at least above HFL (High flood Level) or the historical water stagnation/logging level (based on locally available data) or above High Tide Level or 500 mm above Natural Ground level (whichever is higher).
- 20.0 For transmission line sections passing within a distance of 50 km from the boundary of the two wind zones, higher of the two wind zone shall be considered for design of towers located in such sections.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

SPECIFIC TECHNICAL REQUIREMENT FOR SUBSTATION

The proposed 220 kV Tirwa (Kannauj) (2×160+2×63MVA) substation shall be Air Insulated Substation (AIS).

1.0 Salient features of 220/132/33 kV substation equipments and facilities

The design and specification of substation equipment's are to be governed by the following factors :-

2.0 TRANSFORMER**(A) 220/132 kV 160MVA Transformer**

The transformers shall conform in all respect to latest edition of IS 2026 and CBIP specification except where specified otherwise. The transformer shall be core type, oil immersed, suitable for outdoor installation, suitable for continuous duty. The transformer shall be suitable for bi-directional flow of rated powers.

Both 220KV and 132KV systems, where these transformers are to be used are effectively earthed.

The rating and electrical characteristics of transformers shall be as follows:-

i.	Maximum continuous capacity	160 MVA
ii.	Frequency	50 C/s
iii.	No. of phase	three
iv.	Rated Voltage of HV winding	220 KV
v.	Rated Voltage of IV winding	132 KV
vi.	Rated voltage of Auxiliary winding	11 KV
vii.	Percentage impedance	
	a) HV to IV at normal tap No. 13 at 100% rating.	10% (±7.5%)
	b) HV to IV at tap No. 1 at 100% rating.	11% (±10%)
	c) HV to IV at Tap No. 17 at 100% rating.	11% (±10%)
	d)HV to tertiary	60% (min.)
	e)IV to tertiary	45% (min.)

Pashchimanchal Vidyut
Vitran Nigam Limited

Purvanchal Vidyut
Vitran Nigam Limited

Dashinanchal Vidyut
Vitran Nigam Limited

Madhyanchal Vidyut
Vitran Nigam Ltd.

Kanpur Electricity
Supply Company Limited

Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 114 of 169

Transmission Service Agreement

viii.	Connections	
	a)Series and common winding	Star
	b)Auxiliary winding	delta
ix.	Reference voltage group and terminal markings	HV/IV/Tertiary YNa0d11.
x.	On load taps equal steps of	(-5%) to (+15%) in 1.25% each for IV variation.
xi.	Polarity	Subtractive
xii.	Type of Cooling	ONAN- 96MVA/ONAF- 128MVA/OFAF- 160MVA
xiii.	Rated capacity of auxiliary winding (Loaded)	45 MVA
xiv.	D.C. Voltage for relays etc.	110 V/220V DC (as required)

(B) 132/33 kV 63MVA Transformer

The transformers shall conform in all respects to IS-2026 / 2009 & 2011 or latest amendment thereof, and CBIP specification except where specified otherwise.

The transformers shall have core type construction, ONAN, ONAF cooled and shall be suitable for outdoor service.

The salient rating and electrical characteristics of the transformer shall be as follows:-

	Design Max. Ambient Air Temperature	50°C
i.	Max. Continuous capacity (MVA)	63
ii.	Normal Continuous capacity (MVA)	ONAN-50.40 MVA / ONAF-63MVA
iii.	Type of cooling	ONAN / ONAF
iv.	Rated voltage of HV winding (KV)	132
v.	Rated voltage of LV winding (KV)	33
vi.	Frequency (C/S)	50


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 115 of 169

Transmission Service Agreement

vii.	No. of phases	Three
viii.	HV to LV Percentage impedance on rated MVA base at rated current and frequency at 75°C winding Temp.(at normal tap)	13.75% ± 3%
ix.	Connections	
a	HV winding	Star
b	LV winding	Star
x.	Vector Group	YN-yn0
xi.	On Load Tap Changer	Min. 500 Amp.
xii.	Earthing	Both sides effectively earthed.
xiii.	Limit for hot spot temp. for which the T/F is designed	140°C
xiv.	Temp. gradient between winding & oil	20°C average
xv.	Voltage to earth for which the star point will be insulated	38KV rms & 95KV p
xvi.	Over voltage operating capacity and duration	
a	110 % of rated voltage	continuous
b	125 % of rated voltage	For 60 sec,
c	140 % of rated voltage	For 5 sec.
xvii.	Type of Transformer	Core Type
xviii.	Core	
a	Material of Core lamination	CRGO silicon steel
b	Thickness of lamination	0.27mm
xix.	System Short circuit level & duration for which the Transformer shall be capable to be withstand the stresses	31.5 KA for 03 sec.

(C) 250 KVA 33 /0 .4 kV STATION TRANSFORMER

The transformers shall conform in all respects to ISS – 2026 2011 or latest amendment thereof, and CBIP specification except where specified otherwise.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 116 of 169

Transmission Service Agreement

3.0 INSULATION

The dielectric strength of winding insulation and of the bushing shall conform to the values given in IS 2026-1977 except where specially required more.

System Voltage	Impulse test Voltage	One minute power frequency voltage withstand test
245 KV	950 KV	395 KV
145 KV	550 KV	230 KV
36 KV	170 KVp	70KV rms
11 KV (Tertiary)	170 KV	70 KV
Neutral	95 KV	38 KV

4.0 SWITCHING SCHEMES

It is essential that the system should remain secured even under conditions of major equipment or bus bar failure. Sub-station being the main connection for having large influence on the security of the system as a whole. The selection of the bus switching scheme is governed by the various technical and other related factors.

Substation	220 kV side	132 kV side	33 kV side
220 kV Tirwa (Kannauj) (2×160+2×63MVA) substation	Double Main Bus System	Double Main Bus System	Single Main Bus System

5.0 245 KV & 145 KV SF6 CIRCUIT BREAKERS

The Circuit Breaker shall comply to IEC 62271-100 and IS-13118 or latest amendment in general.

PRINCIPAL PARAMETERS**(A) FOR 245 KV SF6 CIRCUIT BREAKERS**

Rated nominal system voltage 220KV

Rated voltage 245KV


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 117 of 169

Transmission Service Agreement

Rating of C.B.	MVA
Rated frequency	50 Hz
System neutral earthing	Effectively earthed
Type of C.B.	SF 6
No. of poles	3 – (pole operated)
Installation	Outdoor
Rated normal current	3150 Amp.
Rated short circuit breaking	1. RMS value of A.C. component current of the rated short circuit breaking current 40 kA for 3 Sec. 2. D.C.component as per IEC-62210
Rated duration of short circuit	3 Sec.
Transient frequency voltage	The rated transient recovery voltage of the breaker shall be used on 4 parameter method as defined in IEC 62210
Terminal faults	1 st pole of clear factor 1.3 value of 4 parameter as per IEC62210
Short line fault	As per IEC
Rated short circuit making capacity (peak)	100 kA
Operation duly cycle	0-t-co-t ₁ -co t = 0.3 Sec. t ₁ = 3 min.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Total breaking time	3 cycles
1.2/50 microsecond lightning impulse withstand voltage to earth	1050 KV (min.)
One minute power frequency dry withstand voltage to earth	460 KV (RMS)
Temperature rise	Final Steady State Temperature rise of current carrying part shall not exceed the limits specified in IEC 62210 with a site reference ambient temperature of 50°C
Operating mechanism	Spring/Electro pneumatic.
Type of tripping	Trip free
Number of auxiliary contacts	12 Nos NO. and 12 Nos NC
No. of trip coils	2 Nos.
No. of closing coils	1 No.
Breaking line charging current	125 Amps. at 245KV
Interrupting capacity in KA for kilometric faults	40 KA (RMS)
Arcing time (at 100% interruption capacity)	25 milliseconds.
Minimum dead time	300 milliseconds.
No. of break per phase	One
Tripping and closing control circuit voltage	110 V.DC
First pole to clear factor	1.3


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

(B) FOR 145 kV SF6 Circuit Breakers

Rated nominal system voltage	132KV
Rated voltage	145KV
Rating of C.B.	7900 MVA
Rated frequency	50 Hz
System neutral earthing effectively earthed	
Type of C.B.	SF 6
No. of poles	3 – (gang operated)
Installation	Outdoor
Rated normal current	1250 Amp.
Rated short circuit breaking	1. RMS value of A.C. component current of the rated short circuit breaking current 31.5KV for 3 Sec. 2. D.C. component as per IEC- 62271 – 100
Rated duration of short circuit	3 Sec.

Transient frequency voltage

The rated transient recovery voltage of the breaker shall be used on 4 parameters method as defined in IEC 62271-100

Terminal faults

1st pole of clear factor 1.5 value of 4 parameter as per IEC62210


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 120 of 169

Transmission Service Agreement

Short line fault	As per IEC
Rated short circuit making capacity (peak)	80 KA
Operation duly cycle	0-t-co-t ₁ -co t = 0.3 Sec. t ₁ = 3 min.
Total breaking time	3 cycles
1.2/50 microsecond lightning impulse withstand voltage to earth	650 KV (min.)
One minute power frequency dry withstand voltage to earth	275 KV (RMS)
Temperature rise	Final Steady State Temperature rise of current carrying part shall not exceed the limits specified in IEC 62271-100 with a site reference ambient temperature of 50°C


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 121 of 169

Transmission Service Agreement

Operating mechanism	Mechanical spring/Electro pneumatic.
Type of tripping	Trip free
Number of auxiliary contacts	12 Nos NO. and 12 Nos NC
No. of trip coils	2 Nos.
No. of closing coils	1 No.
Breaking line charging current	50 Amps. at 145KV
Interrupting capacity in KA for kilometric faults	31.5 KA (RMS)
Arcing time (at 100% interruption capacity)	25 milliseconds.
Minimum dead time	300 milliseconds.
No. of break per phase	One
Tripping and closing control circuit voltage	110 V.DC

6.0 36 KV VACUUM CIRCUIT BREAKERS STANDARD**STANDARD**

The 36KV Vacuum circuit breaker shall comply with the requirements of latest issue of IEC-62210 except where specified otherwise in this specification. Equipment having better quality than the standards mentioned may also be considered provided documentary evidences are furnished.

PRINCIPLE PARAMETERS

The 36KV Vacuum circuit breaker shall be suitable for outdoor operation in solidly grounded system under climatic conditions specified and should have the following ratings:-


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 122 of 169

Transmission Service Agreement

i)	Nominal system voltage	33 KV
ii)	Highest system voltage	36 KV
iii)	Rated voltage	36 KV
iv)	Interrupting capacity	1000 KVA
v)	Rated normal current	1250 A
vi)	Rated frequency	50 c/s
vii)	Rated basic insulation level	170 KV
viii)	Rated short circuit current	25 KA
ix)	Rated short circuit making current	35kA
x)	Rated operating sequence	0-0.3 Sec-Co-3 min-Co
xi)	Total break time for any current up to the rated breaking current	5-6 c/s
xii)	control circuit voltage	110 VDC

7.0 245 KV/145KV/36KV CURRENT TRANSFORMERS STANDARDS :**STANDARDS:**

Except as modified in this specification, the Current Transformers and accessories shall be in accordance with IEC Publication 185 or latest editions.

TYPE & RATING :

The CTs should be of the outdoor type, single phase, 50 c/s, oil immersed, self cooled, hermetically sealed, suitable for operation in humid atmosphere in the tropical sun with climatic conditions as indicated in Clause 4.0 of General Technical Requirements. The CTs should also be suitable for use in area subject to heavy lightning storms.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

The CTs shall comply with requirements indicated below :-

S. No.	Particulars	245 KV CTs	145 KV CTs	36 KV CTs
1.	Nominal system voltage	220 KV (r.m.s.)	132 KV (r.m.s.)	33 KV(r.m.s.)
2.	Highest system voltage	245 KV (r.m.s.)	145 KV (r.m.s.)	36 KV(r.m.s.)
3.	Frequency	50 Hz	50 Hz	50 Hz
4.	Earthing of system	Effective	Effective	Effective
5.	Insulation level (BIL)	1050 KV (peak)	650 KV (peak)	170 KV (peak)
6.	Transformation ratio	1000/800/500/300/1A	800- 500/1A (For 160 MVA T/F) 400-200-100/1A (For 40 MVA T/F) 800-400-200/1A (For Feeders)	400-200/1A (For Feeders) Two cores. 800-400/1A(For T/F) Three cores.
7.	No. of cores	Five	Three	Two /Three
8.	Short time current rating (Corresponding to 6500 MVA-fault level)	40 KA for 3 sec.	31.5 KA for 3 sec.	25 KA for 3 sec.
9.	Creepage distance of bushing.	6125 mm (min.)	3625 mm (min.)	900 mm (min)
10.	Ratio selection	Primary reconnection & Secondary tapings.	Primary reconnection & secondary tapings	Primary reconnection & secondary tapings.
11.	Continuous primary current	120% of rated primary current.	125% of rated Primary current.	120% of rated primary


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

S. No.	Particulars	245 KV CTs	145 KV CTs	36 KV CTs
				current.
12.	Short time primary current.	Twice rated current.	Twice the rated current.	Twice the rated current.
13.	Continuous secondary current rating.	120%	2 Amps.	2 Amps. (min.)
14.	Rated withstand dynamic current (2.5) times of short time current rating.	100 KA (peak)	78.5 KA (peak)	62.5 KA (Peak)
15.	One minute power frequency withstand voltage (KV)	460 KV	275 KV	70 KV

8.0 245 KV CAPACITOR VOLTAGE TRANSFORMERS**STANDARDS:**

Unless otherwise specified elsewhere in this specification, the rating as well as performance and testing of the 245 KV Capacitor Voltage Transformers along with associated accessories shall conform IS: 3156 (part IV) or latest issues/amendments of standards.

