Connection Agreement

THIS AGREEMENT is made the [ ] day of [ ] 200[ ]

BETWEEN:

[Name and registered address of the STU] (hereinafter called the “STU”) which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include its successors or permitted assigns and for the purposes of this Connection Agreement the STU shall act through its ______________________ [address of the regional headquarter where connection shall be located] Unit;

and

[Name and registered address of the intra-State transmission licensee] (hereinafter called “the intra-State transmission licensee”) which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include its successors or permitted assigns;

STU and intra-State transmission licensee are hereinafter collectively referred to as “Parties” and individually as “Party”.

WHEREAS:

(A) The Intra-State transmission licensee has applied to the STU for connection of the its transmission facility to the STU’s Transmission System and use of the STU’s Transmission System to transmit electricity to and/or from the Facility through the Intra-State Transmission System.

(B) The STU has agreed to the connection of the Intra-State transmission licensee Facility to the STU’s Transmission and Communication System (via the intra-State transmission licensee’s Site-Related Connection Equipment) at the Connection Point (as detailed in Annexure 1) using the Transmission and Communication System of the STU, to transmit electricity as well as real time data to and or from the Facility through the STU’s Transmission and Communication System.

(C) An application for connectivity is not required to be made by any transmission licensee, since transmission system planning is carried out in a coordinated manner by the State Transmission Utility and the Central Electricity Authority. An intra-State transmission licensee other than State Transmission Utility, nevertheless, shall sign a connection agreement with the Central Transmission Utility, as provided for in the Transmission Service Agreement.
(D) The Parties require to enter into this connection agreement to record the terms and conditions upon which the Parties will carry out their respective Connection Works, in addition to the estimated cost required to be carried out by the STU for works related to the interconnection, in accordance with the Connection Agreement.

(E) The parties shall separately take up modalities for implementation of the works on mutually agreed terms and conditions. The scope of works and time schedule for completion of works will be as defined in the Transmission Service Agreement and shall form the basis for evaluating if the works by the parties is being executed in time.

(F) Further, a signed copy of the agreement along with all the Annexures, and amendments when ever made, shall be submitted to SLDC.

IT IS HEREBY AGREED as follows:

1. General Conditions For Connectivity

1.1 The Parties agree to the following General Conditions:

(a) The parties shall abide by the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions for Open Access) Regulations, 2004 (as amended from time to time), in respect of procedure of grant of connectivity and other matters.

(b) The Intra-State transmission licensee shall be responsible for planning, design, construction, and safe and reliable operation of its own equipments in accordance with the Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007, Central Electricity Authority (Technical Standards for Construction of electrical plants and electric lines) Regulations, Central Electricity Authority (Grid Standards) Regulations, Indian Electricity Grid Code (IEGC), State Grid Code and other statutory provisions.

(c) The intra-State transmission licensee shall provide necessary facilities for voice & data communication for transfer of real time operational data such as voltage, frequency, real and reactive power flow, energy, status of circuit breaker & isolators positions, transformer taps and other parameters from their station to Data Collection Point (DCP) of STU as per IEGC. STU may provide access to applicant’s data transfer through communication network in case spare channels are available on mutually agreed terms. The location of DCP of STU shall be the nearest station connected electrically where wideband communication capacity of STU is available. Additional communication system from DCP to the concerned SLDC shall be the responsibility of STU; however its cost shall be borne by the intra-State transmission licensee. The responsibility of data transfer shall be that of the intra-State transmission licensee.
1.2 This agreement along with the schedules which have been initialed by the parties and annexed herewith shall be deemed to form an integral part of this Agreement.

1.3 Availability of Statutory/Regulatory Approval

Notwithstanding anything in the Agreement to the contrary, the intra-State transmission licensee shall be responsible for obtaining the statutory clearances/approval including transmission license (if required) for carrying out the works requiring connection to the ISTS. Accordingly, the provisions of the Agreement dealing with the carrying out of the Works, either by the intra-State transmission licensee or the STU (unless otherwise agreed mutually) in all respects would be conditional on and subject to the STU being satisfied that the necessary approvals/clearances are available with the intra-State transmission licensee.

1.4 General philosophy and guidelines on Protection:

The STU and the intra-state Transmission Licensee agree and confirm that connection with intra-state Transmission System shall comply with following minimum technical and design criteria with regard to System parameters and protection.

