TRANSMISSION SERVICE AGREEMENT

FOR

DEVELOPMENT AND OPERATION OF INTRA-STATE TRANSMISSION SYSTEM

FOR TRANSMISSION OF ELECTRICITY THROUGH TARIFF BASED COMPETITIVE BIDDING

FOR

EVACUATION OF POWER FROM 3X800 MW THERMAL POWER PLANT, NABINAGAR (STAGE – II), AURANGABAD

BETWEEN

NORTH BIHAR POWER DISTRIBUTION COMPANY LIMITED (NBPDCL)
&
SOUTH BIHAR POWER DISTRIBUTION COMPANY LIMITED (SBPDCL)
(as Long Term Transmission Customers for payment of Transmission Charges)

AND

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED (BSPTCL)
(as State Transmission Utility / Nodal Agency for grid coordination and project monitoring)

AND

[INSERT NAME OF THE SPV]

……2026

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THIS TRANSMISSION SERVICE AGREEMENT (hereinafter referred to as “TSA” or “Agreement” or "the Agreement” or “this Agreement") is made on the …… [Insert day] of……. [Insert month] of Two Thousand and…… [Insert Year]

BETWEEN:

Persons whose names, addresses and other details are provided in Schedule-A of this Agreement (collectively referred to as the “Long Term Transmission Customer(s)” and individually referred to as the “Long Term Transmission Customer”), which expression shall unless repugnant to the context or meaning thereof include its successors, and permitted assigns) as Party of the first part;

AND

Bihar State Power Transmission Company Limited (BSPTCL), a company incorporated under the Companies Act, 1956, having its registered office at Vidyut Bhawan, Bailey Road, Patna-800021, Bihar (herein after referred to as “State Transmission Utility” or “STU”), which expression shall unless repugnant to the context or meaning thereof include its successors, and permitted assigns) as Party of the second part;

AND

……. [Insert Name of the Transmission Service Provider], incorporated under the Companies Act, 2013, having its registered office at …….. (herein after referred to as “Transmission Service Provider” or “TSP” or “Licensee”, which expression shall unless repugnant to the context or meaning thereof include its successors, and permitted assigns) as Party of the third part;

(Each of the “Long Term Transmission Customer” or “Long Term Transmission Customers”, “BSPTCL” and “TSP” are individually referred to as “Party” and collectively as the “Parties”)

AND WHEREAS:

A) In accordance with the Bidding Guidelines, the Bid Process Coordinator (hereinafter referred to as BPC) had initiated a competitive e-reverse bidding process through issue of RFP for selecting a Successful Bidder to build, own, operate and transfer the Project comprising of the Elements mentioned in Schedule 1 (hereinafter referred to as the Project)

B) Pursuant to the said e-reverse bidding process, the BPC has identified the Successful Bidder, who will be responsible to set up the Project on build, own, operate and transfer basis to provide Transmission Service in accordance with the terms of this Agreement and the Transmission License.

C) The Selected Bidder has submitted the Contract Performance Guarantee and acquired one hundred percent (100%) of the equity shareholding of .....[Insert Name of the SPV], along with all its related assets and liabilities in terms of the provisions of the Share Purchase Agreement.

D) The TSP has agreed to make an application for a Transmission License to the State Commission for setting up the Project on build, own, operate and transfer basis.

E) The TSP has further agreed to make an application to the State Commission for the adoption of the Transmission Charges under Section 63 of the Electricity Act, 2003, along with a certification from the Bid Evaluation Committee in accordance with the Bidding Guidelines issued by Ministry of Power, Government of India.

F) The Long Term Transmission Customers agree, on the terms and subject to the conditions of this Agreement, to use the available transmission capacity of the Project and pay to TSP the Transmission Charges as determined in accordance with the terms of this Agreement.

G) The TSP agrees to the terms and conditions of this Agreement, for making available the intra-state Transmission System and charge the Transmission Charges in accordance with the terms and conditions of this Agreement.

H) The Long Term Transmission Customers (NBPDCL & SBPDCL) agree, on the terms and subject to the conditions of this Agreement, to use the available transmission capacity of the Project and pay to TSP the Transmission Charges as determined in accordance with the terms of this Agreement.

I) The terms and conditions stipulated in the Transmission License issued by the State Commission to the TSP shall be applicable to this Agreement and the TSP agrees to comply with these terms and conditions. In case of

inconsistency between the Transmission License terms & conditions and the conditions of this Agreement, the conditions stipulated in the Transmission License granted by the State Commission shall prevail.

J) Bihar State Power Transmission Company Limited (BSPTCL), in its statutory capacity as the State Transmission Utility (STU), joins as a Party to this Agreement for the purpose of oversight, grid coordination, ensure adherence to technical standards, quality assurance, and monitoring the Project's development, timely execution, commissioning, and operational compliance of the Project.

NOW, THEREFORE, IN CONSIDERATION OF THE PREMISES AND MUTUAL AGREEMENTS, COVENANTS AND CONDITIONS SET FORTH HEREIN, IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

ARTICLE: 1

1. DEFINITIONS AND INTERPRETATIONS

1.1 Definitions:

1.1.1 The words / expressions used in this Agreement, unless as defined below or repugnant to the context, shall have the same meaning as assigned to them by the Electricity Act, 2003 and the rules or regulations framed there under including those issued / framed by the State Commission (as defined hereunder), as amended or re-enacted from time to time or the General Clauses Act, failing which it shall bear its ordinary English meaning.

The words/expressions when used in this Agreement shall have the respective meanings as specified below:

"Acquisition Price" shall have the same meaning as defined in the Share Purchase Agreement;

"Act" or **"Electricity Act"** or **"Electricity Act 2003"** shall mean the Electricity Act, 2003 and any amendments made to the same or any succeeding enactment thereof;

"Affiliate" shall mean a company that either directly or indirectly

i. controls or

ii. is controlled by or

iii. is under common control with

a Bidding Company (in the case of a single company) or a Member (in the case of a Consortium) and "**control**" means ownership by one entity of at least twenty six percent (26%) of the voting rights of the other entity;

"Availability" in relation to the Project or in relation to any Element of the Project, for a given period shall mean the time in hours during that period the Project is capable to transmit electricity at its Rated Voltage and shall be expressed in percentage of total hours in the given period and shall be calculated as per the procedure attached herewith in Schedule 6;

"Allocated Project Capacity" shall mean, for each Long Term Transmission Customer, the sum of the generating capacities allocated to such Long Term Transmission Customer from the ISGS and the contracted power, if any, as adopted by BERC from time to time in determining sharing of transmission charges amongst the Long Term Transmission Customers;

"BERC" shall mean the Bihar Electricity Regulatory Commission or its successors**;**

"Bid" shall mean technical bid and financial bid submitted by the Bidder, in response to the RFP, in accordance with the terms and conditions of the RFP;

"Bid Deadline" shall mean the last date and time for submission of the Bid in response to RFP, as specified in the RFP;

"Bidding Company" shall refer to such single company that has made a Response to RFP for the Project;

"Bidding Consortium / Consortium" shall refer to a group of companies that has collectively made a Response to RFP for the Project;

"Bid Documents" or **"Bidding Documents"** shall mean the RFP, along with all attachments thereto or clarifications thereof;

"Bidding Guidelines" shall mean the "Tariff Based Competitive Bidding Guidelines for Transmission Service" and "Guidelines for Encouraging Competition in Development of Transmission Projects" issued by Government of India, Ministry of Power under Section – 63 of the Electricity Act as amended from time to time;

"Bid Process Coordinator" or **"BPC"** shall mean a person or its authorized representative as notified by the Government of Bihar, responsible for carrying out the process for selection of Bidder who will acquire Transmission Service Provider;

"Business Day" shall mean a day other than Sunday or a statutory holiday, on which the banks remain open for business in the State in which the concerned Long Term Transmission Customer's registered office is located and the concerned TSP are located;

"CEA" shall mean the Central Electricity Authority constituted under Section -70 of the Electricity Act;

"Change in law" shall have the meaning ascribed thereto in Article 12;

"Commercial Operation Date" or **"COD"** shall mean the date as per Article 6.2;

"Central Commission" or **"CERC"** shall mean the Central Electricity Regulatory Commission referred to in sub-section (1) of Section 76 of the Electricity Act, 2003 or its successors and assigns;

"Competent Court of Law" shall mean the Supreme Court or any High Court, or any tribunal or any similar judicial or quasi-judicial body in India that has jurisdiction to adjudicate upon issues relating to the Project;

"Central Government" or **"GOI"** shall mean the Government of India;

"Connection Agreement" shall mean the agreement between the CTU or STU or any other concerned parties and the TSP, setting out the terms relating to the connection of the Project to the Inter-connection Facilities and use of the Inter State Transmission System/ Intra State Transmission System (as the case may be) as per the provisions of the IEGC/ State Grid Code, as the case may be;

"Consultation Period" shall mean the period of sixty (60) days or such longer period as the Parties may agree, commencing from the date of issue of a TSP's Preliminary Notice or a Long Term Transmission Customer's Preliminary Termination Notice, as provided in Article 13 of this Agreement, for consultation between the Parties to mitigate the consequence of the relevant event having regard to all the circumstances;

"Consents, Clearances and Permits" shall mean all authorizations, licenses, approvals, registrations, permits, waivers, privileges, acknowledgements, agreements, or concessions required to be obtained from or provided by any concerned authority for the development, execution and operation of Project including without any limitation for the construction, ownership, operation and maintenance of the Transmission Lines and/or sub-stations;

"Construction Period" shall mean the period from (and including) the Effective Date of the Transmission Service Agreement up to (but not including) the COD of the Element of the Project in relation to an Element and up to (but not including) the COD of the Project in relation to the Project;

"Contractors" shall mean the engineering, procurement, construction, operation & maintenance contractors, surveyors, advisors, consultants, designers, suppliers to the TSP and each of their respective sub-contractors (and each of their respective successors and permitted assigns) in their respective capacities as such;

"Contract Performance Guarantee" shall mean the irrevocable unconditional bank guarantee, or insurance surety bond or Payment on Order Instrument submitted and to be submitted by the TSP or by the Selected Bidder on behalf of the TSP to the Long Term Transmission Customers from a bank mentioned in Annexure 17 of the RFP, in the form

attached here to as Schedule 8 (for bank guarantee) or Schedule 8A (for insurance surety bond issued by any of the insurance companies authorized by Insurance Regulatory and Development Authority of India), or Schedule-8B (for Payment on Order Instrument issued by PFC/REC/IREDA, in accordance with Article 3 of this Agreement and which shall include the additional bank guarantee or insurance surety bond or Payment on Order Instrument furnished by the TSP under this Agreement;

"Contract Year", for the purpose of payment of Transmission Charges, shall mean the period beginning on the COD, and ending on the immediately succeeding March 31 and thereafter each period of 12 months beginning on April 1 and ending on March 31 provided that the last Contract Year shall end on the last day of the term of the TSA;

"CTU" or **"Central Transmission Utility"** shall have same meaning as defined in the Electricity Act, 2003;

"Day" shall mean a day starting at 0000 hours and ending at 2400 hours;

"D/C" shall mean Double Circuit;

"Designated ISTS Customers" or "DICs" shall have the meaning as ascribed in the Sharing Regulations.