PRINCIPAL TECHNICAL PARAMETERS

The Voltage Transformers shall conform to the following specific parameters:

Sl. No	Parameters	Specification
1	2	3
1.	Type of installation	Single Phase, Oil filled hermetically sealed and outdoor types


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Sl. No	Parameters	Specification
2.	Type of mounting	Pedestal type
3.	Suitable for system frequency	50 Hz $\pm$ 5%
4.	Highest system Voltage	245 Kv
5.	Transformation ratio on all windings	220,000 / 110 $\sqrt{3}$ $\sqrt{3}$
6.	Method of earthing	Effectively earthed
7.	1.2/50 micro second lightning impulse withstand voltage kV (peak)	1050
8.	1 minute dry power frequency withstand voltage kV (rms)	460
9.	Min. Creepage Distance mm.	6125
10.	Radio interference Voltage at 266 kV	Not exceeding 500 micro volts

9.0 145 KV POTENTIAL TRANSFORMERS STANDARDS :

Unless otherwise specified elsewhere in this specification, the rating as well as performance and testing of the 145 KV Potential Transformers along with associated accessories shall conform IS:3156:1992 or latest issues/amendments of standards.

PRINCIPAL TECHNICAL PARAMETERS

The Potential Transformers shall conform to the following specific parameters:


Pashchimanchal Vidyut
Vitran Nigam Limited

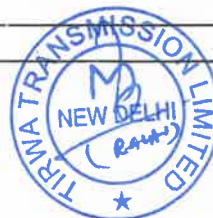

Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Sl. No	Parameters	Specification
1.	Type of installation	Single phase, Oil immersed, self cooled, Hermetically sealed, Outdoor type.
2.	Type of mounting	Mounting on steel structures
3.	Suitable for system frequency	50 Hz $\pm$ 5%
4.	Highest system voltage	145 kV
5.	Transformation ratio on all windings	<u>132,000 / 110</u> $\sqrt{3} / \sqrt{3}$
6.	Method of earthing	Solidly Grounded
7.	1.2/50 micro second lightning impulse withstand voltage kV (peak)	650
8.	1 minute dry power frequency withstand voltage kV (rms)	275
9.	One minute power frequency withstand voltage on secondary	3 kV
10.	Min. Creepage Distance mm.	3625


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

10.0 36KV POTENTIAL TRANSFORMERS**Type & Rating :**

The potential transformers shall be outdoor type, single phase, oil immersed, self cooled, suitable for operation on three phase, 50 c/s, 33 KV Solidly Grounded system where the short circuit level of the system is of the order of 1000 MVA under the tropical climate conditions specified under General Requirement of Specification.

The potential transformers should have the following ratings:-

1. Rated Voltage	33 KV
2. Nominal System Voltage	33 KV
3. Highest System Voltage	36 KV
4. Type of Supply	3- Phase A.C.
5. Frequency	50 Cycles/sec.
6. Earthing	Solidly Grounded
7. No. of Secondary Windings	Two
8. Transformation Ratio:	Winding – I & II 33 KV/v3 / 110 Volt/v3
9. Rated Burden:	
Each Winding – I	50 VA
Each Winding –II	50 VA


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

10. Accuracy Class:

Winding – I	0.2
Metering Winding – II	3P for protection

11. Basic Insulation Level (Impulse) 170 KV (Peak)

12. Creep age distance 900 mm (minimum)

13. Rated Voltage Factor: (a) Continuous 1.1
(b) 30 seconds 1.5

14. Service Conditions Outdoor, direct in Sun service.

11.0 245 AND 145 KV MOTOR OPERATED ISOLATORS**STANDARDS**

The Isolators shall conform to IS-2544 or latest revisions with amendments available of relevant standards.

TYPE OF ISOLATORS

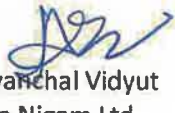
This specification covers following type of isolators-

- Bus isolators
- Line isolators
- Tandem isolators


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

12.0 36 kV ISOLATORS

TYPE OF ISOLATORS

- a) Three phase, 1250 A, 36 kV manually operated, Standard isolators without earth switch.
- b) Three phase, 1250 A, 36 kV manually operated, Standard isolators with one earth switch.

PRINCIPAL PARAMETERS

<u>Sl. No.</u>	<u>DETAILS</u>	<u>36 kV Isolator</u>
1	Rated Voltage	36 kV
2	System frequency	50 Hz
3	System Earthing	Effectively earthed
4	Type of Isolator	Outdoor, Horizontal air break suitable for upright mounting
5	Continuous current rating	1250 A
6	Operating mechanism	Manual
7	Phase to phase spacing	1500 mm
8	Rated short time withstand current	25 kA (rms)
9	Rated peak short circuit current	62.5 kA (peak)
10	Temperature rise	As per IEC-129 derated for an ambient of 50°C
11	Seismic co-efficient	0.3 g.
12	1.2/50 microsecond full wave	positive and negative impulse

Pashchimanchal Vidyut
Vitran Nigam Limited

Purvanchal Vidyut
Vitran Nigam Limited

Dashinanchal Vidyut
Vitran Nigam Limited

Madhyanchal Vidyut
Vitran Nigam Ltd.

Kanpur Electricity
Supply Company Limited

Tirwa Transmission
Limited

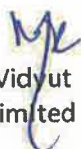


Transmission Service Agreement

- | | | |
|-----|--|---|
| | withstand voltage to earth | 70 kV (peak) |
| 13. | One minute power frequency
withstand voltage dry & wet to earth | |
| | | 70 kV (rms) |
| 14. | Auxiliary Contacts | 4 normally open and 4 normally closed. |
| 15 | Insulation level of insulators | |
| | i) Impulse voltage withstand test
(1.2/50 micro second full wave) | 170 kV (peak) |
| | ii) Power frequency withstand voltage
to earth (dry & wet) | 70 kV (rms) |
| 16 | Creepage distance of
insulators : | |
| | i) Total | 900 mm |
| | ii) Protected | 450 mm |
| 17 | Minimum strength : | Suitable to withstand wind, short circuit
and operating forces |
| | i) Torsional | |
| | ii) Cantilever | |
| 18 | Interlocks with circuit breaker | 1 set of electrical and castel type
interlocks. |


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

19	Type of contacts	Hard drawn electrolytic copper with silver plating
20	Conductor take off	Horizontal/vertical according to actual requirement.
21.	Phase-to phase clearance	1500 mm

13.0 245/145/36KV SOLID CORE POST INSULATORS**STANDARDS**

Insulators should conform to the latest publications of IS 2544 & IEC in all respects except BIL which should be 1050 kVp for 245 kV, and 650 kVp for 145 kV withstand. Equipment meeting any other authoritative standards which ensures equal or better quality than the IS mentioned above, is also acceptable.

REQUIREMENT FOR INSULATORS**(A) FOR 245 AND 145 KV POST INSULATORS**

1)	Nominal voltage	: 245 KV	145 kV
2)	Highest system voltage	: 245 KV	145 kV
3)	System frequency	: 50Hz.	50 Hz.
4)	Number of phases	: 3 (Three)	3 (Three)
5)	Neutral	: Effectively earthed	Effectively earthed
6)	Short circuit current	: 40.0 KA	31.5 KA
7)	Phase to phase spacing	: 4.5 meters	3.0 meters
8)	Height of the insulator support Structure.	: 2750 mm.	2750 mm
9)	PCD of Top Flange	: 127 mm.	127 mm
10)	PCD of Bottom Flange	: 184 ± .2 mm.	184± .2 mm


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

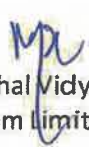
11)	BIL	: 1050 KV	650 mm
12)	Height of insulator	: 2300.00mm	1500 mm

(B) FOR 36 KV POSTINSULATORS

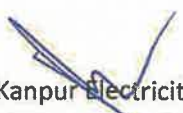
1)	Nominal voltage	: 36 KV
2)	Highest system voltage	: 36 KV
3)	System frequency	: 50Hz.
4)	Number of phases	: 3 (Three)
5)	Neutral	: Effectively earthed
6)	Short circuit current	: 25.0 KA
7)	Phase to phase spacing	: 1.5 meters
8)	Height of the insulator support structure	: 2750 mm
9)	PCD of Top Flange	: 127 mm
10)	BIL	: 250 kV
11)	Height of insulator	: 508.00 mm


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

o)	Impulse withstand voltage of arrester housing with 1.2/50 micro second wave.	1050 KVP	650 KVP	170 KVP
p)	Minimum prospective fault current.	40 KA		
q)	Radio interference voltage	Not more than 500 micro volts.		
r)	Pressure relief class	Class-A		
s)	Current for pressure relief.	40 KA		
t)	Seismic acceleration	0.3 g.		
u)	Long duration discharge class	Class 3 (as per IEC)		

15.0 RELAYS

All relays shall conform to the requirements of IS: 3231 or other applicable approved standards. Relays shall be suitable for flush or semi-flush mounting on the front with connections from the rear. Relays shall be rectangular in shape and shall have dust tight, dull black or egg shell black enamel painted cases with transparent cover removable from the front.

16.0 TRANSMISSION LINE PROTECTION

The Line Protection Relays are required to protect the line and clear the faults on line within shortest possible time with reliability, selectivity and full sensitivity to all type of faults on lines. The general concept is to have primary & back up protection having equal performance requirement especially in respect of time as provided by Main protection called Main and Backup Protection.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

14.0 198 KV/120 KV/30 KV 10KA METAL OXIDE GAPLESS SURGE ARRESTERS**STANDARDS**

The Lightning Arrester shall conform to IEC 99 – 4 or latest revision with amendments available of the relevant standards.

PRINCIPAL PARAMETERS

a)	Rated system voltage	245 KV	145 KV	36 KV
b)	System neutral earthing	Effectively earthed		
c)	Installation	Outdoor		
d)	Rated arrester voltage	198 KV	120 KV	30 KV
e)	Max. continuous operating voltage (MCOV) at 500C	168 KV	102 KV	24 KV
f)	Nominal discharge current	10 KA (8/20 microwave)		
g)	Rated frequency	50 Hz		
h)	Minimum line discharge capacity	2 KJ / KV		
i)	Power frequency reference voltage	Not less than MCOV		
j)	Max. Residual voltage at nominal discharge current of 10 KA and 8/20 Micro Sec.	550 KVP	400 KVP	100 KVP
k)	Peak & value of high current (4/10 Microwave)	100 KA		
l)	Creepage distance	25 mm/KV		
m)	Partial discharge test on 1.05 MCOV	Net more than 50 Pico coulombs		
n)	One minute power frequency voltage of arrester housing	460 KV	275 KV	70 KV


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Wherever Fiber Optic/OPGW based telecommunication terminal equipment (i.e. SDH/MUX) are being provided, the same shall be utilized for Data, Voice and line protection applications. For protection purposes, both end Digital Protection Couplers (DPCs) shall be included at both ends. However, for line protection application, back up communication channel/link may be considered as per requirement so as to take care of OPGW/ telecommunication equipment outage.

Addition/Modification/Shifting/Re-commissioning etc. as required of PLCC due to LILO of transmission lines shall be covered under the scope according to element wise detailed given below:-

S. No.	Details of element (line)	Coverage under the scope
1	LILO of one circuit of 400 kV D/C (Twin Moose) Shamli - Aligarh Line at THDC (2x660 MW) Khurja Power Plant	Addition/Modification/Shifting/Re-commissioning of PLCC shall be covered under the scope
2	LILO of 220kV Mainpuri (220) - Bhauti PG (400) S/C line at 220kV Tirwa Substation	Addition/Modification/Shifting/Re-commissioning of PLCC shall be covered under the scope
3	LILO of 132kV Dibiyapur - Bidhuna S/C line at 220kV Tirwa Substation	Addition/Modification/Shifting/Re-commissioning of PLCC shall be covered under the scope

PLCC equipment for the transmission lines at serial 01, 02 & 03 covered under the package (Consisting of one set of analog PLCC channel along with circuit protection coupler and one set of Digital Protection Coupler for both ends of one line segment due to LILO of existing line) shall be provided by the bidder. All other associated equipment for ends cabling, coupling device and HF cable shall be provided by the bidder. 48 kV DC Power supply for PLCC panels shall be provided by the respective substation bay owner. The wave traps, CVTs required for communications from PLCC shall be provided by respective substation owner.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

17.0 PLCC

Power line carrier communication (PLCC) equipment complete for speech transmission line, tele-protection commands and data channels shall be provided on each 220 kV and 132 kV transmission lines. The protection for transmission line and the line compensated equipment shall have 100% backup communication channels. The PLCC equipments shall in brief include the following:-

Coupling Device, line traps, carrier terminals, protection couplers, HF cables, PABX and maintains and testing instruments.