**Grid Parameter Variations**

*General*

Intra-State Transmission Licensees and Users shall ensure that Plant and Apparatus requiring service from or providing service to the intra-State Transmission System is of such design and construction that satisfactory operation of such Plant and Apparatus will not be prevented by variation in instantaneous values of system frequency and voltage from their nominal values.

*Frequency Variation*

Rated frequency of the system shall be 50.0 Hz and connected equipment must be capable of operating within the limits specified in the State Grid Code Regulation 2006 and Central Electricity Authority (Grid Standards) Regulations 2006.

<table>
<thead>
<tr>
<th>Target (CEA Grid Standards Regulation)</th>
<th>Variations (%)</th>
<th>Value (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Limit</td>
<td>+1%</td>
<td>50.5 Hz</td>
</tr>
<tr>
<td>Lower Limit</td>
<td>-2%</td>
<td>49.0 Hz</td>
</tr>
</tbody>
</table>

*Voltage Variation*

The variations of voltage may not be more than the voltage range specified in the regulations as per of the State Grid Code Regulation.
Protection System

1. Protection System shall be designed to reliably detect faults on various abnormal conditions and provide an appropriate means and location to isolate the equipment or system automatically. The protection system must be able to detect power system faults within the zone. The protection system should be able to detect abnormal conditions such as equipment failures or open phase conditions.

2. Every Element of the Power system shall be protected by a standard protection system having the required reliability, selectivity, speed, discrimination and sensitivity. Where failure of a protective relay in the User’s system has substantial impact on the grid, the User shall connect an additional protection as back up protection besides the Main protection.

3. Notwithstanding the protection systems provided in the grid, the User shall provide requisite protections for safeguarding his system from faults originating in the grid.

4. Bus bar Protection and Breaker Fail protection or Local Breaker Back-up Protection shall be provided wherever stipulated in the regulations.

5. Special Protection Scheme such as Under Frequency relay for Load shedding, voltage instability, angular instability, generation backing down or Islanding Schemes may also be required to be provided to avert system disturbances.

6. Protection co-ordination issues shall be finalized at regional levels by Regional Electricity Board/ Regional Power Committee and for Intra-State lines by STU.

7. The User shall develop protection manuals conforming to various standards for the reference and use of its personnel.

Sub-station Equipment

All Extra High Voltage (EHV) sub-station equipments of both the parties shall comply with Bureau of Indian Standards/International Electro technical Commission/prevaling Code of practice.

All equipment shall be designed, manufactured and tested and certified in accordance with the quality assurance requirements as per the standards of International Electro technical Commission or the Bureau of Indian Standards.

Each connection between a User and Transmission Licensee shall be controlled by a circuit breaker capable of interrupting, at the connection point, at least the short circuit current as advised by State Transmission Utility.

Fault Clearance Times

The fault clearance time for primary protection schemes, for a three phase fault (close to the bus-bars) on Users’ equipment directly connected to intra-State
Transmission System and for a three phase fault (close to the bus-bars) on intra-State Transmission System connected to Users’ equipment, shall not be more than:

(a) 100 milli seconds for 800 kV class & 400 kV
(b) 160 milli seconds for 220 kV & 132 kV

Back-up protection shall be provided for required isolation/protection in the event of failure of the primary protection systems provided to meet the above fault clearance time requirements. If a Generating Unit is connected to the intra-State Transmission System directly, it shall be capable of withstanding, until clearing of the fault by back-up protection on the intra-State Transmission System side.

2 Agreement To Pay for Additional Capital Expenditure

Both the parties agree that any capital expenditure arising from necessary reinforcement or extension of the system (other than the transmission works defined in the Transmission Service Agreement) at the connection point shall be dealt on mutually agreed terms and as approved by UPERC from time to time.

The recovery of the additional capital expenditure may be determined on a case to case basis including the following:

i. STU can make upfront payment for the additional capital expenditure incurred by the intra-State Transmission Licensee; or

ii. UPERC may approve the tariff for such additional capital expenditure in accordance with the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2006 (as amended from time to time); or

iii. Any other commercial arrangement as approved by UPERC

3. Conditions Precedent to the implementation of the Commissioning Instructions

The intra-State transmission licensee shall have to get appropriate “Commissioning Instruction” prior to actually first charging of the equipment through the grid. The charging instruction shall be issued only when the STU is satisfied (by acting reasonably) that:

(a) the Connection Works have been completed;

(b) the intra-State transmission licensee has complied with all its obligations as set out in the TSA;

(c) the intra-State transmission licensee has demonstrated the voice & data communication facilities to concerned SLDC;

(d) the intra-State transmission licensee has obtained necessary approvals like PTCC, Electrical Inspectorate of CEA etc. from competent authority;
(e) the intra-State transmission licensee has complied with its obligations under the Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007;

4. Metering

The intra-State transmission licensee shall provide and maintain the Metering equipment, in accordance with the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 and IEGC.