"Dispute" shall mean any dispute or difference of any kind between the Parties, in connection with or arising out of this Agreement including any issue on the interpretation and scope of the terms of this Agreement as provided in Article 16;

"Due Date" in relation to any Invoice shall mean the forty fifth (45th) day after the date on which any Invoice is received and duly acknowledged by the Long-Term Transmission Customer (or, if that day is not a Business Day, the immediately following Business Day), and by such date, the Invoice is payable by the Long-Term Transmission Customer

"Effective Date" for the purposes of this Agreement, shall have the same meaning as per Article 2.1 of this Agreement;

"Electrical Inspector" shall mean a person appointed as such by the State Government under sub-section (1) of Section 162 of the Electricity Act 2003 and also includes Chief Electrical Inspector;

"Electricity (Late Payment Surcharge and related matters) Rules, 2022" shall mean the rules notified by the Ministry of Power, Government

of India, vide Notification No. G.S.R. 416(E) dated 03.06.2022, as amended from time to time, which govern the payment of late payment surcharge by a distribution licensee to a generating company, transmission licensee or trading licensee for delay in payment of charges beyond the due date, and include all subsequent amendments, modifications, clarifications, and re-enactments thereof (hereinafter referred to as LPS Rules, 2022).

"Electricity Rules 2005" shall mean the rules framed pursuant to the Electricity Act 2003 and as amended from time to time;

"Element" shall mean each Transmission Line or each circuit of the Transmission Lines (where there are more than one circuit) or each bay of Sub-station or switching station or HVDC terminal or inverter station of the Project, including ICTs, Reactors, SVC, FSC, etc. forming part of the Intra-State Transmission System, which will be owned, operated and maintained by the concerned Licensee, and which has a separate Scheduled COD as per Schedule 2 of this Agreement and has a separate percentage for recovery of Transmission Charges on achieving COD as per Schedule 5 of this Agreement;

"Event of Default" shall mean the events as defined in Article 13 of this Agreement;

"Expiry Date" shall be the date which is thirty five (35) years from the COD of the Project;

"Financial Closure" shall mean the first Business Day on which funds are made available to the TSP pursuant to the Financing Agreements;

"Financially Evaluated Entity" shall mean the company which has been evaluated for the satisfaction of the financial requirement set forth in the RFP;

"Financing Agreements" shall mean the agreements pursuant to which the TSP is to finance the Project including the loan agreements, security documents, notes, indentures, security agreements, letters of credit and other documents, as may be amended, modified, or replaced from time to time, but without in anyway increasing the liabilities of the Long Term Transmission Customers;

"Financial Year" shall mean a period of twelve months at midnight Indian Standard Time (IST) between 1st April & 31st March;

"Force Majeure" and **"Force Majeure Event"** shall have the meaning assigned thereto in Article 11;

"Grid Code" / "IEGC" or **"State Grid Code"** shall mean the Grid Code specified by the Central Commission under Clause (h) of sub-section (1) of Section 79 of the Electricity Act and/or the State Grid Code as specified by the concerned State Commission referred under Clause (h) of sub-section (1) of Section 86 of the Electricity Act as applicable;

"Independent Engineer" shall mean an agency/ company, appointed by LTTCs in accordance with the Guidelines for Encouraging Competition in Development of Transmission Projects.

"Indian Governmental Instrumentality" shall mean Government of India, Government of any State in India or any ministry, department, board, authority, agency, corporation, commission under the direct or indirect control of Government of India or any State Government or both, any political sub-division of any of them including any court or Commission or CERC or BERC or tribunal or judicial or quasi-judicial body in India but excluding the CTU, STU, TSP, Designated ISTS Customers and the Long Term Transmission Customers;

"Insurances" shall mean the insurance cover to be obtained and maintained by the TSP in accordance with Article 9 of this Agreement;

"Interconnection Facilities" shall mean the facilities as may be set up for transmission of electricity through the use of the Project, on either one or both side of generating station's / CTU's / STU's / Licensee's /Designated ISTS Customer's/ Long Term Transmission Customer's substations (as the case may be) which shall include, without limitation, all other transmission lines, gantries, sub-stations and associated equipments not forming part of the Project;

"Invoice" shall mean a Monthly Transmission Charges Invoice or Monthly Bill comprising the Monthly Transmission Charges, as per Schedule 4 hereof, a Supplementary Invoice or any other Invoice or Bill raised by any of the Parties;

"Law" or "Laws" in relation to this Agreement, shall mean all laws including electricity laws in force in India and any statute, ordinance, rule, regulation, notification, order or code, or any interpretation of any of them by an Indian Governmental Instrumentality having force of law and shall include all rules, regulations, decisions and orders of the State Commission;

"Lead Long Term Transmission Customer" shall have the meaning as ascribed hereto in Article 19.1.1 of this Agreement;

"Lead Member of the Bidding Consortium" or "Lead Member" shall mean a company who commits at least 26% equity stake in the Project, meets the technical requirement as specified in the RFP and so designated by other Member(s) in Bidding Consortium;

"Lenders" means the banks, financial institutions, multilateral funding agencies, non banking financial companies registered with the Reserve Bank of India (RBI), insurance companies registered with the Insurance Regulatory & Development Authority (IRDA), pension funds regulated by the Pension Fund Regulatory & Development Authority (PFRDA),mutual funds registered with Securities & Exchange Board of India (SEBI), etc., including their successors and assigns, who have agreed on or before COD of the Project to provide the TSP with the debt financing described in the capital structure schedule, and any successor banks or financial institutions to whom their interests under the Financing Agreements may be transferred or assigned;

Provided that, such assignment or transfer shall not relieve the TSP of its obligations to the Long Term Transmission Customers under this Agreement in any manner and shall also does not lead to an increase in the liability of any of the Long Term Transmission Customers;

"Lenders Representative" shall mean the person notified by the Lender(s) in writing as being the representative of the Lender(s) or the Security Trustee and such person may from time to time be replaced by the Lender(s) pursuant to the Financing Agreements by written notice to the TSP;

"Letter of Credit" or "LC" shall mean an unconditional, irrevocable, revolving Letter of Credit opened by the Long Term Transmission Customer in favour of the TSP with any scheduled bank in line with Payment Security Mechanism mentioned in LPS Rules, 2022;

"Letter of Intent" or **"LOI"** shall have the same meaning as in the RFP;

"Licensee" shall be the TSP under this Agreement, consequent to having been awarded a Transmission License by the BERC and shall be referred to as the TSP or the Licensee, as the context may require in this Agreement;

"Long Term Transmission Customer(s)" or "LTTCs" shall mean a person availing or intending to avail access to the Intra-State

Transmission System for a period up to twenty-five (25) years or more, and for the purposes of this Project, shall refer to entities listed in Schedule A of this Agreement or any such other person who executes a Supplementary Agreement for availing Transmission Service as per the provisions of the TSA;

"Member in a Bidding Consortium / Member" shall mean each company in the Bidding Consortium;

"Month" shall mean a period of thirty (30) days from (and excluding) the date of the event;

"Monthly Transmission Charges" for any Element of the Project, after COD of the Element till COD of the Project, and for the Project after COD of the Project, shall mean the amount of Transmission Charges as specified in Schedule 5 of this Agreement multiplied by no. of days in the relevant month and divided by no. of days in the year;

"National Load Despatch Centre" shall mean the centre established as per sub-section (1) of Section 26 of the Electricity Act 2003;

"Notification" shall mean any notification, issued in the Gazette of India/Government of Bihar;

"Operating Period" for any Element of the Project shall mean the period from (and including) the COD of such Element of the Project, up to (and including) the Expiry Date and for the Project, shall mean the period from (and including) the COD of the Project, up to (and including) the Expiry Date;

"Parent Company" shall mean an entity that holds at least twenty six percent (26%) of the paid - up equity capital directly or indirectly in the Bidding Company or in the Member in a Bidding Consortium, as the case may be;

"Payment on Order Instrument" shall mean Letter of Undertaking from Indian Renewable Energy Development Agency Limited (IREDA) or Power Finance Corporation Limited (PFC) or REC Limited (REC) [the three non-banking financial institutions under Ministry of New & Renewable Energy (MNRE)/ Ministry of Power (MoP)], to pay in case situation of default of Transmission Service Provider (TSP) in terms of tender conditions/ Power Purchase Agreement (PPA) arises. Such Letter(s) will have same effect as that of a Bank Guarantee issued by any public sector bank. Such "Payment on Order instrument" would have terms and conditions similar to that of any Bank Guarantee given by any

public sector bank and would promise to pay the Long Term Transmission Customer(s) on demand within stipulated time. TSPs can seek such Letter(s) by offering due security to the above-mentioned three non-banking financial institutions mentioned above (IREDA, PFC & REC). The Long Term Transmission Customer(s) shall not accept the instrument of 'Letter of Undertaking' as described above or in any other form, from any other non-banking financial institutions or bank, except IREDA, PFC & REC.