A telephone exchange (PABX) of 24 lines shall be provided at new substation as means of effective communication among various buildings of the substation, remote end substation and with controls centres (RLDC/SLDC) etc.

Coupling Devices shall be suitable for 220 kV and 132 kV. Phase to Phase coupling for 220 kV and 132 kV single circuit line shall be provide. For Double circuit line inter circuit coupling can be provided. The pass band of coupling devices shall have sufficient margin for adding communication channel in future if required. Necessary protection devices for safety of personal and low voltage part against power frequency voltages and transient voltage shall also be provided.

The line traps shall be broad band turned suitable for blocking the complete range of carrier frequencies. Line trap shall have the necessary protective devices such as lighting arresters for the protection of tuning device and shall be equipped with corona rings. Decoupling network consisting of line traps and coupling capacitors may also be required at certain substation in case of extreme frequency congestion.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

SPECIFIC TECHNICAL REQUIREMENT FOR COMMUNICATION

In order to meet the requirement for grid management and operation of substations, Transmission Service Provider (TSP) shall conform to the following requirements.

On 220 kV and 132 kV D/C lines one OPGW containing 24 fibers is to be installed in place of conventional earth wire for grid management and substation operation purpose by STU/CTU and 48 fibers to be installed on LILo lines.

220 kV, 132 kV, 66 kV, 33 kV & 11 kV System

SL No	Description of parameters	220 kV System	132 kV System	66 kV System	33 kV System	11kV System
1.	System operating voltage	220 kV	132 kV	66 kV	33 kV	11 kV
2.	Maximum operating voltage of the system (rms)	245 kV	145 kV	72.5 kV	36 kV	12 kV
3.	Rated frequency	50	50 Hz	50 Hz	50 Hz	50 Hz
4.	No. of phase	3	3	3	3	3
5.	Rated Insulation levels					
	i. Full wave impulse withstand voltage (1.2/50 micro sec.)	1050 kVp	650 kVp	325 kVp	170 kVp	75 kVp
	ii. One minute power frequency dry and wet withstand voltage (rms)	-	275 kV	140 kV	70 kV	28 kV
6.	Corona extinction voltage	156 kV	105 kV	-	-	-
7.	Max. radio interference voltage for frequency between 0.5 MHz and 2 MHz at 92 kV rms for 132 kV system	1000 micro-volts	500 micro-volts	-	-	-
8.	Minimum creepage distance (25mm/kV)	6125mm	3625mm	1813mm	900mm	300mm
9.	Min. Clearances					
	i. Phase to phase	2100mm	1300mm	750mm	320mm	280mm
	ii. Phase to earth	2100mm	1300mm	630mm	320mm	140mm
	iii. Sectional clearances	5000mm	4000mm	3000mm	3000mm	3000mm

Pashchimanchal Vidyut
Vitran Nigam Limited

Purvanchal Vidyut
Vitran Nigam Limited

Dashinanchal Vidyut
Vitran Nigam Limited

Madhyanchal Vidyut
Vitran Nigam Ltd.

Kanpur Electricity
Supply Company Limited

Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 139 of 169

Transmission Service Agreement

18.0 Fire Fighting System

Fire Fighting System is general conforms to fire insurance regulations of India. The fire fighting system is proposed with both AC motor & diesel engine driven pumps housed in a fire fighting pump house building along with water storage tank of adequate capacity. Automatic heat actuated multisifying system us proposed for transformers & reactors. In addition for alarm system based on heat/smoke detectors are proposed to be installed at sensitive points in a substation e.g. Cable Vault, Control Room building and other building etc. further, adequate water hydrants and portable fire extinguishers shall be provided in the substations. At existing substations the fire fighting system if already available, would be extended for meeting the additional requirements.

19.0 Illumination

Adequate normal & emergency AC & DC illumination shall be provided in the control room, GIS hall & other building of the substation. The switchyard shall also be provided with adequate illumination. The entire control room building, fire fighting pump house lighting shall be done by LED based low power consumption luminaries.

20.0 Control Room

Substation control room would be provided to house substation work station for station level control along with its peripheral and recording equipment, AC & DC distribution boards, DC batteries & associated battery chargers, Fire Protection panels, Telecommunication panels & other panels as per requirements. Air conditioning will be provided in the building as functional requirements.


 Pashchimanchal Vidyut
 Vitran Nigam Limited


 Purvanchal Vidyut
 Vitran Nigam Limited


 Dashinanchal Vidyut
 Vitran Nigam Limited


 Madhyanchal Vidyut
 Vitran Nigam Ltd.


 Kanpur Electricity
 Supply Company Limited


 Tirwa Transmission
 Limited


Transmission Service Agreement

Schedule: 2

Scheduled COD

[Note: As referred to in the definition of "Element", "Scheduled COD", and in Articles 3.1.3 (c), 4.1 (b) and 4.3 (a) of this Agreement]

Sl. No.	Name of the Transmission Element	Scheduled COD in months from Effective Date	Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project	Elements which are pre-required for declaring the commercial operation (COD) of the respective Element [BPC to insert precedence of commissioning of Element(s)] in project specific RFP and RFP Project Documents]
A.	Construction of 220/132/33kV Tirwa (Kannauj) Substation with associated lines			
1.	Construction of 220/132/33kV substation, Tirwa (Kannauj)	Last Date of 18 th Month from the date of transfer of SPV	80.42 %	Elements at S.No.1,2 & 3 shall be required simultaneously
2.	LILO of 220kV Mainpuri (220) – Bhauti PG (400) S/C line at 220kV Tirwa S/s			
3.	LILO of 132kV Dibiyapur-Bidhuna S/C line at 220kV Tirwa S/s			
B.	Construction of LILO of one circuit of 400kV D/C (Twin Moose) Shamli-Aligarh Line at THDC 2×660 MW Khurja Power Plant			
1.	LILO of one circuit of 400 kV D/C (Twin Moose) Shamli-Aligarh Line at THDC 2×660 MW Khurja Power Plant*	Last Date of 7 th Month from the date of transfer of SPV	19.58%	-

*02 Nos. Bays of 400kV will be provided by THDC Khurja Power Plant

Pashchimanchal Vidyut
Vitran Nigam Limited

Purvanchal Vidyut
Vitran Nigam Limited

Dashinanchal Vidyut
Vitran Nigam Limited

Madhyanchal Vidyut
Vitran Nigam Ltd.

Kanpur Electricity
Supply Company Limited

Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 141 of 169

Transmission Service Agreement

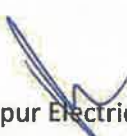
SL No	Description of parameters	220 kV System	132 kV System	66 kV System	33 kV System	11kV System
				m	m	m
10.	Rated short circuit current for 1 sec. Duration	40kA/50kA (as applicable)	31.5 kA	31.5 kA	25 kA	25 kA
	System neutral earthing	Effectively earthed	Effectively earthed	Effectively earthed	Effectively earthed	Effectively earthed


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Schedule: 3**Safety Rules and Procedures**

[Note: As referred to in Articles 5.6 of this Agreement]

1: Site Regulations and Safety:

The TSP shall establish Site regulations within sixty (60) days from fulfilment of conditions subsequent, as per Prudent Utility Practices setting out the rules to be observed till expiry of the Agreement at the Site and shall comply therewith.

Such Site regulations shall include, but shall not be limited to, rules in respect of security, safety of the Project, gate control, sanitation, medical care, and fire prevention, public health, environment protection, security of public life, etc.

Copies of such Site regulations shall be provided to the Long Term Transmission Customers and the CEA for the purpose of monitoring of the Project.

2: Emergency Work:

In cases of any emergency, the TSP shall carry out all necessary remedial work as may be necessary.

If the work done or caused to be done by any entity, other than the TSP, the TSP shall, reimburse the actual costs incurred, to the other Party carrying out such remedial works.

3: Site Clearance:

In the course of execution of the Agreement, the TSP shall keep the Site reasonably free from all unnecessary obstruction, storage, remove any surplus materials, clear away any wreckage, rubbish and temporary works from the Site, and remove any equipment no longer required for execution of the Agreement. After completion of all Elements of the Project, the TSP shall clear away and remove all wreckage, rubbish and debris of any kind from the Site, and shall leave the Site clean and safe.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 143 of 169

Transmission Service Agreement

The payment of Transmission Charges for any Element, irrespective of its successful commissioning on or before its Scheduled COD, shall only be considered after successful commissioning of the Element(s), which are pre-required for declaring the commercial operation of such Element as mentioned in the above table.

Scheduled COD for the Project is: **18 Months from Effective Date.**


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 142 of 169

Transmission Service Agreement

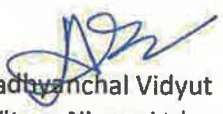
4: Watching and Lighting:

The TSP shall provide and maintain at its own expense all lighting, fencing, and watching when and where necessary for the proper construction, operation, maintenance / repair of any of the Elements of the Project, or for the safety of the owners and occupiers of adjacent property and for the safety of the public, during such maintenance / repair.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Schedule: 4**Computation of Transmission Charges****1.1 General**

The Monthly Transmission Charges to be paid to the TSP for providing Transmission Service for any Contract Year during the term of the Agreement shall be computed in accordance with this Schedule and paid as per applicable Regulations.

Illustration regarding payment of Transmission Charges under various scenarios (considering definitions of Contract Year, Expiry Date & Monthly Transmission Charges above) is as below: -

Illustration-1: In case the Project Elements achieve COD as per Schedule

Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	28	1-Feb-2018	1-Feb-2018	25%
Element 2	38	1-Dec-2018	1-Dec-2018	75%

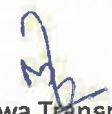

Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Tariff Payable as follows:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Feb-18 to 31-Mar-18	--	0.00		--	0.00
1-Apr-18 to 30-Jun-18	--	0.00		--	0.00
1-Jul-18 to 30-Nov-18	140 X 25% X (153/365)	14.67		--	0.00
1-Dec-18 to 31-Mar-19	140 X 100% X (121/365)				46.41
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr to 30-Nov)	140 X 100% X (244/365)				93.59

Illustration-3: In case of delay in achieving COD of Project & all individual Elements (COD of the Project achieved in Contract Year 1)

Quoted Transmission Charges: Rs. 140 Million

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	20	1-Feb-2018	1-Dec-2018	25%
Element 2	28	1-Oct-2018	1-Dec-2018	75%

Tariff Payable as follows:


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 147 of 169

Transmission Service Agreement

Tariff Payable as follows:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Feb-18 to 31-Mar-18	140 X 25% X ((28+31)/365)	5.65		--	0.00
1-Apr-18 to 30-Nov-18	140 X 25% X (244/365)	23.39		--	0.00
1-Dec-18 to 31-Mar-19	140 X 100% X (121/365)				46.41
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr to 30-Nov)	140 X 100% X (244/365)				93.59

Illustration-2: In case of extension of Scheduled COD as per Article 4.4.1 & 4.4.2 of this Agreement

Quoted Transmission Charges: Rs. 140 Million

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	20	1-Feb-2018	1-Jul-2018	25%
Element 2	28	1-Oct-2018	1-Dec-2018	75%


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited


Transmission Service Agreement

Illustration-4: In case of delay in achieving COD of Project & all individual Elements (COD of the Project achieved in Contract Year other than Contract Year 1)

Quoted Transmission Charges: Rs. 140 Million

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	38	1-Oct-2019	1-May-2020	25%
Element 2	38	1-Oct-2019	1-May-2020	75%

Tariff Payment to be paid as:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Oct-19 to 31-Mar-20	--	0.00	1-Oct-19 to 31-Mar-20	--	0.00
1-Apr-20 to 30-Apr-20	-	0.00	1-Apr-20 to 30-Apr-20	-	0.00
1-May-20 to 31-Mar-21	140 X 100% X (335/365)				128.49
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr to 30-Apr)	140 X 100% X (30/ 365)				11.51


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited


Transmission Service Agreement

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Feb-18 to 31-Mar-18	--	0.00		--	0.00
1-Apr-18 to 30-Sept-18	--	0.00		--	0.00
1-Oct-18 to 30-Nov-18	--	0.00	1-Oct-18 to 30-Nov-18	--	0.00
1-Dec-18 to 31-Mar-19	140 X 100% X (121/365)				46.41
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140

36 (1-Apr to 30-Nov)	140 X 100% X (244/365)				93.59


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Illustration5: In case of delay in achieving COD of Element but Project COD achieved on timeQuoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	20	1-Feb-2018	1-Jul-2018	25%
Element 2	30	1-Dec-2018	1-Dec-2018	75%