5.1 Site Access

Being restricted area the STU may give permission or allow access to the employees and/or agents and/or subcontractors and/or invitees of the intra-State transmission licensee in the it's premises to carry out preliminary site investigation works, the Connection Works, modification works, inspections, etc, based on a written request made by the intra-State transmission licensee giving reasonable advance notice. All such actions are to be carried out under the strict supervision of the STU's authorized representative to safeguard the safety and security requirements of STU's installations and safety of the representatives of the intra-State transmission licensee.

Similarly the intra-State transmission licensee may also allow, on prior permission, site access to the STU’s employees and/or agents and/or invitees to carry out preliminary site investigation works, inspections, etc in the connection site of the intra-State transmission licensee, provided that a written request has been made giving reasonable advance notice.

5.2 Conditions of access

Site access for the STU or intra-State transmission licensee shall include the right to bring such vehicles, plant, machinery and construction materials as shall be reasonably necessary to carry out the functions in respect of which the permission of access is granted. Being a restricted area, any individual to whom access is given under the Agreement shall comply with all reasonable directions given by the intra-State transmission licensee/STU and its duly authorized employees and agents to safe guard the interest of safety and security requirements of personnel and equipment. All such access shall be exercisable without payment of any kind.

6. Transfer Assignment And Pledge

The intra-State transmission licensee shall not transfer, assign or pledge its rights and obligations under this Connection Agreement to any other person.

7. Notice

All notices required or referred to under this Agreement shall be in writing and signed by the respective authorized signatories of the parties mentioned herein, unless otherwise
notified. Each such notice shall be deemed to have been duly given if delivered or served by registered mail/speed post of the Department of Post with an acknowledgment due to other party (ies) as per authorization by parties.

The authorities of the parties who shall issue/receive notices etc. in connection with this Agreement shall be informed in advance.

8. Settlement Of Disputes And Arbitration

All differences and/or disputes between the parties arising out of or in connection with these presents shall at first instance be settled through amicable settlement at the level of CEO/CMD.

In the event of unresolved disputes or differences as covered under the statutory arbitration provided under The Electricity Act, 2003, the same shall be resolved accordingly.

Notwithstanding the existence of any disputes and differences referred to arbitration, the parties herein shall continue to perform their respective obligations under this Agreement.

9. Force Majeure

Force Majeure herein is defined as any cause which is beyond the control of the STU or the intra-State transmission licensee as the case may be, which could not be foreseen or with a reasonable amount of diligence could not have been foreseen and which substantially affects the performance of the Agreement. Force Majeure events would include:

- Natural phenomenon including but not limited to floods, droughts, earthquake and epidemics;
- war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy in each case involving or directly affecting India, revolution, riot, insurrection or other civil commotion, act of terrorism or sabotage in each case within India;
- nuclear explosion, radioactive or chemical contamination or ionizing radiation directly affecting the generating station, captive generating plant or Bulk consumer, Intra-State Transmission System of the STU or intra-State transmission licensee other than the STU, or any facility or system that is integral to and substantial for the performance of this Agreement.
- any event or circumstances of a nature analogous to any events set forth above within India.

Provided either party shall within fifteen (10) days from the occurrence of such a Force Majeure event notify the other in writing of such cause(s).

Neither of the parties shall be liable for delays in performing obligations on account of any force majeure causes as referred to and/or defined above.
10 Confidentiality
The parties shall keep in confidence any information obtained under this Connection Agreement and shall not divulge the same to any third party without the prior written consent of the other party, unless such information is
a) In the public domain.
b) Already in the possession of the receiving party.
c) Required by the Govt. Ministries/Agencies/Court of competent jurisdiction.
The information exchanged herein between the parties shall be used only for the purpose of, and in accordance with, this Agreement and for the purpose stated herein. This clause shall remain in force even after termination of Connection Agreement.