"Preliminary Termination Notice" shall mean a Long Term Transmission Customer's Preliminary Termination Notice as defined in Article 13 of this Agreement;

"Project" shall mean **"Evacuation of Power from 3X800 MW Thermal Power Plant, Nabinagar (Stage – II), Aurangabad"**, as detailed in Schedule 1 of this Agreement;

"**Project Assets**" shall mean all physical and other assets relating to and forming part of the Project including:

(a) rights over the Site for substations, ROW for transmission lines;

(b) tangible & intangible assets such as civil works and equipment including foundations, embankments, pavements, electrical systems, communication systems, relief centres, administrative offices, Sub-stations, software, tower and sub-stations designs etc;

(c) project facilities situated on the Site;

(d) all rights of the TSP under the project agreements;

(e) financial assets, such as receivables, security deposits etc;

(f) insurance proceeds; and

(g) Applicable Permits and authorisations relating to or in respect of the Transmission System;"

"Project Execution Plan" shall mean the plan referred to in Article 3.1.3(c) hereof;

"Prudent Utility Practices" shall mean the practices, methods and standards that are generally accepted internationally from time to time by electric transmission utilities for the purpose of ensuring the safe, efficient and economic design, construction, commissioning, operation, repair and

maintenance of the Project and which practices, methods and standards shall be adjusted as necessary, to take account of:

(i) operation, repair and maintenance guidelines given by the manufacturers to be incorporated in the Project,

(ii) the requirements of Law, and

(iii) the physical conditions at the Site;

(iv) the safety of operating personnel and human beings;

"Rated Voltage" shall mean voltage at which the Transmission System is designed to operate or such lower voltage at which the line is charged, for the time being, in consultation with the State Transmission Utility;

"Rebate" shall have the meaning as ascribed to in Article 10.3 of this Agreement;

"RFP" shall mean Request for Proposal dated 28.10.2026 along with all schedules, annexures and RFP Project Documents attached thereto, issued by the BPC for tariff based competitive bidding process for selection of Bidder as TSP to execute the Project, including any modifications, amendments or alterations thereto;

"RFP Project Documents" shall mean the following documents to be entered into in respect of the Project, by the Parties to the respective agreements:

a. Transmission Service Agreement,

b. Share Purchase Agreement, and

c. Any other agreement as may be required;

"RLDC" shall mean the relevant Regional Load Dispatch Centre as defined in the Electricity Act, 2003, in the region(s) in which the Project is located;

"RPC" shall mean the relevant Regional Power Committee established by the Government of India for the specific Region(s) in accordance with the Electricity Act, 2003 for facilitating integrated operation of the Power System in that Region;

"Scheduled COD" in relation to an Element(s) shall mean the date(s) as mentioned in Schedule 2 as against such Element(s) and in relation to the

Project, shall mean the date as mentioned in Schedule 2 as against such Project, subject to the provisions of Article 4.4 of this Agreement, or such date as may be mutually agreed among the Parties;

"Scheduled Outage" shall mean the final outage plan as approved by the RPC/ SLDC as per the provisions of the Grid Code;

"Selected Bid" shall mean the technical Bid and the Final Offer of the Selected Bidder submitted during e-reverse bidding, which shall be downloaded and attached in Schedule 7 on or prior to the Effective Date;

"Share Purchase Agreement" shall mean the agreement amongst REC Power Development and Consultancy Limited, ...[Insert Name of the SPV] and the Successful Bidder for the purchase of one hundred (100%) per cent of the shareholding of the .....[Insert Name of the SPV] for the Acquisition Price, by the Successful Bidder on the terms and conditions as contained therein;

"Sharing Regulations" shall mean the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 and as amended from time to time;

"Site" in relation to a substation, switching station or HVDC terminal or inverter station, shall mean the land and other places upon which such station / terminal is to be established;

"SLDC" shall mean the State Load Despatch Centre established as per sub-section (1) of Section 31 of the Electricity Act 2003;

"State Commission" or **"Appropriate Commission"** shall mean the Bihar Electricity Regulatory Commission referred to in sub-section (1) of section 82 of the Electricity Act, 2003 or its successors and assigns

"State Government" shall mean the Government of Bihar**;**

"STU" or **"State Transmission Utility"** shall be the Board or the Government company, specified as such by the State Government under sub-section (1) of Section 39 of the Electricity Act 2003;

"Successful Bidder" or **"Selected Bidder"** shall mean the Bidder selected pursuant to the RFP and who has to acquire one hundred percent (100%) equity shares of .....[Insert Name of the SPV], along with all its related assets and liabilities, which will be responsible as the TSP to establish the Project on build, own, operate and

transfer basis as per the terms of the TSA and other RFP Project Documents;

"Supplementary Agreement" shall mean the agreement as annexed hereto in Schedule 10 of this Agreement;

"Target Availability" shall have the meaning as ascribed hereto in Article 8.2 of this Agreement;

"Technically Evaluated Entity" shall mean the company which has been evaluated for the satisfaction of the technical requirement set forth in RFP;

"Termination Notice" shall mean a Long Term Transmission Customers' Termination Notice given by the Long Term Transmission Customers to the TSP pursuant to the provisions of Articles 3.3.2, 3.3.4, 4.4.2, 5.8, 13.2 and 13.3 of this Agreement for the termination of this Agreement;

"Term of Agreement" for the purposes of this Agreement shall have the meaning ascribed thereto in Article 2.2 of this Agreement;

"Transmission Charges" shall mean the Final Offer of the Selected Bidder during the e-reverse bidding and adopted by the State Commission, payable to the TSP by the Long Term Transmission Customers as per the provisions of TSA;

"Transmission License" shall mean the license granted by the State Commission in terms of the relevant regulations for grant of such license issued under the Electricity Act;

"Transmission Service" shall mean making the Project available as per the terms and conditions of this Agreement and Sharing Regulations;

"Transmission Licensee" shall mean a licensee authorized to establish and operate Transmission Lines by the Appropriate Commission;

"TSP's Preliminary Notice" shall mean a notice issued by the TSP in pursuant to the provisions of Article 13.3 of this Agreement;

"Unscheduled Outage" shall mean an interruption resulting in reduction of the Availability of the Element(s) / Project (as the case may be) that is not a result of a Scheduled Outage or a Force Majeure Event.

"Ultimate Parent Company" shall mean an entity which owns at least twenty six percent (26%) equity in the Bidding Company or Member of a Consortium, (as the case may be) and in the Technically Evaluated Entity and / or Financially Evaluated Entity (as the case may be) and such

Bidding Company or Member of a Consortium, (as the case may be) and the Technically Evaluated Entity and / or Financially Evaluated Entity (as the case may be) shall be under the direct control or indirectly under the common control of such entity;

1.2 Interpretation:

Save where the contrary is indicated, any reference in this Agreement to:

"Agreement" shall be construed as including a reference to its Schedules, Appendices and Annexures;

"Rupee", **"Rupees"** and **"Rs."** shall denote lawful currency of India;

"crore" shall mean a reference to ten million (10,000,000) and a **"lakh"** shall mean a reference to one tenth of a million (1,00,000);

"encumbrance" shall be construed as a reference to a mortgage, charge, pledge, lien or other encumbrance securing any obligation of any person or any other type of preferential arrangement (including, without limitation, title transfer and retention arrangements) having a similar effect;

"holding company" of a company or corporation shall be construed as a reference to any company or corporation of which the other company or corporation is a subsidiary;

"indebtedness" shall be construed so as to include any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent;

"person" shall have the meaning as defined in Section 2 (49) of the Act;

"subsidiary" of a company or corporation (the holding company) shall be construed as a reference to any company or corporation:

(i) which is controlled, directly or indirectly, by the holding company, or

(ii) more than half of the issued share capital of which is beneficially owned, directly or indirectly, by the holding company, or

(iii) which is a subsidiary of another subsidiary of the holding company,

for these purposes, a company or corporation shall be treated as being controlled by another if that other company or corporation is

able to direct its affairs and/or to control the composition of its board of directors or equivalent body;

"winding-up", **"dissolution"**, **"insolvency"**, or **"reorganization"** in the context of a company or corporation shall have the same meaning as defined in the Companies Act, 1956/ Companies Act, 2013 (as the case may be).

1.2.1 Words importing the singular shall include the plural and vice versa.

1.2.2 This Agreement itself or any other agreement or document shall be construed as a reference to this or to such other agreement or document as it may have been, or may from time to time be, amended, varied, novated, replaced or supplemented.

1.2.3 A Law shall be construed as a reference to such Law including its amendments or re-enactments from time to time.

1.2.4 A time of day shall, save as otherwise provided in any agreement or document be construed as a reference to Indian Standard Time.

1.2.5 Different parts of this Agreement are to be taken as mutually explanatory and supplementary to each other and if there is any inconsistency between or among the parts of this Agreement, they shall be interpreted in a harmonious manner so as to give effect to each part.

1.2.6 The tables of contents and any headings or sub-headings in this Agreement have been inserted for ease of reference only and shall not affect the interpretation of this Agreement.

1.2.7 All interest payable under this Agreement shall accrue from day to day and be calculated on the basis of a year of three hundred and sixty five (365) days.

1.2.8 The words “hereof” or “herein”, if and when used in this Agreement shall mean a reference to this Agreement.

1.2.9 The contents of Schedule 7 shall be referred to for ascertaining accuracy and correctness of the representations made by the Selected Bidder in Article 17.2.1 hereof.