Tariff Payable as follows:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Feb-18 to 31-Mar-18	--	0.00		--	0.00
1-Apr-18 to 30-Jun-18	--	0.00		--	0.00
1-Jul-18 to 30-Nov-18	140 X 25% X (153/365)	14.67		--	0.00
1-Dec-18 to 31-Mar-19	140 X 100% X (121/365)				46.41
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr to 30-Nov)	140 X 100% X (244/365)				93.59


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited


Transmission Service Agreement

Illustration-6: In case of early commissioning of Project

Quoted Transmission Charges: Rs. 140 Million

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	38	1-Oct-2019	1-Jul-2019	25%
Element 2	38	1-Oct-2019	1-Jul-2019	75%

Tariff Payment to be paid as:

Transmission Charges for Element 1		Transmission Charges for Element 2
1-July-19 to 31-Mar-20	140 X 100% X (274/365)	105.09
2	140 X 100% X 1	140
3	140 X 100% X 1	140
4	140 X 100% X 1	140
5	140 X 100% X 1	140
.....		
.....		
36 (1-Apr to 30-Jun)	140 X 100% X (91/365)	34.91


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited


Transmission Service Agreement

Illustration-7: In case of early commissioning of an element

Quoted Transmission Charges: Rs. 140 Million

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	38	1-Oct-2019	1-Apr-2019	25%
Element 2	38	1-Jul-2019	1-Jul-2019	75%

Tariff Payment to be paid as:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Apr-2019 to 30-Jun-19	$140 \times 25\% \times (91/365)$	8.72	1-Apr-2019 to 30-Jun-19	--	0.00
1-Jul-19 to 31-Mar-20	$140 \times 100\% \times (274/365)$				105.09
2	$140 \times 100\% \times 1$				140
3	$140 \times 100\% \times 1$				140
4	$140 \times 100\% \times 1$				140
5	$140 \times 100\% \times 1$				140
.....					
.....					
36 (1-Apr-30-Jun)	$140 \times 100\% \times (91/365)$				34.91

The Transmission Charges shall be payable on monthly basis as computed above.

1.2 Computation of Monthly Transmission Charges

The Monthly Transmission Charges for any month m in a Contract Year n shall be calculated as below:


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 152 of 169

Transmission Service Agreement

For AC System:

- a. If Actual Transmission System Availability for the month m of contract year n is greater than or equal to 98% and less than or equal to 98.5%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * 1$$

- a. If Actual Transmission System Availability for the month m of contract year n exceeds 98.5% and less than or equal to 99.75%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 98.5\%)$$

- c. If Actual Transmission System Availability for the month m of contract year n is greater than 99.75%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (99.75\% / 98.5\%)$$

- d. If Actual Transmission System Availability for the month m of contract year n is less than 98% and greater than or equal to 95.00%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 98\%)$$

- e. If Actual Transmission System Availability for the month m of contract year falls below 95%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 98\%) - 0.02 * (T_{mn} * (AA / 95\%))$$

For DC System:

- a. If Actual Transmission System Availability for the month m of contract year n is greater than or equal to 95% and less than or equal to 96%;

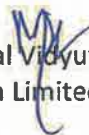
$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * 1$$

- b. If Actual Transmission System Availability for the month m of contract year n exceeds 96% and less than or equal to 99.75%;

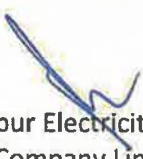
$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 96\%)$$


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

- c. If Actual Transmission System Availability for the month m of contract year n is greater than 99.75%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (99.75\% / 96\%)$$

- d. If Actual Transmission System Availability for the month m of contract year n is less than 95% and greater than or equal to 92.00%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 95\%)$$

- e. If Actual Transmission System Availability for the month m of contract year falls below 92%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 95\%) - 0.02 * (T_{mn} * (AA / 92\%))$$

where:

- AA is the actual Availability, as certified by RPC, as per procedure provided in Schedule 6.
- m is the month in Contract Year 'n'
- T_{mn} = Transmission Charges for the month 'm' in Contract Year 'n' = $(\text{Transmission Charge} / \text{no. of days in the Year n}) * \text{no. of days in month m}$

Provided, no Transmission Charges shall be paid during the period for which the RLDC has not allowed the operation of the Element/Project due to the failure of the TSP to operate it as per the provisions of the Grid Code.

1.3 Recovery from Short Term Transmission Customers

The charges payable by the Short Term Intra State Transmission Customers shall be calculated on the basis of the provisions of the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions or Open Access) Regulations, 2019 or as amendment from time to time.

In accordance to Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions or Open Access) Regulations, 2019 or as amendment from time to time, the


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Short Term Intra State Transmission Consumers shall pay the transmission Charges to STU. However, even in special case, any payment made directly to TSP, for use of element/project, the same shall be reduced from the transmission charge payable by Long Term Transmission Customer's to TSP.

1.4 Scheduling Charges

The payment of RLDC fee & charges, in accordance with relevant regulations of UPERC, shall be the responsibility of the TSP. Whereas, the payment of scheduling charges to the respective SLDC, as the case may be, shall be the responsibility of the Long Term Transmission Customer's.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Schedule: 5

Quoted Transmission Charges

[Quoted Transmission Charges from Annexure - 21 of the RFP of the Selected Bidder to be inserted here]

[To be incorporated from the Bid of the Selected Bidder submitted during the e-reverse auction after its selection]

Quoted Transmission Charges: Rs. 171.50 Million per annum

.Proportionate Transmission Charges payable for each Element of the Project:

S. No.	Name of the Transmission Element	Percentage of total Transmission Charges payable to the TSP on Commissioning / COD of the Element
A.	Construction of 220/132/33kV Tirwa (Kannauj) Substation with associated lines	
1.	Construction of 220/132/33kV substation, Tirwa (Kannauj)	80.42 %
2.	LILO of 220kV Mainpuri (220) – Bhauti PG (400) S/C line at 220kV Tirwa S/s	
3.	LILO of 132kV Dibiyapur-Bidhuna S/C line at 220kV Tirwa S/s	
B.	Construction of LILO of one circuit of 400kV D/C (Twin Moose) Shamli-Aligarh Line at THDC 2×660 MW Khurja Power Plant	
1.	LILO of one circuit of 400 kV D/C (Twin Moose) Shamli-Aligarh Line at THDC 2×660 MW Khurja Power Plant*	19.58%

*02 Nos. Bays of 400kV will be provided by THDC Khurja Power Plant


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Schedule: 6

Appendix B of Uttar Pradesh Electricity Regulatory Commission (Multi Year Tariff for Distribution and Transmission) Regulations, 2019

Procedure for Calculation of Transmission System Availability Factor for a Month

Annexure-B: Procedure for calculation of Transmission System Availability Factor for a Month

- 1) Transmission System Availability Factor for a Calendar Month (TAFM) shall be calculated by the respective Transmission Licensee, got verified and certified by the SLDC and separately for each A.C. Transmission System and grouped according to sharing of transmission charges.
- 2) TAFM, in percent, shall be equal to $(100 - 100 \times \text{NAFM})$, where NAFM is, the non-availability factor in per unit for the month, for the Transmission System / sub-system.
- 3) NAFM for A.C. systems / sub-systems shall be equal to:

$$\frac{[\sum_{i=1}^L (\text{OH}_i \times \text{Cktkm}_i \times \text{NSC}_i) + \sum_{t=1}^T (\text{OH}_t \times \text{MVA}_t \times 2.5) + \sum_{r=1}^R (\text{OH}_r \times \text{MVAR}_r \times 4)]}{\text{THM} \times [\sum_{i=1}^L (\text{Cktkm}_i \times \text{NSC}_i) + \sum_{t=1}^T (\text{MVA}_t \times 2.5) + \sum_{r=1}^R (\text{MVAR}_r \times 4)]}$$

Where,

I = identifies a transmission line circuit;

t = identifies a transformer / Inter connecting transformer (ICT);

r = identifies a bus reactor, switchable line reactor or Static VAR Compensation (SVC);

L = total number of line circuits;

T = total number of bus reactors, switchable line reactors and SVCs;

R = total number of bus reactors, switchable line reactors and SVCs;

OH = Outage hours or hours of non-availability in the month, excluding the duration of outages not attributable to the Transmission Licensee,

Ckt km = Length of a transmission line circuit in km;

NSC = Number of sub-conductors per phase;

MVA = MVA rating of a transformer / ICT;

MVAR = MVAR rating of a bus reactor switchable line reactor or an SVC (in which case it would be the sum of inductive and capacitive capabilities);

THM = Total hours in the month;

- 4) The transmission elements under outage due to following reasons shall be deemed to be available:
 - a. Shutdown availed for maintenance or construction of elements of another transmission scheme. If the other transmission scheme belongs to Transmission Licensee, the SLDC may restrict the deemed availability period to that considered reasonably by him for the work involved.
 - b. Switching off of a transmission-line to restrict over voltage and manual tripping of switched reactors as per the directions of SLDC.
- 5) Outage time of transmission elements for the following contingencies shall be excluded from the total time of the element under period of consideration:
 - a. Outage of elements due to force majeure events such as war, strike riot, floods, earthquake etc. beyond the control of the Transmission Licensee.
 - b. However, onus of satisfying the SLDC that element outage was due to aforesaid events and not due to design failure shall rest with the Transmission Licensee. A reasonable restoration time for the element shall be considered by SLDC and any additional time taken by the Transmission Licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the Transmission Licensee. SLDC may consult the Transmission Licensee or any expert for estimation of reasonable time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available.
- 6) Outage caused by grid incident / disturbance not attributable to the Transmission Licensee, e.g. faults in substation or bays owned by other agency causing outage of the Transmission Licensee's elements and tripping of lines, ICTs, etc due to grid disturbance. However, if the element is not restored on receipt of direction from SLDC while normalizing the system following grid incident / disturbance within reasonable time, the element will be considered not available for the period of outage after issuance of SLDC's direction for restoration.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Schedule: 7

Entire Bid (both financial bid and technical bid) of the Selected Bidder to be attached here


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Schedule: 8**Contract Performance Guarantee**

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution. Foreign entities submitting Bids are required to follow the applicable law in their country.)

In consideration of the[Insert name of the SPV or Selected Bidder on behalf of the TSP, or Lead Member in case of the Consortium, with address] agreeing to undertake the obligations under the Transmission Service Agreement dated and the other RFP Project Documents and the Long Term Transmission Customers and the[Insert the name of the BPC], agreeing to execute the *RFP Project Documents* with the Selected Bidder, regarding setting up the Project, the [Insert name and address of the bank issuing the guarantee and address of the head office] (hereinafter referred to as "Guarantor Bank") hereby agrees unequivocally, irrevocably and unconditionally to pay to Long Term Transmission Customers at[Insert the Place from the address of the Long Term Transmission Customers indicated in the TSA] forthwith on demand in writing from the Long Term Transmission Customers or any Officer authorized by it in this behalf, any amount up to and not exceeding Rupees Crores (Rs.) only [Insert the amount of the bank guarantee] on behalf of M/s. [Insert name of the Selected Bidder or SPV].

This guarantee shall be valid and binding on the Guarantor Bank up to and including and shall not be terminable by notice or any change in the constitution of the Bank or the term of the Transmission Service Agreement or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed with or without our knowledge or consent, by or between parties to the respective agreement.

Our liability under this Guarantee is restricted to Rs. Crores (Rs.) only. Our Guarantee shall remain in force until [Insert the date of validity of the Guarantee as per Article 3.1.2 of this Agreement]. The Long Term Transmission Customers, shall be entitled to invoke this


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Guarantee up to three hundred sixty five (365) days of the last date of the validity of this Guarantee.

The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand from (in its roles as the Long Term Transmission Customers), made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to Long Term Transmission Customers.

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection by [Insert name of the Selected Bidder], ... [Insert name of the TSP] and / or any other person. The Guarantor Bank shall not require Long Term Transmission Customers to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against Long Term Transmission Customers in respect of any payment made hereunder.

THIS BANK GUARANTEE shall be interpreted in accordance with the laws of India.

The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein.

THIS BANK GUARANTEE shall not be affected in any manner by reason of merger, amalgamation, restructuring, liquidation, winding up, dissolution or any other change in the constitution of the Guarantor Bank.

THIS BANK GUARANTEE shall be a primary obligation of the Guarantor Bank and accordingly Long Term Transmission Customers shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against Tirwa Transmission Limited or the Selected Bidder, as the case may be, to make any claim against or any demand on Tirwa Transmission Limited or the Selected Bidder, as the case may be, or to give any notice to Tirwa Transmission Limited or the Selected Bidder, as the case may be, or to enforce any security held by the Long Term Transmission Customers or to exercise, levy or enforce any distress, diligence or other process against Tirwa Transmission Limited or the Selected Bidder, as the case may be.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

The Guarantor Bank acknowledges that this BANK GUARANTEE is not personal to Long Term Transmission Customers and may be assigned, in whole or in part, (whether absolutely or by way of security) by Long Term Transmission Customers to any entity to whom the Long Term Transmission Customers is entitled to assign its rights and obligations under the Transmission Service Agreement.