11 Governing Laws And Jurisdiction
This Agreement shall be governed by Indian Laws and Rules made there under.

12 Amendment To The Connection Agreement
In case of Modification to point of connection like re-allocation of bays, upgradation of voltage level etc. by either of the parties, if mutually agreed, an amendment to the Connection Agreement shall be executed between the parties within 30 days of implementing such modification.

13 Tenure
The tenure of this agreement shall be thirty five years subject to the tenure of license of the intra-State transmission licensee.

14 Termination
This agreement shall automatically stand terminated upon the termination of the Transmission Service Agreement.

IN WITNESS WHEREOF the STU and the intra-State transmission licensee have caused this Agreement to be executed by duly authorized representative on the date above first herein written.

Signed for and on behalf of:-
[STU Details]
Signed for and on behalf of: -

[Intra-State Transmission System Licensee Details as the case may be]
## ANNEXURE -1

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Connection Points</th>
<th>Connection Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td><strong>Transmission Lines:</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>765kV SC Mainpuri - Unnao with Quad Bersimis (175Kms)</td>
<td>Unnao 765kV S/s</td>
</tr>
<tr>
<td>2</td>
<td>400kV DC (Quad Moose)Mainpuri (765kV) -Aligarh (120kms)</td>
<td>Aligarh 400kV S/s</td>
</tr>
<tr>
<td>3</td>
<td>LILO of both circuits of 400kV DC Orai - Mainpuri (PG) at Mainpuri (765kV) with Twin Moose (30Kms)</td>
<td>Orai 400kV S/s &amp; Mainpuri (PG) 400kV S/s</td>
</tr>
<tr>
<td>4</td>
<td>765kV 2x SC Mainpuri - Bara with Quad Bersimis (2x350kms)</td>
<td>Bara TPS 765kV S/s</td>
</tr>
<tr>
<td>5</td>
<td>LILO of 400kV Panki - Obra at 400kV Rewa Road with Twin Moose (12kms)</td>
<td>Panki 400kV S/s &amp; Obra 400kV S/s</td>
</tr>
<tr>
<td>6</td>
<td>400kV DC (Quad Moose) Rewa Road -Karchhana (30kms)</td>
<td>Karchana TPS 400kV S/s</td>
</tr>
<tr>
<td>7</td>
<td>400kV DC (Quad Moose) Rewa Road -Meja (25kms)</td>
<td>Meja TPS 400kV S/s</td>
</tr>
<tr>
<td>8</td>
<td>400kV DC (Quad Moose) Bara - Meja (25kms)</td>
<td>Meja TPS 400kV S/s</td>
</tr>
<tr>
<td>9</td>
<td>400kV DC (Quad Moose) Bara -Karchhana (30kms)</td>
<td>Karchana TPS 400kV S/s</td>
</tr>
<tr>
<td>10</td>
<td>400kV DC (Quad Moose) Tanda - Gonda (100kms)</td>
<td>Tanda TPS 400kV S/s</td>
</tr>
<tr>
<td>11</td>
<td>400kV DC (Quad Moose) Gonda -Shahjahanpur (230kms)</td>
<td>Shahjahanpur TPS 400kV S/s</td>
</tr>
<tr>
<td>12</td>
<td>LILO of 400kV Sarojininagar - Kursi Road (PG) at 400kV Sultanpur Rd, Lucknow with Twin Moose (20kms)</td>
<td>Sarojininagar 400kV S/s &amp; Kursi Road 400kV S/s</td>
</tr>
<tr>
<td>13</td>
<td>LILO of 400kV Obra - Sultanpur at 400kV Aurai with Twin Moose (15kms)</td>
<td>Obra 400kV S/s &amp; Sultapanur 400kV S/s</td>
</tr>
<tr>
<td>II</td>
<td><strong>Sub-Stations :</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2x1000MVA (765/400kV) AIS at Mainpuri</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2x315MVA (400/220kV) GIS at Rewa Road</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2x315MVA (400/220kV), 2x100MVA (220/132kV) AIS at Gonda</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2x500MVA( 400/220kV), 2x160MVA, (220/132kV) GIS at Sultanpur Road, Lucknow</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2x315MVA ( 400/220kV), 2x160MVA(220/132kV) AIS at Aurai</td>
<td></td>
</tr>
</tbody>
</table>

*Note: The connection points at the substations other than the lines mentioned above will be specified at the time of signing of the connection agreement*