ARTICLE: 2

2. EFFECTIVENESS AND TERM OF AGREEMENT

2.1 Effective Date:

This Agreement shall be effective from later of the dates of the following events:

a. The Selected Bidder, on behalf of the TSP, has provided the Contract Performance Guarantee, as per terms of Article 3.1 of this Agreement; and

b. The Selected Bidder has acquired for the Acquisition Price, one hundred percent (100%) of the equity shareholding of REC Power Development and Consultancy Limited in .....[Insert Name of the SPV] along with all its related assets and liabilities as per the provisions of the Share Purchase Agreement. and

c. The Agreement is executed and delivered by the Parties;

2.2 Term and Termination:

2.2.1 Subject to Article 2.2.3 and Article 2.4, this Agreement shall continue to be effective in relation to the Project until the Expiry Date, when it shall automatically terminate.

2.2.2 Post the Expiry Date of this Agreement, the TSP shall ensure transfer of Project Assets to STU or its successors or an agency as decided by the State Government at zero cost and free from any encumbrance and liability. The transfer shall be completed within 90 days of expiry of this Agreement failing which STU or its successors or an agency as decided by the Government of Bihar shall be entitled to take over the Project Assets Suo moto.

2.2.3 This Agreement shall terminate before the Expiry Date in accordance with Article 13 or Article 3.3.2 or Article 3.3.4.

2.3 Conditions prior to the expiry of the Transmission License

2.3.1 In order to continue the Project beyond the expiry of the Transmission License, the TSP shall be obligated to make an application to the State Commission at least two (2) years before the date of expiry of the Transmission License, seeking the State Commission’s approval for the extension of the term of the Transmission License up to the Expiry Date.

2.3.2 The TSP shall timely comply with all the requirements that may be laid down by the State Commission for extension of the term of the Transmission License beyond the initial term of twenty-five (25) years & upto the Expiry Date and the TSP shall keep the Long Term Transmission Customers fully informed about the progress on its application for extension of the term of the Transmission License.

2.4 Survival:

The expiry or termination of this Agreement shall not affect any accrued rights, obligations/ roles and liabilities of the Parties under this Agreement, including the right to receive liquidated damages as per the terms of this Agreement, nor shall it effect the survival of any continuing obligations/ roles for which this Agreement provides, either expressly or by necessary implication, which are to survive after the Expiry Date or termination including those under Articles 3.3.3, 3.3.5, Article 9.3 (Application of Insurance Proceeds), Article 11 (Force Majeure), Article 13 (Events of Default and Termination), Article 14 (Liability & Indemnification), Article 16 (Governing Law & Dispute Resolution), Article 19 (Miscellaneous).

2.5 Applicability of the provisions of this Agreement

2.5.1 For the purpose of Availability, Target Availability and the computation of Availability, Incentive, Penalty, the provisions provided in this Agreement shall apply and any future modifications in the relevant Rules and Regulations shall not be applicable for this Project.

2.5.2 For the purposes of this Agreement for Intra-State transmission systems developed under the tariff based competitive bidding framework, the provisions relating to the definitions (Availability and COD), Article 3 (Contract Performance Guarantee and Conditions Subsequent), Article 5 (Construction of the Project), Article 6 (Connection and Commissioning of the Project), Article 8 (Target Availability and calculation of Availability), Article 11 (Force Majeure), Article 12 (Change in Law), Article 13 (Event of Default), Article 14 (Indemnification), Article 15 (Assignment and Charges), Articles 16.1, 16.2 and 16.4 (Governing Laws and Dispute Resolution) and Article 17 (representation and warranties of the Licensee) of this agreement shall prevail.

ARTICLE: 3

3. CONDITIONS SUBSEQUENT

3.1 Satisfaction of conditions subsequent by the TSP

3.1.1 Within ten (10) days from the date of issue of Letter of Intent, the Selected Bidder, shall:

a. Provide the Contract Performance Guarantee, and

b. Acquire, for the Acquisition Price, one hundred percent (100%) equity shareholding of .....[Insert Name of the SPV] from REC Power Development and Consultancy Limited, who shall sell to the Selected Bidder, the equity shareholding of .....[Insert Name of the SPV], along with all its related assets and liabilities.

c. Execute this Agreement;

The TSP shall, within five (5) working days from the date of acquisition of SPV by the Selected Bidder, undertake to apply to the State Commission for the grant of Transmission License and for the adoption of tariff as required under section-63 of the Electricity Act.

The Selected Bidder, on behalf of the TSP, will provide to the Long Term Transmission Customers the Contract Performance Guarantee for an amount of Rs. 25 Crores (Rupees Twenty-Five Crores Only), in proportion to their allocated capacity.

3.1.2 The Contract Performance Guarantee shall be initially valid for a period up to three (3) months after the Scheduled COD of the Project and shall be extended from time to time to be valid for a period up to three (3) months after the COD of the Project. In case the validity of the Contract Performance Guarantee is expiring before the validity specified in this Article, the TSP shall, at least thirty (30) days before the expiry of the Contract Performance Guarantee, replace the Contract Performance Guarantee with another Contract Performance Guarantee or extend the validity of the existing Contract Performance Guarantee until the validity period specified in this Article.

3.1.3 The TSP agrees and undertakes to duly perform and complete the following activities within six (6) months from the Effective Date (except for c) below), unless such completion is affected due to any Force Majeure Event, or if any of the activities is specifically waived in writing by the Majority Long Term Transmission Customers

a. To obtain the Transmission License for the Project from the State Commission;

b. To obtain the order for adoption of Transmission Charges by the State Commission, as required under Section 63 of the Electricity Act 2003;

c. To submit to the Lead Long Term Transmission Customers, Independent Engineer and STU, the Project Execution Plan, immediately after award of contract(s) and maximum within one hundred and twenty (120) days from the Effective Date. Also, an approved copy each of Manufacturing Quality Plan (MQP) and Field Quality Plan (FQP) would be submitted to Independent Engineer, Long Term Transmission Customers and STU in the same time period. The TSP's Project Execution Plan should be in conformity with the Scheduled COD as specified in Schedule 2 of this Agreement, and shall bring out clearly the organization structure, time plan and methodology for executing the Project, award of major contracts, designing, engineering, procurement, shipping, construction, testing and commissioning to commercial operation;

d. To submit to the Long Term Transmission Customers, Independent Engineer and STU a detailed bar (GANTT) chart of the Project outlining each activity (taking longer than one Month), linkages as well as durations;

e. To submit to the Long Term Transmission Customers, Independent Engineer and STU detailed specifications of conductor meeting the functional specifications specified in RFP;

f. To achieve Financial Closure;

g. To provide an irrevocable letter to the Lenders duly accepting and acknowledging the rights provided to the Lenders under the provisions of Article 15.3 of this Agreement and all other RFP Project Documents;

h. To award the Engineering, Procurement and Construction contract ("EPC contract") for the design and construction of the Project and shall have given to such Contractor an irrevocable notice to proceed; and

i. To sign the Agreement(s) required, if any, under BERC Regulations.

3.2 Recognition of Lenders' Rights by the Long Term Transmission

Customers

3.2.1 The Long Term Transmission Customers hereby accepts and acknowledges the rights provided to the Lenders as per Article 15.3 of this Agreement and all other RFP Project Documents.

3.3 Consequences of non-fulfilment of conditions subsequent

3.3.1 If any of the conditions specified in Article 3.1.3 is not duly fulfilled by the TSP even within three (3) Months after the time specified therein, then on and from the expiry of such period and until the TSP has satisfied all the conditions specified in Article 3.1.3, the TSP shall, on a monthly basis, be liable furnish to Long Term Transmission Customers additional Contract Performance Guarantee of Rs 2.5 Crores only (Rs. Two Crores and Fifty Lakhs Only) within two (2) Business Days of expiry of every such Month, which shall be provided separately to each of the Long Term Transmission Customers for the amount calculated pro-rata in the ratio of their Allocated Project Capacity. Such additional Contract Performance Guarantee shall be provided to Long Term Transmission Customers in the manner provided in Article 3.1.1 and shall become part of the Contract Performance Guarantee and all the provisions of this Agreement shall be construed accordingly. Long Term Transmission Customers shall be entitled to hold and / or invoke the Contract Performance Guarantee, including such additional Contract Performance Guarantee, in accordance with the provisions of this Agreement.

3.3.2 Subject to Article 3.3.4, if:

(i) the fulfilment of any of the conditions specified in Article 3.1.3 is delayed beyond nine (9) Months from the Effective Date and the TSP fails to furnish additional Contract Performance Guarantee to the Long Term Transmission Customers in accordance with Article 3.3.1 hereof; or

(ii) the TSP furnishes additional Performance Guarantee to the Long Term Transmission Customers in accordance with Article 3.3.1 hereof but fails to fulfil the conditions specified in Article 3.1.3 within a period of twelve (12) months from the Effective Date,

the Long Term Transmission Customers shall have the right to terminate this Agreement, 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.

3.3.3 If the Long Term Transmission Customers elects to terminate this Agreement as per the provisions of Article 3.3.2, the TSP shall be liable to pay to the Long Term Transmission Customers an amount of Rs. 25 Crores (Rupees Twenty-Five Crores Only) only as liquidated damages. The Long Term Transmission Customers shall be entitled to recover this amount of damages by invoking the Contract Performance Guarantee to the extent of liquidated damages, which shall be required by the Long Term Transmission Customers, and the balance shall be returned to TSP, if any.

It is clarified for removal of doubt that this Article shall survive the termination of this Agreement.

3.3.4 In case of inability of the TSP to fulfil the conditions specified in Article 3.1.3 due to any Force Majeure Event, the time period for fulfilment of the condition subsequent as mentioned in Article 3.1.3, may be extended for a period of such Force Majeure Event. Alternatively, if deemed necessary, 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 and the Contract Performance Guarantee shall be returned as per the provisions of Article 6.5.1.

Provided, that due to the provisions of this Article 3.3.4, any increase in the time period for completion of conditions subsequent mentioned under Article 3.1.3, shall lead to an equal increase in the time period for the Scheduled COD. If the Scheduled COD is extended beyond a period of one hundred eighty (180) days due to the provisions of this Article 3.3.4, 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.