The Guarantor Bank hereby agrees and acknowledges that Long Term Transmission Customers shall have a right to invoke this Bank Guarantee either in part or in full, as it may deem fit.

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rs. Crores (Rs.) only and it shall remain in force until[Date to be inserted on the basis of Article 3.1.2 of the Transmission Service Agreement], with an additional claim period of three hundred sixty five (365) days thereafter. This BANK GUARANTEE shall be extended from time to time for such period, as may be desired by [Insert name of the Selected Bidder or Lead Member in case of the Consortium or SPV]. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if Long Term Transmission Customers serves upon us a written claim or demand.

In witness where of:

Signature

Name:

Power of attorney No.:

For:

..... [Insert Name of the Bank]


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited



Transmission Service Agreement

Banker's Seal and Full Address, including mailing address of the Head Office

Pashchimanchal Vidyut
Vitran Nigam Limited

Purvanchal Vidyut
Vitran Nigam Limited

Dashinanchal Vidyut
Vitran Nigam Limited

Madhyanchal Vidyut
Vitran Nigam Ltd.

Kanpur Electricity
Supply Company Limited

Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 162 of 169

Transmission Service Agreement

Schedule: 9**Methodology for determining the Relief Under Force Majeure Event & Change in Law during Construction Period**

The relief in the form of revision in tariff due to Force Majeure Event leading to extension of Scheduled COD for a period beyond one hundred eighty (180) days and/ or Change in Law during the construction period shall be as under:

$$\Delta T = [(P \times d)] \div [1 - (1 + d)^{-n}]$$

Where,

ΔT = Change in Transmission Charges for each year

P = Sum of cumulative increase or decrease in the cost of the Project due to Change in Law and interest cost during construction corresponding to the period exceeding one hundred eighty (180) due to Force Majeure Event leading to extension of Scheduled COD for a period beyond one hundred eighty (180) days

n = number of years over which the Transmission Charges has to be paid

d = Discount rate as notified by the CERC, applicable on the Bid Deadline

The increase in Transmission Charges as stated above shall be applicable only if the value of increase in Transmission Charges as calculated above exceeds 0.30% (zero point three percent) of the quoted Transmission Charges of the TSP.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 163 of 169

Transmission Service Agreement

Schedule: 10

List of Long Term Transmission Customer

Note: As referred in the recital of this Agreement and in the definition of "Long Term Transmission Customer" in this Agreement

Sl. No.	Name of the Long Term Transmission Customer	Address of Registered Office	Law under which incorporated	Allocated Project Capacity (in %)
1.	Paschimanchal Vidyut Vitran Nigam Ltd.	Hydel Colony, Victoria Park, Meerut-250001 E-mail: md@pvvnl.org Fax: 0121-2666062 Phone: 0121-2665734	Companies Act	31%
2.	Madhyanchal Vidyut Vitran Nigam Ltd.	4A Gokhale Marg, Lucknow-226001 E-mail: md.mvvnl2010@gmail.com Fax: 0522-2208769 Phone: 0522-2208737	Companies Act	21%
3.	Purvanchal Vidyut Vitran Nigam Ltd.	Vidyut Nagar, Bhikharipur, P.O. DLW, Varanasi-221010 E-mail: mdpurvanchalvvn1@gmail.com Fax: 0542-2319158 Phone: 0542-2318437	Companies Act	23%
4.	Dakshinanchal Vidyut Vitran Nigam Ltd.	Urja Bhawan, NH-2 (Agra-Delhi bypass Road) Sikandra Agra-282002 E-mail: dvvn1md@gmail.com Fax: 0562-2605465 Phone: 0562-2605699	Companies Act	22%
5.	Kanpur Electricity Supply Co. Ltd.	Kesa House, 14/17 Civil Lines, Kanpur - 208001 E-mail: md@kesco.co.in Phone: 0512-2530832	Companies Act	3%


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 164 of 169

Transmission Service Agreement

Note: The above list of Long Term Transmission Customer subject to change. Any addition or deletion in this list after the award of LoI shall be duly notified to the parties to the Agreement.

The new Long Term Transmission Customer shall become a party to the TSA after agreeing to the terms and conditions of this Agreement and signing a Supplemental Agreement as annexed in Schedule 11 to this Agreement.


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 165 of 169

Transmission Service Agreement

Schedule: 11**SUPPLEMENTARY AGREEMENT**

BETWEEN

..... [Insert name of the TSP]

AND

..... [Insert name of the new Long Term Transmission Customer 1],

..... [Insert name of the new Long Term Transmission Customer 2],

..... [Insert name of the new Long Term Transmission Customer n]

THIS SUPPLEMENTARY AGREEMENT entered into on [Insert date] [Insert day] of [Insert month] in [Insert year] by and between, ... [Insert name of the Transmission Service Provider] incorporated under the Companies Act, 1956, having its registered office at (here in after referred to as Transmission Service Provider or "TSP", which expression shall unless repugnant to the context or meaning thereof include its successors, and permitted assigns) as Party of the first part,

AND

..... [Insert name of the new Long Term Transmission Customer '1'] having its registered office at [Insert address of the new Long Term Transmission Customer 1] and having an Allocated Project Capacity as specified in the Table 2 of this Supplementary Agreement, (which expression shall unless repugnant to the context or meaning thereof include its successors, and permitted assigns) as Party of the second part,


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 166 of 169

Transmission Service Agreement

..... [Insert name of the new Long Term Transmission Customer '2'] having its registered office at..... [Insert address of the new Long Term Transmission Customer 1] and having an Allocated Project Capacity as specified in the Table 2 of this Supplementary Agreement, (which expression shall unless repugnant to the context or meaning thereof include its successors, and permitted assigns) as Party of the third part,

..... [Insert name of the new Long Term Transmission Customer 'n'] having its registered office at..... [Insert address of the new Long Term Transmission Customer 1] and having an Allocated Project Capacity as specified in the Table 2 of this Supplementary Agreement, (which expression shall unless repugnant to the context or meaning thereof include its successors, and permitted assigns) as Party of the nth part.

WHEREAS:

- A. The TSP has executed the TSA with the existing Long Term Transmission Customer as listed out in Schedule 10 of the TSA.
- B. The existing Long Term Transmission Customer as listed out in Schedule 10 of the TSA have executed the TSA with the TSP.
- C. The TSP has agreed to provide the Transmission Service to the existing Long Term Transmission Customer as per the terms and conditions of the TSA.
- D. The Allocated Project Capacity of the existing Long Term Transmission Customer as on this date.....[Insert date] is as detailed below:

Table : 1

Sl. No.	Name of the existing Long Term Transmission Customer	Allocated Project Capacity (in MW)
1		
2		
3		
.		


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 167 of 169

Transmission Service Agreement

- E. The existing Long Term Transmission Customer have agreed, on the terms and subject to the conditions of the TSA, to use the available transmission capacity of the Project and pay TSP the Transmission Charges as determined in accordance with the terms of the TSA.

NOW THEREFORE THIS AGREEMENT WITNESSETH as under:

- 1) The new Long Term Transmission Customer and their Allocated Project Capacity as on this date.... [Insert date] are as detailed below:

Table 2:

Sl. No.	Name of the new Long Term Transmission Customer	Allocated Project Capacity (in MW)
1		
2		
3		
.		
.		

- 2) The new Long Term Transmission Customer have been granted long term open access from the CTU/STU, as the case may be, and are beneficiaries to the Project.
- 3) The new Long Term Transmission Customer agree to the terms and conditions laid down in the TSA, to use the Project and pay the TSP the Transmission Charges as determined in accordance with the terms of the TSA and the provisions of this Supplementary Agreement.
- 4) The TSP agrees to provide the Transmission Service to the new Long Term Transmission Customer as per the terms and conditions of the TSA.
- 5) All terms and conditions of the TSA between the TSP and the existing Long Term Transmission Customer (as listed out in Table 1 of this Supplementary Agreement) shall apply, mutatis mutandis without any change, to the new Long Term Transmission Customer (as listed out in Table 2 of this Supplementary Agreement)

IN WITNESS WHEREOF the parties have executed these presents through their Authorised Representatives


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 168 of 169

Transmission Service Agreement

WITNESS:

Table 3:
WITNESS

- | | |
|--------------------|------------------------------|
| 1. Signature: | For and on behalf of |
| Name: | [Insert name of the TSP] |
| Designation: | |
| 2. Signature: | For and on behalf of |
| Name: | [Insert name of the new Long |
| Designation: | Term Transmission Customer |
| | 1] |
| 3. Signature: | For and on behalf of |
| Name: | [Insert name of the new Long |
| Designation: | Term Transmission Customer |
| | 1] |
| n. Signature: | ; |
| Name: | For and on behalf of |
| Designation: | [Insert name of the new Long |
| | Term Transmission Customer |
| | n] |


Pashchimanchal Vidyut
Vitran Nigam Limited


Purvanchal Vidyut
Vitran Nigam Limited


Dashinanchal Vidyut
Vitran Nigam Limited


Madhyanchal Vidyut
Vitran Nigam Ltd.


Kanpur Electricity
Supply Company Limited


Tirwa Transmission
Limited

Tirwa Transmission Limited



Page 169 of 169

Dated 07th March, 2024

SHARE PURCHASE AGREEMENT

BETWEEN

PFC CONSULTING LIMITED

AND

TIRWA TRANSMISSION LIMITED

AND

MEGHA ENGINEERING & INFRASTRUCTURES LIMITED





e-Stamp

Certificate No. : IN-UP87486813589999W
Certificate Issued Date : 05-Mar-2024 07:22 PM
Account Reference : NEWIMPACC (SV)/ up14075304/ GHAZIABAD SADAR/ UP-GZB
Unique Doc. Reference : SUBIN-UPUP1407530471149150025092W
Purchased by : PFC CONSULTING LIMITED
Description of Document : Article 19 Certificate or other Document
Property Description : Not Applicable
Consideration Price (Rs.) :
First Party : PFC CONSULTING LIMITED
Second Party : Not Applicable
Stamp Duty Paid By : PFC CONSULTING LIMITED
Stamp Duty Amount(Rs.) : 1,200
(One Thousand Two Hundred only)



SHARE PURCHASE AGREEMENT

This **SHARE PURCHASE AGREEMENT** ('Agreement') made this 07th Day of March 2024 at Lucknow by and between:

PFC CONSULTING LIMITED (a wholly owned subsidiary of Power Finance Corporation Ltd.), a company incorporated under the Companies Act, 1956, with CIN No. U74140DL2008GOI175858 having its registered office at First Floor, "Urjanidhi", 1 Barakhamba Lane, Connaught Place, New Delhi 110001, (hereinafter referred to as "**PFCCL**", which expression shall, unless it be repugnant to the context or meaning thereof, be deemed to mean and include its successors and permitted assigns) of the **FIRST PART**;

AND

TIRWA TRANSMISSION LIMITED, a company incorporated under the Companies Act, 2013, with CIN No. U42201DL2023GOI415616 having its registered office at First Floor, "Urjanidhi", 1 Barakhamba Lane, Connaught Place, New Delhi 110001, (hereinafter referred to as "**Company**" which expression shall, unless repugnant to the context or meaning thereof, be deemed to mean and include its successors and permitted assigns) of the **SECOND PART**; and



Statutory Alert:

1. The authenticity of this Stamp certificate should be verified at www.shrestamp.com or any other official website of the Government of India.
2. Any discrepancy in the details on this Certificate and as available on the website / Mobile App / e-commerce platform.
3. The duty of checking the authenticity is on the user of the certificate.
4. In case of any discrepancy please inform the Government Authority.

AND

MEGHA ENGINEERING & INFRASTRUCTURES LIMITED, a company incorporated under the Companies Act, 1956 with CIN No. U45202TG2006PLC050271 having its registered office at **S-2, Technocrat Industrial Estate, Balanagar Hyderabad - 500037** (hereinafter referred to as **"Selected Bidder"** which expression shall, unless repugnant to the context or meaning thereof, be deemed to mean and include its successors and permitted assigns) of the **THIRD PART**.