3.3.5 Upon termination of this Agreement as per Articles 3.3.2 and 3.3.4, the Lead Long Term Transmission Customer/ STU may take steps to bid out the Project again.

3.3.6 The Long Term Transmission Customers, on the failure of the TSP to fulfil its obligations, if it considers that there are sufficient grounds for so doing, apart from invoking the Contract Performance Guarantee under para 3.3.3 may also initiate proceedings for blacklisting the TSP as per provisions of Article 13.2 of TSA.

3.4 Progress Reports

The TSP shall notify the Lead Long Term Transmission Customer and STU in writing at least once a Month on the progress made in satisfying the conditions subsequent in Articles 3.1.3.

ARTICLE: 4

4. DEVELOPMENT OF THE PROJECT

4.1 TSP's obligations in development of the Project:

Subject to the terms and conditions of this Agreement, the TSP at its own cost and expense shall observe, comply with, perform, undertake and be responsible:

a. for procuring and maintaining in full force and effect all Consents, Clearances and Permits, required in accordance with Law for development of the Project;

b. for financing, constructing, owning and commissioning each of the Element of the Project for the scope of work set out in Schedule 1 of this Agreement in accordance with:

i. the Electricity Act and the Rules made thereof;

ii. the Grid Code;

iii. the CEA Regulations applicable, and as amended from time to time, for Transmission Lines and sub-stations:

- the Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007 or its' successor regulations from the date of publication / notification as amended from time to time;
- Central Electricity Authority (Technical Standards for construction of Electrical Plants and Electric Lines) Regulation, 2022;
- Central Electricity Authority (Grid Standard) Regulations, 2010;
- Central Electricity Authority (Safety requirements for construction, operation and maintenance of Electrical Plants and Electrical Lines) Regulation, 2011;
- Central Electricity Authority (Measures relating to Safety and Electricity Supply) Regulation, 2023;
- CEA's Comprehensive guidelines for the usage and sharing of fiber cores of Optical Ground Wire (OPGW)/ Under Ground Fiber Optic (UGFO) Cable for power system applications, 2025

- Central Electricity Authority (Safety requirements for construction, operation and maintenance of electrical plants and electric lines) Regulations, 2011
- Central Electricity Authority (Technical Standards for Communication System in Power System Operation) Regulations, 2020.
- Central Electricity Authority (Cyber Security in Power Sector) Regulations, 2026
- CERC (Communication System for inter-State transmission of electricity) Regulations, 2017
- CERC Guidelines on “Interface Requirements” 2024
- CEA Guidelines on Unified Philosophy for placement of PMUs in Indian Grid, March 2025

iv. Safety/ security Guidelines laid down by the Central Government and State Government;

v. Prudent Utility Practices, relevant Indian Standards and the Law;

not later than the Scheduled COD as per Schedule 2 of this Agreement;

c. for entering into a Connection Agreement with the concerned parties in accordance with the Grid Code.

d. for owning the Project throughout the term of this Agreement free and clear of any encumbrances except those expressly permitted under Article 15 of this Agreement;

e. to co-ordinate and liaise with concerned agencies and provide on a timely basis relevant information with regard to the specifications of the Project that may be required for interconnecting the Project with the Interconnection Facilities;

f. for providing all assistance to the Arbitrators as they may require for the performance of their duties and responsibilities;

g. to provide to the Long Term Transmission Customers and STU, on a monthly basis, progress reports with regard to the Project and its execution (in accordance with prescribed form) to enable the Long Term Transmission Customers and STU to

monitor and co-ordinate the development of the Project matching with the Interconnection Facilities;

h. to comply with Ministry of Power order no. 25-11/6/2018 – PG dated 02.07.2020 as well as other Guidelines issued by Govt. of India pertaining to this;

i. to procure the products associated with the Transmission System as per provisions of Public Procurement (Preference to Make in India) orders issued by Ministry of Power vide orders No. A-1/2021- FSC- Part(5) dated 16.11.2021 and No.: P45021/2/2017-PP (BEII)-Part-4 Vol.II dated 19.07.2024 issued by Ministry of Power for transmission sector, as amended from time to time read with Department for Promotion of Industry and Internal Trade (DPIIT) orders in this regard (Procuring Entity as defined in above orders shall deemed to have included Selected Bidder and/ or TSP).

Also, to comply with Department of Expenditure, Ministry of Finance vide Order (Public Procurement No 1) bearing File No. 6/18/2019-PPD dated 23.07.2020, Order (Public Procurement No 2) bearing File No. 6/18/2019-PPD dated 23.07.2020 and Order (Public Procurement No. 3) bearing File No. 6/18/2019-PPD, dated 24.07.2020, Office Memorandum (OM) No. F.18/37/2020-PPD dated 08.02.2021, OM No. F.12/1/2021- PPD(Pt.) dated 02.03.2021, OM No. F.7/10/2021-PPD dated 08.06.2021 and Order (Public Procurement No 4) bearing File No. F.7/10/2021- PPD dated 23.02.2023 as amended from time to time, regarding public procurement from a bidder of a country, which shares land border with India;

j. to submit to Long Term Transmission Customers information in the prescribed format [To be devised by Long Term Transmission Customers] for ensuring compliance to Article 4.1 i) above.

k. to comply with all its obligations undertaken in this Agreement.

l. if any addition or augmentation is proposed in relation to the works covered under this Agreement by the STU, either of its own accord or based on a request from / consultation with the TSP, the TSP shall permit such addition or augmentation to be executed in accordance with the decision of the STU. The TSP shall extend all necessary support to the STU or other transmission service provider(s), as the case may be, in the

event it is decided that the additional works be executed by the STU itself or through such other transmission service provider(s).

4.2 Roles of the Long Term Transmission Customers in implementation of the Project:

4.2.1 Subject to the terms and conditions of this Agreement, the Long Term Transmission Customers shall be the holder and administrator of this Agreement and shall inter alia:

a. appoint an Independent Engineer within 90 days of the Effective Date

b. provide letters of recommendation to the concerned Indian Governmental Instrumentality, as may be requested by the TSP from time to time, for obtaining the Consents, Clearances and Permits required for the Project;

c. coordinate among TSP and upstream/downstream entities in respect of Interconnection Facilities; and

d. monitor the implementation of the Agreement and take appropriate action for breach thereof including revocation of guarantees, cancellation of Agreement, blacklisting etc

e. provide all assistance to the Arbitrators as required for the performance of their duties and responsibilities; and

f. perform any other responsibility (ies) as specified in this Agreement.

4.3 Time for Commencement and Completion:

a. The TSP shall take all necessary steps to commence work on the Project from the Effective Date of the Agreement and shall achieve Scheduled COD of the Project in accordance with the time schedule specified in Schedule 2 of this Agreement;

b. The COD of each Element of the Project shall occur no later than the Scheduled COD or within such extended time to which the TSP shall be entitled under Article 4.4 hereto.

4.4 Extension of time:

4.4.1 In the event that the TSP is unable to perform its obligations for the reasons solely attributable to the Long Term Transmission Customers, the Scheduled COD shall be extended, by a ‘day to day’ basis, subject to the provisions of Article 13.

4.4.2 In the event that an Element or the Project cannot be commissioned by its Scheduled COD on account of any Force Majeure Event as per Article 11, the Scheduled COD shall be extended, by a 'day to day' basis for a period of such Force Majeure Event. Alternatively, if deemed necessary, the Long Term Transmission Customers may terminate the Agreement as per the provisions of Article 13.4 by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to STU the Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement.

4.4.3 If the Parties have not agreed, within thirty (30) days after the affected Party's performance has ceased to be affected by the relevant circumstance, on how long the Scheduled COD should be deferred by, any Party may raise the Dispute to be resolved in accordance with Article 16.

4.5 Metering Arrangements:

4.5.1 The TSP shall comply with all the provisions of the IEGC/Grid Code and the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 as amended from time to time, with regard to the metering arrangements for the Project. The TSP shall fully cooperate with the CTU / STU / RLDC/SLDC and extend all necessary assistance in taking meter readings.

4.6 Interconnection Facilities:

4.6.1 Subject to the terms and conditions of this Agreement, the TSP shall be responsible for connecting the Project with the interconnection point(s) specified in Schedule 1 of this Agreement. The Interconnection Facilities shall be developed as per the scope of work and responsibilities assigned in Schedule 1 of this Agreement. The Long Term Transmission Customers shall be responsible for coordinating to make available the Interconnection Facilities.

4.6.2 In order to remove any doubts, it is made clear that the obligation of the TSP within the scope of the project is to construct the Project as per Schedule-1 of this Agreement and in particular to connect it to the Interconnection Facilities as specified in this Agreement.

4.7 Right to Use and Future Augmentation

4.7.1 If any addition, expansion, or augmentation is proposed in relation to the works/elements covered under this Agreement by the State Transmission Utility (STU), either of its own accord or based on request/consultation with the other Transmission Service Provider (TSP), the TSP shall permit such addition or augmentation to be executed in accordance with the decision of the STU.

4.7.2 The TSP shall extend all necessary technical and operational support to the STU or other designated TSP(s), in case it is decided by the STU to execute such additional works by itself or through third-party TSP(s).

4.7.3 Operation and Maintenance (O&M) charges for such added/augmented facilities shall be payable to the executing entity / TSP as per the prevailing norms, regulations, and orders of the Bihar Electricity Regulatory Commission (BERC) / State Commission.

ARTICLE: 5

5. CONSTRUCTION OF THE PROJECT

5.1 TSP's Construction Responsibilities:

5.1.1 The TSP, at its own cost and expense, shall be responsible for designing, constructing, erecting, testing and commissioning each Element of the Project by the Scheduled COD in accordance with the Regulations and other applicable Laws specified in Article 4.1 of this Agreement.

5.1.2 The TSP acknowledges and agrees that it shall not be relieved from any of its obligations under this Agreement or be entitled to any extension of time or any compensation whatsoever by reason of the unsuitability of the Site or Transmission Line route(s).

5.1.3 The TSP shall be responsible for obtaining all Consents, Clearances and Permits related but not limited to road / rail / river / canal / power line / crossings, Power and Telecom Coordination Committee (PTCC), defence, civil aviation, right of way / way-leaves and environmental & forest clearances from relevant authorities required for developing, financing, constructing, maintaining/ renewing all such Consents, Clearances and Permits in order to carry out its obligations under this Agreement in general and shall furnish to the Lead Long Term Transmission Customer such copy/ies of each Consents, Clearances and Permits, on demand. The Long Term Transmission Customers shall provide letters of recommendation to the concerned Indian Governmental Instrumentality, as may be requested by the TSP from time to time, for obtaining the Consents, Clearances and Permits required for the Project.

5.1.4 The TSP shall be responsible for:

(a) Deleted

(b) Deleted;

(c) survey and geo-technical investigation of line route in order to determine the final route of the Transmission Lines;

(d) seeking access to the Site and other places where the Project is being executed, at its own risk and costs, including payment of any crop, tree compensation or any other compensation as may be required.

5.1.5 In case the Project involves any resettlement and rehabilitation, the resettlement and rehabilitation package will be implemented by the State Government authorities, for which the costs are to be borne by the TSP and no changes would be allowed in the Transmission Charges on account of any variation in the resettlement and rehabilitation cost. The TSP shall provide assistance on best endeavour basis, in implementation of the resettlement and rehabilitation package, if execution of such package is in the interest of expeditious implementation of the Project and is beneficial to the Project affected persons.

5.2 Appointing Contractors:

5.2.1 The TSP shall conform to the requirements as provided in this Agreement while appointing Contractor(s) for procurement of goods & services.

5.2.2 The appointment of such Contractor(s) shall neither relieve the TSP of any of its obligations under this Agreement nor make the Long Term Transmission Customers liable for the performance of such Contractor(s).

5.3 Monthly Progress Reporting:

The TSP shall provide to the STU, Long Term Transmission Customers and Independent Engineer, on a monthly basis, progress reports along with likely completion date of each Element with regard to the Project and its execution (in accordance with prescribed form). The Long Term Transmission Customers/ STU shall monitor the development of the Project for its timely completion for improving and augmenting the electricity system as a part of its statutory responsibility.

5.4 Quality of Workmanship:

The TSP shall ensure that the Project is designed, built and completed in a good workmanship using sound engineering and construction practices, and using only materials and equipment that are new and manufactured as per the MQP and following approved FQP for erection, testing & commissioning and complying with Indian /International Standards such that, the useful life of the Project will be at least thirty five (35) years from the COD of the Project.

The TSP shall ensure that all major substation equipment / component (e.g. transformers, reactors, Circuit Breakers, Instrument Transformers (IT), Surge Arresters (SA), Protection relays, clamps & connectors etc.),

equipment in terminal stations of HVDC installations including Thyristor/ IGBT valves, Converter Transformers, smoothing reactors, Transformer bushings and wall bushings, GIS bus ducts, towers and gantry structures and transmission towers or poles and line materials (conductors, earthwire, OPGW, insulator, accessories for conductors, OPGW & earthwires, hardware fittings for insulators, aviation lights etc), facilities and system shall be designed, constructed and tested (Type test, Routine tests, Factory Acceptance Test (FAT)) in accordance with relevant CEA Regulations and Indian Standards. In case Indian Standards for any particular equipment/ system/ process is not available, IEC/ IEEE or equivalent International Standards and Codes shall be followed.

5.5 Progress Monitoring & Quality Assurance:

5.5.1 The Project Execution Plan submitted by the TSP in accordance with Article 3.1.3 c) shall comprise of detailed schedule of all the equipments/items /materials required for the Project, right from procurement of raw material till the dispatch from works and receipt at the site. Further, it should also include various stages of the construction schedule up to the commissioning of the Project.

5.5.2 Long Term Transmission Customers, Independent Engineer and STU shall have access at all reasonable times to the Site and to the Manufacturer's works and to all such places where the Project is being executed.

5.5.3 Independent Engineer shall ensure conformity of the conductor specifications with the functional specifications specified in RFP.

5.5.4 The Independent Engineer shall monitor the following during construction of the Project:

a) Quality of equipments, material, foundation, structures and workmanship etc. as laid down in Article 5.4 and 6.1.4 of the TSA. Specifically, quality of Sub-station equipments, transmission line material and workmanship etc. would be checked in accordance with the Article 5.4.

b) Progress in the activities specified in Condition Subsequent

c) Verification of readiness of the elements including the statutory clearances & completion of civil works, fixing of all components and finalisation of punch points (if any) prior to charging of the elements

d) Progress of construction of substation and Transmission Lines

5.5.5 The progress shall be reviewed by the Independent Engineer against the Project Execution Plan. The Independent Engineer shall prepare its report on monthly basis and submit the same to Long Term Transmission Customers and STU highlighting the progress achieved till the end of respective month vis-à-vis milestone activities, areas of concern, if any, which may result in delay in the timely completion of the Project. Based on the progress, Long Term Transmission Customers and/or STU shall issue written instructions to the TSP to take corrective measures, as may be prudent for the timely completion of the Project. In case of any deficiency, the Long Term Transmission Customers and/ or STU would be at liberty to take action in accordance with the procedure of this Agreement.

5.5.6 For any delay in commissioning any critical Element(s), as identified in Schedule 1 & Schedule 2 of this Agreement, beyond a period of 45 days shall lead to a sequestration of 10% of the Contract Performance Guarantee.

5.6 Site regulations and Construction Documents

The TSP shall abide by the Safety Rules and Procedures as mentioned in Schedule 3 of this Agreement

The TSP shall retain at the Site and make available for inspection at all reasonable times, copies of the Consents, Clearances and Permits, construction drawings and other documents related to construction.

5.7 Supervision of work:

The TSP shall provide all necessary superintendence for execution of the Project and its supervisory personnel shall be available to provide full-time superintendence for execution of the Project. The TSP shall provide skilled personnel who are experienced in their respective fields.

5.8 Remedial Measures:

The TSP shall take all necessary actions for remedying the shortfall in achievement of timely progress in execution of the Project, if any, as intimated by the Independent Engineer and/ or STU and/or Long Term Transmission Customers. However, such intimation by the Independent Engineer and/ or STU and/ or Long Term Transmission Customers and the subsequent effect of such remedial measures carried out by the TSP shall not relieve the TSP of its obligations in the Agreement. Independent Engineer and/ or STU and/ or Long Term Transmission Customers may carry out random inspections during the Project execution, as and when

deemed necessary by it. If the shortfalls as intimated to the TSP are not remedied to the satisfaction of the STU and/ or Long Term Transmission Customers 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 the STU and Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement.

ARTICLE: 6

6. CONNECTION AND COMMISSIONING OF THE PROJECT

6.1 Connection with the Inter-Connection Facilities:

6.1.1 The TSP shall give the RLDC(s)/SLDC, CTU, / STU, as the case may be, and any other agencies as required, at least sixty (60) days advance written notice of the date on which it intends to connect an Element of the Project, which date shall not be earlier than its Scheduled COD or Schedule COD extended as per Article 4.4.1 & 4.4.2 of this Agreement, unless mutually agreed to by Parties. Further, any preponing of COD of any element prior to Scheduled COD must be approved by the Long Term Transmission Customers

6.1.2 The RLDC / SLDC (as the case may be) or the CTU / STU (as the case may be), for reasonable cause, including non-availability of Interconnection Facilities as per Article 4.2, can defer the connection for up to fifteen (15) days from the date notified by the TSP pursuant to Article 6.1.1, if it notifies to the TSP in writing, before the date of connection, of the reason for the deferral and when the connection is to be rescheduled. However, no such deferment on one or more occasions would be for more than an aggregate period of thirty (30) days. Further, the Scheduled COD would be extended as required, for all such deferments on “day to day” basis.

6.1.3 Subject to Articles 6.1.1 and 6.1.2, any Element of Project may be connected with the Interconnection Facilities when:

a. it has been completed in accordance with this Agreement and the Connection Agreement;

b. it meets the Grid Code, Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007 or its’ successor regulations from the date of publication / notification as amended from time to time and all other Indian legal requirements, and

c. The TSP has obtained the approval in writing of the Electrical Inspector certifying that the Element is ready from the point of view of safety of supply and can be connected with the Interconnection Facilities.

d. It has satisfactorily met all the testing requirements as per Articles 6.1.4

6.1.4 Site Acceptance Test (SAT)/ pre-commissioning tests of all major substation equipment, component, system, facilities shall be successfully carried out before commissioning. The Type tests, FAT and SAT reports should be available at the substation / terminal station of HVDC installations for ready reference of operation and maintenance staff and has to be made available to the Independent Engineer appointed for quality monitoring or their authorised representatives, as and when they wish to examine the same.

6.2 Commercial Operation:

6.2.1 An Element of the Project shall be declared to have achieved COD twenty four (24) hours following the connection of the Element with the Interconnection Facilities pursuant to Article 6.1 or seven (7) days after the date on which it is declared by the TSP to be ready for charging but is not able to be charged for reasons not attributable to the TSP subject to Article 6.1.2.

Provided that an Element shall be declared to have achieved COD only after all the Element(s), if any, which are pre-required to have achieved COD as defined in Schedule 2 of this Agreement, have been declared to have achieved their respective COD.