WHEREAS:

- A. UP Power Transmission Corporation Limited (UPPTCL) vide its Letter of Intent (LoI) dated 19.11.2022 has appointed PFC Consulting Ltd. to be the Bid Process Coordinator (BPC) for the purpose of selection of Bidder as Transmission Service Provider (TSP) to establish transmission system for **"Construction of 220/132/33 kV Tirwa (Kannauj) substation with associated lines and LILO of one circuit of 400 kV D/C (Twin Moose) Shamli-Aligarh line at THDC 2x660 MW Khurja Power Plant"** through tariff based competitive bidding process (hereinafter referred to as the **"Project"**).
- B. In accordance with the Bidding Guidelines, PFCCL had initiated a Bid Process through issuance of RFP documents for selecting a Successful Bidder to build, own, operate and transfer the Project in accordance with and on the terms and conditions mentioned in the RFP Project Documents (as defined hereinafter).
- C. PFCCL has incorporated the **Company** and PFCCL along with the Nominees hold One hundred per cent (100 %) of total issued and paid up equity share capital of the Company.
- D. PFCCL has initiated the development of the Project and has obtained survey report, certain clearances, consents and permits as specified in the RFP regarding the Project.
- E. Pursuant to the said Bid Process, Megha Engineering & Infrastructures Limited has been identified as the Selected Bidder vide Letter of Intent dated January 30, 2024 issued by the PFCCL in favor of the Selected Bidder.
- F. As envisaged in the RFP, the Shares Seller (as defined hereinafter) has agreed to sell the Sale Shares (as defined hereinafter) to the Selected Bidder and the Selected Bidder has agreed to purchase the Sale Shares from the Shares Seller, subject to and on the terms and conditions set forth in this Agreement.

NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL COVENANTS AND AGREEMENTS SET FORTH IN THIS AGREEMENT AND FOR OTHER GOOD AND VALUABLE CONSIDERATION, THE PARTIES HEREBY AGREE AS FOLLOWS:

1. DEFINITIONS

- 1.1 Capitalised terms in this Agreement, unless defined in this Agreement shall, in so far as the context admits, have the same meaning in this Agreement as has been ascribed to them in the Transmission Service Agreement.

- 1.2 Additionally, the following terms shall have the meaning hereinafter respectively assigned to them herein below:



- (i) **"Acquisition Price"** shall mean INR 2,78,14,368/- (Rupees Two Crore Seventy Eight Lakh Fourteen Thousand Three Hundred Sixty Eight Only), which is the aggregate consideration payable by the Selected Bidder towards purchase of the **Sale Shares at par** along with assets and liabilities of the Company as on the Closing Date subject to adjustment as per the audited accounts of the Company as on the Closing Date;
- (ii) **"Agreement"** or **"the Agreement"** or **"this Agreement"** shall mean this Share Purchase Agreement and shall include the recitals and/or annexures attached hereto, and the contracts, certificates, disclosures and other documents to be executed and delivered pursuant hereto, if any, and any amendments made to this Agreement by Parties in writing;
- (iii) **"Bid Process"** shall mean the competitive bidding process initiated by the Company, by issuance of RFP Documents for selecting a Successful Bidder to build, own, operate and transfer the Project in accordance with and on the terms and conditions mentioned in the RFP Project Documents;
- (iv) **"Board"** shall mean the board of directors of the Company
- (v) **"Closing Date"** shall mean a mutually agreed date between the Parties falling within the period as mentioned in Clause 2.4 of RFP or on failure of such mutual agreement between the Parties shall be the date falling on the last date of such period;
- (vi) **"CTU"** or **"Central Transmission Utility of India Limited"** shall have same meaning as defined in the Electricity Act, 2003;
- (vii) **"Encumbrance"** shall mean any mortgage, pledge, lien, charge, security assignment, hypothecation, trust, encumbrance or any other agreement having the effect of creating security interest;
- (viii) **"Letter of Intent"** shall have the meaning ascribed thereto under the RFP;
- (ix) **"Nominees"** shall mean the Persons, who are named in Annexure A, holding the Sale Shares as nominees of PFCCL.
- (x) **"Party"** shall mean PFCCL, Company and the Selected Bidder, referred to individually, and **"Parties"** shall mean PFCCL, Company and the Selected Bidder collectively referred to, as relevant;
- (xi) **"Person"** shall include an individual, an association, a corporation, a partnership, a joint venture, a trust, an unincorporated organisation, a joint stock company or other entity or organisation, including a government or political subdivision, or an agency or instrumentality thereof, and/or any other legal entity;
- (xii) **"RfP Project Documents"** shall mean the following documents, referred to collectively:
 - a) Transmission Services Agreement



- b) this Agreement; and
 - c) Any other agreement(s) as may be required.
- (xiii) **"Representations and Warranties"** shall mean the representations and warranties mentioned in **Clause 4** hereto;
- (xiv) **"Sale Shares"** shall mean **10,000 (Ten Thousand)** Shares, representing 100 percent of the total issued, subscribed and fully paid-up equity share capital of the Company held by the Shares Seller and Nominees as more particularly described in Annexure A attached hereto;
- (xv) **"Shares"** shall mean the fully paid-up equity shares of Company, of face value Rs. 10 each;
- (xvi) **"Shares Seller"** shall mean PFCCL;
- (xvii) **"Transmission Services Agreement"** or **"TSA"** means the agreement titled 'Transmission Services Agreement' dated March 07, 2024 entered into between Central Transmission Utility of India Limited and the TSP pursuant to which the TSP shall build, own, operate and transfer the Project and make available the assets of the Project to Central Transmission Utility of India Limited on a commercial basis, as may be amended from time to time;
- (xviii) **Transmission Service Provider" or "TSP"** shall mean Tirwa Transmission Limited which has executed the Transmission Service Agreement and which shall be acquired by the Selected Bidder.

1.3 Interpretation Clause

Unless the context otherwise requires, the provisions of the TSA relating to the interpretation of the TSA shall apply to this Agreement as if they were set out in full in this Agreement and to this end are incorporated herein by reference.

2. TRANSFER OF SHARES

- 2.1 Subject to the terms and conditions of this Agreement, the Shares Seller agrees to sell and transfer to the Selected Bidder and the Selected Bidder hereby agrees to purchase from the Shares Seller, the Sale Shares of the Company free from Encumbrances with rights and benefits attached thereto in consideration of the Acquisition Price and the covenants, undertakings and the agreements of the Selected Bidder contained in this Agreement.
- 2.2 The Shares Seller hereby undertakes to cause the Nominees to transfer part of the Sale Shares held by them as Nominees of the Shares Seller to the Selected Bidder and execute any documents required to deliver good title to the Sale Shares to the Selected Bidder.



3. CLOSING

- 3.1 Prior to the Closing Date, the Selected Bidder shall provide to the Shares Seller, valid share transfer forms ("Share Transfer Forms") duly stamped with requisite amount of stamp duty payable on the transfer of Sale Shares.
- 3.2 On the Closing Date, the Shares Seller shall hand over to the Selected Bidder or its authorised representative, the original share certificates representing the Sale Shares ("Sale Share Certificates") along with the Share Transfer Forms duly executed by the Shares Seller and the Nominees in favour of the Selected Bidder, simultaneously against the Selected Bidder handing over to the Shares Seller demand drafts drawn in favour of the Shares Seller for the Acquisition Price payable to it.

Provided that prior to the handing over of the Sale Share Certificates to the Selected Bidder as mentioned above, the Selected Bidder shall provide satisfactory evidence to PFCCL that on or before the Closing Date, the Selected Bidder has furnished the Performance Bank Guarantee to Central Transmission Utility of India Limited and is in a position to comply with all other requirements of Clause 2.4 of the RFP.

- 3.3 The Selected Bidder shall immediately upon receiving the Sale Share Certificates and the Share Transfer Forms, duly execute the Share Transfer Forms and duly lodge the Share Transfer Forms and the Sale Share Certificates with the Company. The Selected Bidder may also propose the names of its nominees to be appointed on the Board of the Company and the address within the jurisdiction of the Registrar of Delhi and Haryana, which would be the new registered office of the Company. The Company shall, upon receipt of the said documents from the Selected Bidder, do the following:

- (i) Immediately on the Closing Date convene a meeting of the Board, wherein the Board shall pass the following necessary resolutions:
 - (a) approving the transfer of the Shares constituting the Sale Shares from the Shares Seller and the Nominees to the name of the **Megha Engineering & Infrastructures Limited and its nominees;**
 - (b) approving the **Megha Engineering & Infrastructures Limited and its nominees** as a member of the Company and entering the name of the **Megha Engineering & Infrastructures Limited and its nominees** in the register of members.
 - (c) changing the address of the registered office of the Company to the new address, within the jurisdiction of the Registrar of Delhi and Haryana, as may be provided by the Selected Bidder.
 - (d) appointing the nominees of the Selected Bidder on the Board and accepting the resignations of the other existing Directors on the Board and the Chair of the meeting which was taken by one of the existing Directors shall be vacated and appointment of a new Chairman who shall be one of the newly appointed Director, for the rest of the meeting.

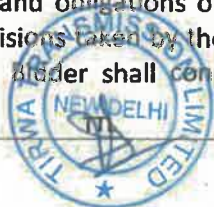
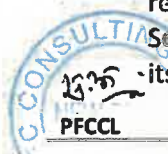


Immediately pursuant to the acceptance of resignation of the existing Directors and appointment of new Chairman, the newly constituted Board of Directors shall continue with the meeting and pass the following resolution:

- (e) terminating all the authorizations granted regarding the business and/or operations of the Company or the operations of the bank accounts of the Company, with prospective effect; and
 - (f) acknowledging and accepting the terms and conditions as contained in the executed copies of the RFP Project Documents and to abide by the provisions contained therein.
- (ii) Enter the name of the **Megha Engineering & Infrastructures Limited and its nominees** as the legal and beneficial owner of the Sale Shares, free of all Encumbrances, in the register of members of the Company;
 - (iii) Make the necessary endorsements on the Sale Share Certificates, indicating the name of the **Megha Engineering & Infrastructures Limited and its nominees** as the legal and beneficial owner of the Sale Shares evidenced there under;
 - (iv) Return the original Sale Share Certificates, duly endorsed in the name of the **Megha Engineering & Infrastructures Limited and its nominees**, to the **Megha Engineering & Infrastructures Limited and its nominees**, as the case may be or its authorised representative;
 - (v) Handover all the statutory registers and records, if any, of the Company to the Selected Bidder.
 - (vi) Handover certified true copies of the Board resolution passed by the Company as per (i)(a) to (i)(e) of Clause 3.3 (i) to Central Transmission Utility of India Limited.
- 3.4 The Parties to this Agreement agree to take all measures that may be required to ensure that all the events contemplated in the **Clauses 3.1 to 3.3** above on the Closing Date are completed on the same day.

Notwithstanding the provisions of **Clause 3.3** hereto, all proceedings to be taken and all documents to be executed and delivered by the Parties at the Closing Date shall be deemed to have been taken and executed simultaneously and no proceedings shall be deemed to have been taken nor documents executed or delivered until all have been taken, executed and delivered.

- 3.5 The Selected Bidder hereby acknowledges and agrees that after the date of acquisition of one hundred percent (100%) of the equity shareholding of the Company, by the Selected Bidder as per Clause 3.3, (a) the authority, rights and obligations of the PFCCL/Company in respect of the Bid Process shall forthwith cease and any actions to be taken thereafter regarding the Bid Process will be undertaken by Central Transmission Utility of India Limited themselves or through their any other authorized representative(s), (b) all rights and obligations of the PFCCL/Company shall be of the Selected Bidder and (d) any decisions taken by the PFCCL/Company prior to the date of its acquisition by the Selected Bidder shall continue to be binding on the Selected



Bidder. The Parties hereby agree that this provision shall survive the termination of this Agreement.

- 3.6 This agreement shall be effective from the date of its signing by the Parties and shall remain in force until all the obligations of the respective Parties under Clause 3.3 hereto are fulfilled.

4. REPRESENTATIONS AND WARRANTIES

- 4.1 The Selected Bidder hereby represents and warrants to the Shares Seller that:

4.1.1 The Selected Bidder has full legal right, power and authority to enter into, execute and deliver this Agreement and to perform the obligations, undertakings and transactions set forth herein, and this Agreement has been duly and validly executed and delivered by the Selected Bidder and constitutes its legal, valid and binding obligations, enforceable against it in accordance with its terms;

4.1.2 The execution, delivery and performance of this Agreement by the Selected Bidder will not violate or contravene any provision of the Memorandum of Association or Articles of the Selected Bidder, (ii) will not violate or contravene any law, statute, rule, regulation, licensing requirement, order, writ, injunction or decree of any court, governmental instrumentality or other regulatory, governmental or public body, agency or authority by which the Selected Bidder are bound or by which any of its and/or their properties or assets are bound, and (iii) except to the extent that the same have been duly and properly completed or obtained, will not require any filing with, or permit, consent or approval of or license from, or the giving of any notice to, any court, governmental instrumentality or other regulatory, governmental or public body, agency or authority, joint venture party, or any other entity or person whatsoever; and

4.1.3 The Selected Bidder is not restricted in any manner whatsoever, including without limitation, on account of any judicial or governmental order, action or proceeding, or any contractual obligation assumed by the Selected Bidder, from purchasing the Sale Shares from the Shares Seller in the manner provided for in this Agreement.

- 4.2 The Shares Seller hereby represents and warrants to the Selected Bidder that;

4.2.1 The Shares Seller and the Nominees are the legal and beneficial owners of the Sale Shares, free and clear of any Encumbrance and the delivery to the Selected Bidder of the Sale Shares pursuant to the provisions of this Agreement will transfer to the Selected Bidder a good title to the Sale Shares.