6.2.2 Once any Element of the Project has been declared to have achieved deemed COD as per Article 6.2.1 above, such Element of the Project shall be deemed to have Availability equal to the Target Availability till the actual charging of the Element and to this extent, TSP shall be eligible for the Monthly Transmission Charges applicable for such Element

6.3 Compensation for Direct Non Natural Force Majeure Event or Indirect Non Natural Force Majeure Event or Natural Force Majeure Event (affecting the Long Term Transmission Customers)

6.3.1 If the TSP is otherwise ready to connect the Element(s) of the Project and has given due notice, as per provisions of Article 6.1.1, to the concerned agencies of the date of intention to connect the Element(s) of the Project, where such date is not before the Scheduled COD, but is not able to connect the Element(s) of the Project by the said date specified in the notice, due to Direct Non Natural Force Majeure Event or Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Long Term Transmission Customers provided such Direct Non Natural Force Majeure Event or Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Long Term

Transmission Customers has continued for a period of more than three (3) continuous or non-continuous Months, the TSP shall, until the effects of the Direct Non Natural Force Majeure Event or of Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Long Term Transmission Customers no longer prevent the TSP from connecting the Element(s) of the Project, be deemed to have achieved COD relevant to that date and to this extent, be deemed to have been providing Transmission Service with effect from the date notified, and shall be treated as follows:

a. In case of delay due to Direct Non Natural Force Majeure Event, TSP is entitled for Transmission Charges calculated on Target Availability for the period of such events in excess of three (3) continuous or non continuous Months in the manner provided in (c) below.

b. In case of delay due to Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Long Term Transmission Customers, TSP is entitled for payment for debt service which is due under the Financing Agreements, subject to a maximum of Transmission Charges calculated on Target Availability, for the period of such events in excess of three (3) continuous or non continuous Months in the manner provided in (c) below.

c. In case of delay due to Direct Non Natural Force Majeure Event or Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Long Term Transmission Customers, the TSP is entitled for payments mentioned in (a) and (b) above, after commencement of Transmission Service, in the form of an increase in Transmission Charges. These amounts shall be paid from the date, being the later of a) the date of cessation of such Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Long Term Transmission Customers and b) the completion of sixty (60) days from the receipt of the Financing Agreements by the Long Term Transmission Customers from the TSP.

   Provided such increase in Transmission Charges shall be so as to put the TSP in the same economic position as the TSP would have been in case the TSP had been paid amounts mentioned in (a) and (b) above in a situation where the Force Majeure Event had not occurred.

For the avoidance of doubt, it is clarified that the charges payable under this Article 6.3.1 shall be paid by the Long Term Transmission Customer(s) in proportion to their then Allocated Project Capacity..

6.4 Liquidated Damages for Delay in achieving COD of Project:

6.4.1 If the TSP fails to achieve COD of any Element of the Project or the Project, by the Element's / Project's Scheduled COD or such Scheduled COD as extended under Articles 4.4.1 and 4.4.3, then the TSP shall pay to the Long Term Transmission Customers, in proportion to their Allocated Project Capacity, a sum equivalent to 3.33% of Monthly Transmission Charges applicable for the Element of the Project [in case where no Elements have been defined, to be on the Project as a whole] / Project, for each day of delay up to sixty (60) days of delay and beyond that time limit, at the rate of five percent (5%) of the Monthly Transmission Charges applicable to such Element / Project, as liquidated damages for such delay and not as penalty, without prejudice to any rights of the Long Term Transmission Customers under the Agreement.

6.4.2 The TSP's maximum liability under this Article 6.4 shall be limited to the amount of liquidated damages calculated in accordance with Article 6.4.1 for and up to six (6) months of delay for the Element or the Project.

Provided that, in case of failure of the TSP to achieve COD of the Element of the Project even after the expiry of six (6) months from its Scheduled COD, the provisions of Article 13 shall apply.

6.4.3 The TSP shall make payment to the Long Term Transmission Customers of the liquidated damages calculated pursuant to Article 6.4.1 within ten (10) days of the earlier of:

a. the date on which the applicable Element achieves COD; or

b. the date of termination of this Agreement.

The payment of such damages shall not relieve the TSP from its obligations to complete the Project or from any other obligation and liabilities under the Agreement.

6.4.4 If the TSP fails to pay the amount of liquidated damages to the Long Term Transmission Customers within the said period of ten (10) days, the Long Term Transmission Customers shall be entitled to recover the said amount of the liquidated damages by invoking the Contract Performance Guarantee. If the then existing Contract Performance

Guarantee is for an amount which is less than the amount of the liquidated damages payable by the TSP to the Long Term Transmission Customers under this Article 6.3 and the TSP fails to make payment of the balance amount of the liquidated damages not covered by the Contract Performance Guarantee, then such balance amount shall be deducted from the Transmission Charges payable to the TSP. The right of the Long Term Transmission Customers to encash the Contract Performance Guarantee is without prejudice to the other rights of the Long Term Transmission Customers under this Agreement.

6.4.5 For avoidance of doubt, it is clarified that amount payable by TSP under this Article is over and above the penalty payable by TSP under Article 5.5.6 of this Agreement.

6.5 Return of Contract Performance Guarantee

6.5.1 The Contract Performance Guarantee as submitted by TSP in accordance with Article 3.1.1 shall be released by the Long Term Transmission Customers within three (3) months from the COD of the Project. In the event of delay in achieving Scheduled COD of any of the Elements by the TSP (otherwise than due to reasons as mentioned in Article 3.1.3 or Article 11) and consequent part invocation of the Contract Performance Guarantee by the Long Term Transmission Customers, Long Term Transmission Customers shall release the Contract Performance Guarantee, if any remaining unadjusted, after the satisfactory completion by the TSP of all the requirements regarding achieving the Scheduled COD of the remaining Elements of the Project. It is clarified that the Long Term Transmission Customers shall also return / release the Contract Performance Guarantee in the event of (i) applicability of Article 3.3.2 to the extent the Contract Performance Guarantee is valid for an amount in excess of Rs. 25 Crores (Rupees Twenty-Five Crores Only), or (ii) termination of this Agreement by the Long Term Transmission Customers as mentioned under Article 3.3.4 of this Agreement.

6.5.2 The release of the Contract Performance Guarantee shall be without prejudice to other rights of the Long Term Transmission Customers under this Agreement.

ARTICLE: 7

7. OPERATION AND MAINTENANCE OF THE PROJECT

7.1 Operation and Maintenance of the Project:

The TSP shall be responsible for ensuring that the Project is operated and maintained in accordance with the regulations made by the State Commission and CEA from time to time and provisions of the Act.

ARTICLE: 8

8. AVAILABILITY OF THE PROJECT

8.1 Calculation of Availability of the Project:

Calculation of Availability for the Elements and for the Project, as the case may be, shall be as per the Bihar Electricity Regulatory Commission (Multi Year Transmission Tariff and SLDC Charges) Regulations, 2024, as applicable on the Bid Deadline and as appended in Schedule 6 of this Agreement.

8.2 Target Availability:

The Target Availability of each Element and the Project shall be 98%.

Payment of monthly Transmission charges based on actual availability will be calculated as per para 1.2 of Schedule 4 of this Agreement.

If the availability of any Element or the Project is below the Target Availability, for six consecutive months in a Contract Year, the STU or the Long Term Transmission Customers may issue a show cause notice to the TSP, asking them to show cause as to why the Transmission Service Agreement be not terminated, and if no satisfactory cause is shown it may terminate the Agreement. If the Long Term Transmission Customers or STU is of the opinion that the transmission system is of critical importance, it may carry out or cause to carry the operation and maintenance of transmission system at the risk and cost of TSP.

ARTICLE: 9

9. INSURANCES

9.1 Insurance:

9.1.1 The TSP shall effect and maintain or cause to be effected and maintained during the Construction Period and the Operating Period, adequate Insurances against such risks, with such deductibles including but not limited to any third party liability and endorsements and co-beneficiary/insured, as may be necessary under

a. any of the Financing Agreements,

b. the Laws, and

c. in accordance with Prudent Utility Practices.

The Insurances shall be taken effective from a date prior to the date of the Financial Closure till the Expiry Date.

9.2 Evidence of Insurance cover:

9.2.1 The TSP shall furnish to the Lead Long Term Transmission Customer copies of certificates and policies of the Insurances, as and when the Long Term Transmission Customers may seek from the TSP as per the terms of Article 9.1

9.3 Application of Insurance Proceeds:

9.3.1 Save as expressly provided in this Agreement, the policies of Insurances and the Financing Agreements, the proceeds of any insurance claim made due to loss or damage to the Project or any part of the Project shall be first applied to reinstatement, replacement or renewal of such loss or damage.

9.3.2 If a Natural Force Majeure Event renders the Project no longer economically and technically viable and the insurers under the Insurances make payment on a “total loss” or equivalent basis, the portion of the proceeds of such Insurance available to the TSP (after making admissible payments to the Lenders as per the Financing Agreements) shall be allocated only to the TSP. Long Term Transmission Customers and/or STU shall have no claim on such proceeds of the Insurance.

9.3.3 Subject to the requirements of the Lenders under the Financing

Agreements, any dispute or difference between the Parties as to whether the Project is no longer economically and technically viable due to a Force Majeure Event or whether that event was adequately covered in accordance with this Agreement by the Insurances shall be determined in accordance with Article 16.

9.4 Effect on liability of the Long Term Transmission Customers & STU

9.4.1 The Long Term Transmission Customers and STU shall have no financial obligations or liability whatsoever towards the TSP in respect of this Article 9.

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 by Long Term Transmission Customers 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.

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 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 Customers taken together under this Article in a Contract Year shall not exceed Rs 8.33 Crores (Rupees Eight Crores and Thirty Three Lakhs) 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 atleast ninety (90) days before the Scheduled COD of the first Element. 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 1.5 % shall be allowed on the Monthly Transmission Charge Invoice or Supplementary Bill for payments made in full within 5 working days of presentation of Invoice. In case of computation of ’5 days’, the number of days shall be counted consecutively without considering any holiday. However, in case the last day or 5th day is official holiday, the 5th day for the purpose of Rebate shall be construed as the immediate succeeding working day (as per the official State Government’s calendar, where the Office of the Authorized Signatory or Representative of the Beneficiary, for the purpose of receipt or acknowledgement of Bill is situated); or

b. For payment of Invoices subsequently, but within a period of 15 days of presentation of invoice by the TSP, a rebate of 1% shall be allowed on the payments made in full.

c. For payment of Invoices after 15 days but within 30 days of presentation of invoice by the TSP, a rebate of 0.5% shall be allowed on the payments made in full.

d. Applicable rate of Rebate at (a), (b) and (c) 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 Customers.

e. 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). within and including the Due Date.