4.2.2 The Shares Seller has full legal right, power and authority to enter into, execute and deliver this Agreement and to perform the obligations, undertakings and transactions set forth herein. The execution, delivery and performance of this Agreement will not violate the Memorandum and Articles of Association of the Shares Seller or contravene any contract by which it is bound.



- 4.2.3 The Shares Seller has obtained requisite authorizations to sell and transfer the Sale Shares to the Selected Bidder. The Shares Seller also represent that it is not prevented from transferring and selling the Sale Shares. Also, to the best of its knowledge, the Sale Shares are not the subject matter of any claim or pending proceeding or threatened by any legal proceeding made by any third party.
- 4.3 Except as specified in Clause 4.2, above the Shares Seller shall not be deemed to have, made any representation or warranty whatsoever, whether express or implied, in relation to the Sale Shares or Company, including but not limited to any implied warranty or representation as to the business or affairs of the Company.
- 4.4 The Representations and Warranties are given as at the date of this Agreement except that where a Representation and Warranty is expressed to be made as at another date, the Representation and Warranty is given with respect to that date only.
- 4.5 Each Representation and Warranty is to be construed independently of the others and is not limited by reference to any other Warranty. The Representations, Warranties and undertakings contained in this **Clause 4** hereto or in any document delivered pursuant to or in connection with this Agreement are continuing in nature and shall survive the Closing Date for one (1) year.
- 4.6 The Parties represent to each other that all Representations and Warranties provided herein by the respective Party shall be true as of Closing Date.

5. OBLIGATIONS OF THE SELECTED BIDDER

The Selected Bidder agrees that the Shares Seller shall not be liable in any manner, nor shall it assume any responsibility or liability whatsoever, in respect of the business of the Company and its operations or activities, arising after Closing Date, to any Person or any authority, central, state, local or municipal or otherwise and the same shall be the sole responsibility of the Selected Bidder.

6. MISCELLANEOUS

6.1 NOTICES

- a) All notices to be given under this Agreement shall be in writing and in the English language.
- b) All notices must be delivered personally or by registered or speed post or by recognised courier to the addresses below:

Selected Bidder (Lead Member in case of Consortium)	Company Secretary Megha Engineering & Infrastructures Limited S-2, Technocrat Industrial Estate, Balanagar Hyderabad - 500 037
--	---



Name of the Holding Company of the SPV	Company Secretary, PFC Consulting Limited First Floor, "Urjanidhi", 1 Barakhamba Lane, Connaught Place, New Delhi- 110001
Company (Before Closing Date)	Project In-charge Tirwa Transmission Limited First Floor, "Urjanidhi", 1 Barakhamba Lane, Connaught Place, New Delhi- 110001
Company (After Closing Date)	Tirwa Transmission Limited 2 nd Floor, Niryat Bhawan, Rao Tularam Marg, Vasant Vihar, Opposite Army Hospital & Referral, New Delhi-110057

- c) Any Party may by notice of at least fifteen (15) days to the other Parties change the address and / or addresses to which such notices and communications to it are to be delivered or mailed.

6.2 RESOLUTION OF DISPUTES

6.2.1 If any dispute arises between the Parties, in connection with the validity, interpretation, implementation or alleged breach of any provision of this Agreement ("Dispute"), the disputing Parties hereto shall endeavour to settle such Dispute amicably. The attempt to bring about an amicable settlement shall be considered to have failed if not resolved within 60 days from the date of the Dispute.

6.2.2 If the Parties are unable to amicably settle the Dispute in accordance with Clause 6.2.1 within the period specified therein, any of the Parties shall be entitled to within 30 days after expiry of the aforesaid period, refer the Dispute to the Company Secretary of PFCCL and Chief Executive/ Managing Director of the Selected Bidder for resolution of the said Dispute. The attempt to bring about such resolution shall be considered to have failed if not resolved within 30 days from the date of receipt of a written notification in this regard.

6.2.3 In the event the Dispute is not settled in accordance with Clause 6.2.2 above, any Party to the Dispute shall be entitled to serve a notice invoking this Clause and making a reference to a sole arbitrator. If the Parties to the Dispute cannot agree



as to the appointment of the sole arbitrator within 30 days of receipt of the notice of the Party making the reference, then the Shares Seller along with the Company shall appoint one arbitrator and the Selected Bidder shall appoint one arbitrator and the two arbitrators, so appointed shall appoint a third arbitrator. However, after the Closing Date, in such an event the Shares Seller shall appoint one arbitrator and the Selected Bidder along with the Company shall appoint one arbitrator and the two arbitrators, so appointed shall appoint the third arbitrator.

6.2.4 The place of the arbitration shall be New Delhi. The Arbitration proceedings shall be governed by the Arbitration and Conciliation Act, 1996.

6.2.5 The proceedings of arbitration shall be in English language.

6.2.6 The arbitrator's award shall be substantiated in writing. The arbitrators shall also decide on the costs of the arbitration proceedings. In case the arbitrators have not decided on the costs of the arbitration proceedings, each Party to the Dispute shall bear its own costs, in relation to the arbitration proceedings.

6.3 AUTHORISED PERSON

For the purposes of this Agreement, the Selected Bidder is represented by **Mr. M Raghu Kumar, Associate Vice President**, pursuant to an authorization granted to **Mr. M Raghu Kumar, Associate Vice President** through necessary Board resolutions. Further, **Mr. M Raghu Kumar, Associate Vice President** is also authorized by such resolutions to take any decision which may be required to be taken, do all acts and execute all documents which are or may be required by the Selected Bidder for the proper and effective fulfillment of the rights and obligations under this Agreement. Any action taken or document executed by **Mr. M Raghu Kumar** shall be deemed to be acts done or documents executed by the Selected Bidder and shall be binding on the Selected Bidder.

6.4 RESERVATION OF RIGHTS

No forbearance, indulgence or relaxation or inaction by any Party at any time to require performance of any of the provisions of this Agreement shall in any way affect, diminish or prejudice the right of such Party to require performance of that provision, and any waiver or acquiescence by any Party of any breach of any of the provisions of this Agreement shall not be construed as a waiver or acquiescence of any continuing or succeeding breach of such provisions, a waiver of any right under or arising out of this Agreement or acquiescence to or recognition of rights other than that expressly stipulated in this Agreement.



6.5 CUMULATIVE RIGHTS

All remedies of either Party under this Agreement whether provided herein or conferred by statute, civil law, common law, custom or trade usage, are cumulative and not alternative and may be enforced successively or concurrently.

6.6 PARTIAL INVALIDITY

If any provision of this Agreement or the application thereof to any person or circumstance shall be invalid or unenforceable to any extent, the remainder of this Agreement and the application of such provision to persons or circumstances other than those as to which it is held invalid or unenforceable shall not be affected thereby, and each provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law. Any invalid or unenforceable provision of this Agreement shall be replaced with a provision, which is valid and enforceable and most nearly reflects the original intent of the unenforceable provision.

6.7 TERMINATION

If (i) the Closing does not occur on the Closing Date for any reason whatsoever, or (ii) the Letter of Intent is withdrawn or terminated for any reason, or (iii) due to termination of the TSA by Central Transmission Utility of India Limited in accordance with Article 3.3.2 or Article 13 of the TSA thereof, PFCCCL shall have a right to terminate this Agreement forthwith by giving a written notice to the other Parties hereto.

6.8 AMENDMENTS

No modification or amendment of this Agreement and no waiver of any of the terms or conditions hereof shall be valid or binding unless made in writing and duly executed by all the Parties.

6.9 ASSIGNMENT

This Agreement and the rights and liabilities hereunder shall bind and inure to the benefit of the respective successors of the Parties hereto, but no Party hereto shall assign or transfer its rights and liabilities hereunder to any other Person without the prior written consent of the other Parties, which will not be unreasonably withheld.

6.10 ENTIRE AGREEMENT

This Agreement constitutes the entire Agreement between the Parties with respect to the subject matter herein and supersedes and cancels any prior oral or written agreement, representation, understanding, arrangement, communication or expression of intent relating to the subject matter of this Agreement.



6.11 COSTS

Each of the Parties hereto shall pay their own costs and expenses relating to the negotiation, preparation and execution of this Agreement and the transactions contemplated by this Agreement.

The Selected Bidder shall be liable to bear and pay the stamp duty and other costs in respect of this Agreement and the Share Transfer Forms.

6.12 RELATIONSHIP

None of the provisions of this Agreement shall be deemed to constitute a partnership between the Parties hereto and no Party shall have any authority to bind the other Party otherwise than under this Agreement or shall be deemed to be the agent of the other in any way.

6.13 GOVERNING LAW AND JURISDICTION

This Agreement shall be governed by and construed in accordance with the laws of India and shall be subject to the exclusive jurisdiction of the courts of Delhi.

6.14 COUNTERPARTS

This Agreement may be executed in counterparts by the Parties and each fully executed counterpart shall be deemed to be original.

6.15 CONFIDENTIALITY

The Parties undertake to hold in confidence and not to disclose the terms and conditions of the transaction contemplated hereby to third parties, except:

- (a) to their professional advisors;
- (b) to their officers, employees, agents or representatives, who need to have access to such information for the proper performance of their activities;
- (c) disclosures required under Law;

without the prior written consent of the other Parties.

Provided that Central Transmission Utility of India Limited and PFCCCL may at any time, disclose the terms and conditions of transactions contemplated hereby to any person, to the extent stipulated under the law or the Bidding Guidelines.



6.16 INDEMNIFICATION

- The Parties hereby agree that transfer of Sale Shares to the Selected Bidder shall vest all the rights, privileges, licenses, responsibilities, liabilities and other obligations pertaining to the Company in the Selected Bidder.
- The Selected Bidder hereby agrees that the Selected Bidder shall not be entitled to any claims or initiate any legal proceedings, by itself or through the Transmission Service Provider against the Share Sellers, its directors, officers, employees and the subscribers including the members of any committees appointed by them in respect of any actions or decisions taken by any of them up to the Closing Date in furtherance of the Project referred to in recital A of this Agreement.
- Further, the Selected Bidder hereby indemnifies and holds harmless at all times the Share Seller against all losses, damages, charges; and expenses which the Share Seller may sustain or incur towards contractual obligations with respect to the contracts awarded by the Share Seller or any other liability arising with regard to any action/ activity undertaken by the Share Seller for and on behalf of the Company in furtherance of the Project referred to above or otherwise concerning the Company. All such actions shall be defended by the Selected Bidder either itself or through the TSP at its own cost.
- The Parties hereby agree that the provisions of this clause shall survive the termination of this Agreement.

IN WITNESS WHEREOF, THE PARTIES HERETO HAVE CAUSED THIS AGREEMENT TO BE DULY EXECUTED AND DELIVERED AS OF THE DAY AND YEAR FIRST ABOVE WRITTEN


SIGNED AND DELIVERED

BY THE WITHIN NAMED "PFCCL" PFC CONSULTING LIMITED

BY THE HAND OF MR. SACHIN ARORA, COMPANY SECRETARY

PURSUANT TO THE RESOLUTION PASSED BY THE BOARD OF DIRECTORS ON 15th FEBRUARY 2024

ON THE 07th DAY OF MARCH 2024.

IN THE PRESENCE OF:

WITNESS:

NAME, SIGNATURE, DESIGNATION AND ADDRESS:






SIGNED AND DELIVERED

BY THE WITHIN NAMED "COMPANY" TIRWA TRANSMISSION LIMITED

BY THE HAND OF MR. SANJAY KUMAR NAYAK, DIRECTOR

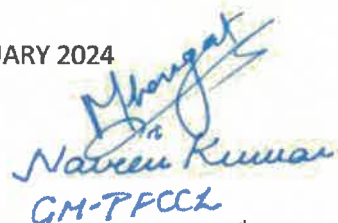
PURSUANT TO THE

RESOLUTION PASSED BY THE BOARD OF DIRECTORS ON 30th JANUARY 2024ON THE 07th DAY OF MARCH 2024.

IN THE PRESENCE OF:

WITNESS:

NAME, SIGNATURE, DESIGNATION AND ADDRESS:


 Narayan Kumar
 GM-PFCL




SIGNED AND DELIVERED

BY THE WITHIN NAMED "SELECTED BIDDER" MEGHA ENGINEERING & INFRASTRUCTURES LIMITED

BY THE HAND OF M RAGHU KUMAR, ASSOCIATE VICE PRESIDENT

PURSUANT TO THE

RESOLUTION PASSED BY THE BOARD OF DIRECTORS ON 29TH DAY OF FEBRUARY 2024ON THE 07th DAY OF MARCH 2024.

IN THE PRESENCE OF:

WITNESS:

NAME, SIGNATURE, DESIGNATION AND ADDRESS:


 Alok Kumar Debeydi
 G.M.
 Bala Nagar Hyderabad.


ANNEXURE A**DESCRIPTION OF THE SALE SHARES**

S. NO.	NAME OF THE SHAREHOLDER	NUMBER OF EQUITY SHARES HELD	PERCENTAGE OF THE TOTAL PAID UP EQUITY CAPITAL
1.	PFC Consulting Limited	9400	94 %
2.	Shri Manoj Kumar Rana (Nominee of PFC Consulting Limited)	100	1 %
3.	Shri Milind Madhusudan Dafade (Nominee of PFC Consulting Limited)	100	1 %
4.	Shri Neeraj Singh (Nominee of PFC Consulting Limited)	100	1 %
5.	Shri Sanjay Kumar Nayak (Nominee of PFC Consulting Limited)	100	1 %
6.	Shri Sachin Shukla (Nominee of PFC Consulting Limited)	100	1 %
7.	Shri Rishab Jain (Nominee of PFC Consulting Limited)	100	1 %
	Total	10,000	100%





Scope of TTL (220/132/33kV Tirwa (Kannauj) SS with associated lines & 400 kV D/C (Twin Moose) Shamli-Aligarh Line at THDC)

ANNEXURE A-12



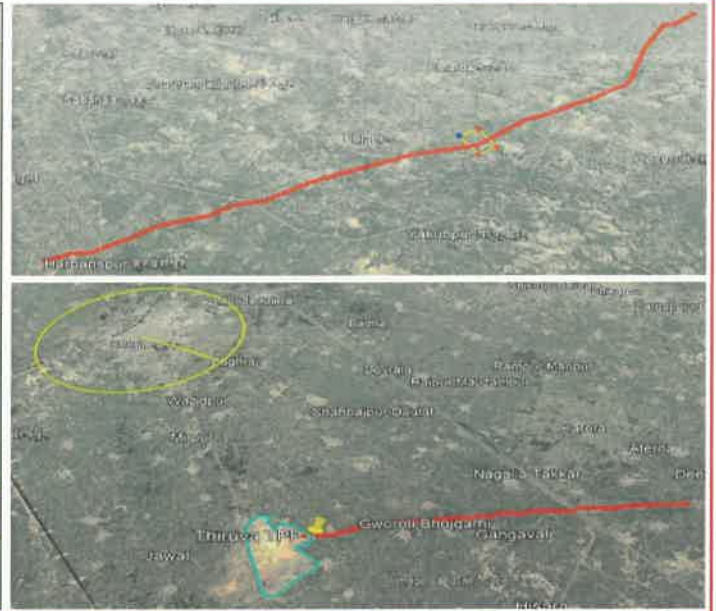
Project Brief

By : PFC Consulting Limited – New Delhi (PFCCL)

- ❖ Construction of 220/132/33kV Tirwa (Kannauj) Substation with associated lines.
 - ✓ Construction of 220/132/33kV substation, Tirwa (Kannauj)
 - ✓ LILO of 220kV Mainpuri (220) – Bhauti PG (400) S/C line at 220kV Tirwa Substation
 - ✓ LILO of 132kV Dibiyaipur-Bidhuna S/C line at 220kV Tirwa substation
- ❖ Construction of LILO of one circuit of 400kV D/C (Twin Moose) Shamli-Aligarh Line
 - ✓ Construction of 220/33 kV GIS 132 LILO of one circuit of 400 kV D/C (Twin Moose) Shamli-Aligarh Line at THDC 2x660 MW Khurja Power Plant (02 Nos. Bays of 400kV will be provided by THDC Khurja Power Plant)

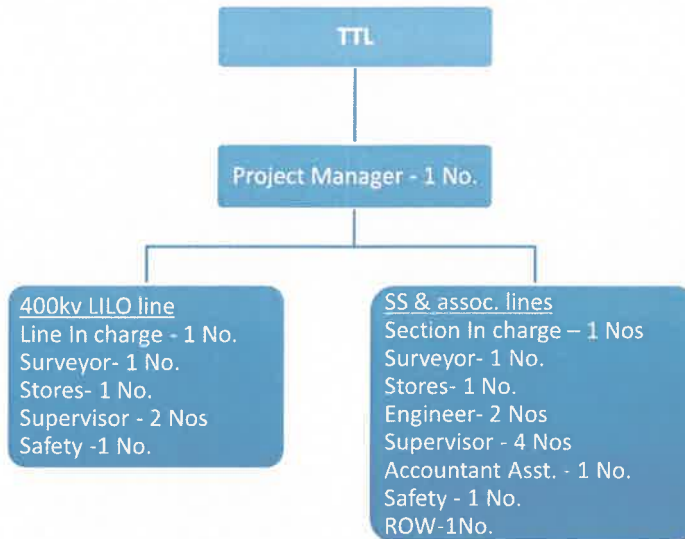
Location Kannauj

Time Line 7 Months for 400 kV LILO line and 18 months for remaining Lines from the Date of Signing of TSA.





Organogram for TTL



Fw: Additional Clarifications for Construction of 220/132/33 kV Tirwa (Kannauj) substation with associated lines and LILO of one circuit of 400 kV D/C (Twin Moose) Shamli-Aligarh line at THDC 2x660 MW Khurja Power Plant

From: J Srinivas Kumar (jsrinivaskumar@meilgroup.in)

To: sureshp@meilgroup.com; amit@meilgroup.in; rajendra.kondepati@meilgroup.com

Cc: mdlakshmi@meilgroup.in

Date: Thursday, May 4, 2023 at 03:34 PM GMT+5:30

----- Forwarded Message -----

From: Project In-charge, ITP <pfccl.itp@pfcindia.com>

To: J Srinivas Kumar <jsrinivaskumar@meilgroup.in>

Cc: MG Prasanna Kumar <mgp@meil.in>; Sanjay Nayak <sanjaynayak@pfcindia.com>; Nirmala Meena <nirmala_meena@pfcindia.com>; Deepak Kumar <d_kumar@pfcindia.com>

Sent: Thursday, May 4, 2023 at 12:49:38 PM GMT+5:30

Subject: Additional Clarifications for Construction of 220/132/33 kV Tirwa (Kannauj) substation with associated lines and LILO of one circuit of 400 kV D/C (Twin Moose) Shamli-Aligarh line at THDC 2x660 MW Khurja Power Plant

Dear Sir,

This is to inform that the land for Construction of 220/132/33kV Tirwa (Kannauj) Substation will be provided by UPPTCL and handed over to the successful bidder free of cost on as is where is basis, after transfer of SPV.

--

Regards,

PFC Consulting Limited,

New Delhi

जब तक अत्यंत आवश्यक न हो कृपया इस ई-मेल को प्रिंट न करें।

इस इलैक्ट्रॉनिक संदेश में समाहित सूचना तथा संलग्नक केवल प्रेषिती के उपयोग के लिए हैं तथा उनके लिए प्रॉपराइटरी, गोपनीय अथवा विशेषाधिकृत सूचना हो सकती है। यदि आप वह व्यक्ति नहीं हैं, तो आप इस ई-मेल को प्रचारित, वितरित अथवा कॉपी न करें। कृपया प्रेषक को तुरंत नोटिफाई करें तथा इस संदेश की सभी प्रतियां तथा अन्य संलग्नक नष्ट कर दें।

चेतावनी: ई-मेल के माध्यम से कम्प्यूटर वायरस संप्रेषित हो सकता है। यद्यपि इसके लिए कंपनी ने पर्याप्त सावधानी बरती है कि इस ई-मेल में कोई वायरस न हो, तथापि प्रेषिती को भी यह जाँच कर लेनी चाहिए कि इस ई-मेल तथा संलग्नक में कोई वायरस नहीं है। कंपनी इस ई-मेल अथवा संलग्नकों के प्रयोग से हुई किसी भी हानि अथवा नुकसान का दायित्व स्वीकार नहीं करती।



Application Form for Grant of Transmission licence**1. Particulars of the Applicant**

S. no.	Particulars	Details
i.	Name of Applicant	Tirwa Transmission Limited
ii.	Status	Public Limited Company
iii.	Address	2 nd Floor, Niryat Bhawan, Rao Tularam Marg, Vasant Vihar, Opp. Army Hospital & Referral, New Delhi 110057.
iv.	Name, Designation & Address of the Contact Person	Mandalaparthi Raghu Kumar, flat No. 104 JMR Spring Avenue, M J Colony Street No. 2 near xacier school, malkajgiri, Secunderabad, Hyderabad, le Moulali, Andhra Pradesh, 500040
v.	Contact Tel. No.	+91 9676902243
vi.	Fax No.	040-44336800
vii.	Email ID	raghukumar.m@meilgroup.com
viii.	Place of Incorporation/Registration	New Delhi
ix.	Year of Incorporation/Registration	14.06.2023
x.	Following documents are to be enclosed: (a) Certificate of Incorporation	Annexure A-3

2. Particulars of the Project for which licence is being sought:**(a) Transmission Lines:**

S.No.	Name (end-points location)	Voltage Class (kv)	Length (Km)	Type (S/C or D/C)
1.	LILO of 220kV Mainpuri (220) - Bhauti PG (400) S/C line at 220kV Tirwa	220kV	13Km	D/C



2.	LILO of 132kV Dibiyapur - Bidhuna S/C line at Tirwa	132kV	35Km	D/C
3.	LILO of one circuit of 400kV D/C (Twin Moose) Shamli-Aligarh line at THDC (2x660MW) Khurja Power Plant	400kV	2x13km	D/C

(b) Sub- stations

S. No.	Name (location)	Voltage Level(s) (kV)	Transformer (Nos. and MVA capacity)	Reactive / capacitive Compensation (device with MVAR capacity)	No. Of bays
1.	Tirwa (Kannauj)	220/132/33 kV	2x160 + 2x63 MVA	-	27

(c) Commissioning schedule:

Construction of 220/132/33kV Tirwa (Kannauj) Substation with associated lines: **18 Months (as per Schedule 2 of TSA)**

Construction of LILO of one circuit of 400kV D/C (Twin Moose) Shamli-Aligarh Line at THDC 2x660 MW Khurja Power Plant: **7 Months (as per Schedule 2 of TSA)**

(d) Identified Long-term transmission customers of the Project:

(Agreement or status of discussion on Agreements to be submitted along with application) – **Not applicable**

(e) Any other relevant information: **Not applicable**

3. Levelised transmission changes in case of project selected through the Transparent process of competitive bidding and estimated completion cost of the project in other cases: **Rs. 795.85 Million per annum**

4. In case applicant has been selected in accordance with the guidelines for Competitive bidding, enclose:

(a) Recommendation of selection by the Empowered Committee Evaluation Report made public by the Bid process Coordinator. **YES (Bid evaluation committee Certificate enclosed)**

5 List of documents enclosed:



Name of document

- a) Copy of Incorporation, MOA and AOA: Annexure A-3 & Annexure A-4
- b) Copy of Board Resolution: Annexure A-12
- c) Bid Evaluation Committee Certificate: Annexure A-7

(Signature of Applicant or the person Authorised)



Dated:

Place: Hyderabad



TIRWA TRANSMISSION LIMITED

URJANIDHI, FIRST FLOOR, 1, BARAKHAMBA LANE, CONNAUGHT PLACE, CENTRAL DELHI,
NEW DELHI, INDIA - 110001
CIN - U42201DL2023GOI415616

435

435

EXTRACT OF MINUTES OF THE 5TH MEETING OF THE BOARD OF DIRECTORS OF TIRWA TRANSMISSION LIMITED COMMENCED AT 4:30 P.M. ON FRIDAY, THE 15TH DAY OF MARCH, 2024 AT S-22, TIE, BALANAGR, HYDERABAD, TELANGANA -500037

To authorize for filing necessary documents/ forms and representation on behalf of the Company with various statutory authorities

Board upon discussion-

"RESOLVED THAT Mr. Mandalaparthi Raghu Kumar, Mr. Venkatesh Palimpati and Mrs. Sudharani Puritipati, Directors, Authorised Signatories, being persons specifically authorised for this purpose (Authorised Persons), be and are hereby severally authorised to sign and submit petitions, affidavits, agreements, declarations, undertakings, deeds, bills and other documents before Central Electricity Regulatory Commission or Appellate Tribunal for Electricity or Regional Power Committees, Regional Load Dispatch Centre and/or any other regulatory authorities for and on behalf of the Company and do all such acts, deeds, matters and things necessary and incidental thereto.

RESOLVED FURTHER THAT the above Authorised Persons, be and are hereby severally authorised to (a) issue notices, affidavit and other documents, communications to Long Term Transmission Customers and other Parties / agencies, (b) file petition, affidavit, notices and other documents before Regulatory Commission or other Electricity body, Appellate Tribunal for Electricity and Supreme Court for issues arising out of Transmission Service Agreement, (c) engage, appoint or remove any pleaders or advocates, and sign vakalatnamas, power of attorney for such engagement or appointment and (d) file appeal and defend the interest of the Company."

//CERTIFIED TO BE TRUE//

For Tirwa Transmission Limited


Mandalaparthi Raghu Kumar
Director
DIN-10450134