10.3.2 Late Payment Surcharge

Any amount due from one Party to the other, pursuant to this Agreement and remaining unpaid after the Due Date, shall bear Late Payment Surcharge as per Electricity (Late Payment Surcharge and related matters) Rules, 2022 or as amended from time to time.

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

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 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 endeavors 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 (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 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 Letter of Credit,

a. 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 Customers, highlighting the non-payment of such amount by such Long Term Transmission Customer;

b. 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(s) from the Central Generating Stations, 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 the 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.

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 Customers shall jointly sign such reconciliation statement. Within fifteen (15) days of signing of a reconciliation statement, the TSP or Long Term Transmission Customers, 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/ Contract Year.

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.

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

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 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

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;

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 Bihar Electricity Regulatory Commission (Multi Year Transmission Tariff and SLDC Charges) Regulations, 2024 as on Bid Deadline. For the event(s) for which the Element(s) is/are deemed to be available as per Bihar Electricity Regulatory Commission (Multi Year Transmission Tariff and SLDC Charges) Regulations, 2024, 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.

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.

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 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.

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

d. If:

i. 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

ii. any winding up or bankruptcy or insolvency order is passed against the TSP; or

iii. 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 Bihar Electricity Regulatory Commission (Licencing for Transmission of Electricity) Regulations, 2007 as amended from time to time; or

e. Failure on the part of the TSP to comply with the provisions of Article 19.2 of this Agreement; or

f. 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

g. after Commercial Operation Date of the Project, the TSP fails to achieve monthly Target Availability of 98%, for a period of six (6) consecutive months or within a non-consecutive period of six (6) months within any 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. deleted.

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 STU and the Lenders' Representative, of their intention to terminate this Agreement (a "Long Term Transmission Customers' Preliminary Termination Notice"), which shall specify in reasonable detail, the circumstances giving rise to such Long Term Transmission Customers Preliminary Termination Notice.

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 Customers'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's 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.

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 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 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 Customers shall take over the Project Assets.

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 BERC in this regard indemnify, defend and hold the TSP harmless against:

(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) The TSP shall, subject to the Long Term Transmission Customers 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, 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.

14.2.2

(a) The Long Term Transmission Customers, in accordance with the Regulations framed by BERC 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.

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.1.66 Crore (Rupees One Crores and Sixty-Six Lakhs Only) shall be divided in the ratio of their Allocated Project Capacity, as existing on the date of the indemnity claim**.**

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 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.

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.

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;

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 Bihar Electricity Regulatory Commission (Licencing for Transmission of Electricity) Regulations, 2007 as amended from time to time;

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 Bihar.

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.

16.3 Dispute Resolution:

All Disputes shall be adjudicated by the State Commission. For the avoidance of doubt, BSPTCL shall not be a necessary party to any Dispute

relating to Transmission Charges or performance of obligations/ roles as between the Long Term Transmission Customers and the TSP, and shall be entitled/ required to participate only in a Dispute concerning its role of monitoring of the Project under this Agreement

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.

ARTICLE: 17

17 REPRESENTATION AND WARRANTIES

17.1 Representation and warranties of the Long Term Transmission Customers

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;

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.

ARTICLE: 18

18 INDEPENDENT ENGINEER

18.1 Appointment of Independent Engineer

The Long Term Transmission Customers 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 Long Term Transmission Customers as per terms & conditions of appointment.

18.4 Termination of appointment

18.4.1 The Long Term Transmission Customers or STU 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 Long Term Transmission Customers or STU and seek termination of the appointment of the Independent Engineer. Upon receipt of such representation, the Long Term Transmission Customers or STU shall hold a tripartite meeting with the TSP and Independent Engineer for an amicable resolution, and the decision of Long Term Transmission Customers or STU is final. In the event that the appointment of the Independent Engineer is terminated hereunder, the Long Term Transmission Customers or STU shall appoint forthwith another Independent Engineer.

18.5 Authorised signatories

The Long Term Transmission Customers or STU shall require the Independent Engineer to designate and notify to the Long Term Transmission Customers or STU 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.

ARTICLE: 19

19 MISCELLANEOUS PROVISIONS

19.1 Lead Long Term Transmission Customer:

19.1.1 The Long Term Transmission Customers hereby appoint and authorise "_____" [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 Customers. 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 "_____" [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 earlier appointed under Article 19.1.1 shall automatically cease to be the Lead Long Term Transmission Customer. It is clarified that all decisions taken by the "_____" 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 "_____" 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 "_____", 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 .....[Insert Name of the SPV] 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.

19.2.2 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. 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 .....[Insert Name of the SPV] 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 .....[Insert Name of the SPV] 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 .....[Insert Name of the SPV] 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 .....[Insert Name of the SPV], then holding of Selected Bidder A in .....[Insert Name of the SPV] 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 .....[Insert Name of the SPV], then, for the purposes of ascertaining the minimum equity/equity lock-in requirements specified above, the effective holding of Bidder A in .....[Insert Name of the SPV] shall be fifteen percent (15%), (i.e., 30% x 50%)

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.

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.

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 the 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 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 State 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.
- Agreement(s), if any, under BERC Regulations.

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 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.

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 :
Email :
Fax. No. :
Telephone No. :

19.20.3 If to the Long Term Transmission Customers, 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) North Bihar Power Distribution Company Limited (NBPDCL)

Address :
Attention :
Email :
Fax. No. :
Telephone No. :

(ii) South Bihar Power Distribution Company Limited (SBPDCL)

Address :
Attention :
Email :

Fax. No. :
Telephone No. :

If to the Bihar State Power Transmission Co. Ltd. (BSPTCL) (for information/monitoring purposes), all notices or communications must be delivered personally or by registered post or facsimile or any other mode duly acknowledged to the addresses below:

Address : Vidyut Bhawan, 4th Floor, Bailey Road, Patna – 800021
Attention :
Email :
Telephone No. :

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 Long Term Transmission Customers 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 LoI), the Long Term Transmission Customers 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 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 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 LoI 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 LoI 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 LoI 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;

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. For and on behalf of the Transmission Service Provider (TSP)

   ……..

   [Signature, Name, Designation and Address]

2. For and on behalf of (being the Long Term Transmission Customers)

   ……..

   [Signature, Name, Designation and Address]

3. For and on behalf of (being the Long Term Transmission Customers)

   ……..

   [Signature, Name, Designation and Address]

4. For and on behalf of State Transmission Utility / Monitoring Agency (BSPTCL)

……..

[Signature, Name, Designation and Address]

WITNESSES:

1. For and on behalf of

: BPC

……
[Signature]

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

2. For and on behalf of

: Long Term Transmission Customers / STU

……
[Signature]

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

SCHEDULES

Schedule: A

List of Long Term Transmission Customers

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

S. No.	Name of the Long Term Transmission Customer	Address of Registered Office	Law under which incorporated	Percentage share of allocated Project Capacity
1.	North Bihar Power Distribution Company Limited (NBPDCL)	Vidyut Bhawan Bailey Road, Patna, Bihar, India, 800021	Electricity Act 2003	**46.00%**
2.	South Bihar Power Distribution Company Limited (SBPDCL)	Vidyut Bhawan Bailey Road, Patna, Bihar, India, 800021	Electricity Act 2003	**54.00%**

Note: The above list of Long Term Transmission Customers is 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 Customers shall become a Party to this Agreement after agreeing to the terms and conditions of this Agreement and signing a Supplementary Agreement as annexed in Schedule 10 to this Agreement.

Schedule: 1

Project Description and Scope of Project

Scope of the Project:

Evacuation of Power from 3X800 MW Thermal Power Plant, Nabinagar (Stage – II), Aurangabad		
Sl. No.	**Scope of the Transmission Scheme**	**Scheduled COD**
1.	Construction of 400/220/132 kV Grid Substation (GSS) at Kerpa, Rohtas **400 kV GSS:** • ICTs: 3 X 500 MVA, 400/220 kV • ICT Bays: 3nos. • Line Bays: 6 nos. • Bus Reactors 2x125 MVAR, 400 kV: 2nos. • Bus Reactor Bays: 2 Nos. **Future Space Provisions (400kV):** • Space for 2 x 500 MVA, 400/220 kV ICTs: 2 Nos. • Space for ICT Bays: 2 Nos. • Space for 400 Line Bays: 4 Nos. • Space for Reactor 2x125 MVAR, 400kV: 2 Nos. • Space for Reactor Bays: 2 Nos. **220 kV GSS:** • ICTs: 3 X 200 MVA, 220/132 kV • ICT Bays: 6 nos. • Line Bays: 4 nos. • Bus-Coupler Bay: 1nos. • Transfer bus - coupler bay: 1 Nos. **Future Space Provisions (220kV):** • Space for 2 x 200 MVA, 220/132 kV ICTs: 2 Nos. • Space for ICT Bays: 4 Nos. • Space for Line Bays: 4 Nos. **132 kV GSS:**	30.11.2028

Evacuation of Power from 3X800 MW Thermal Power Plant, Nabinagar (Stage – II), Aurangabad		
Sl. No.	**Scope of the Transmission Scheme**	**Scheduled COD**
	• ICT Bays: 3 Nos. • Line Bays: 4 nos. • Transfer bus - coupler bay: 1 Nos. **Future Space Provisions (132kV):** • Space for ICT Bays: 2 Nos. • Space for Line Bays: 4 Nos.	
2.	Construction of 400 kV D/C Transmission Line from Nabinagar (Stage-II) Thermal Power Plant – Kerpa GSS (Conductor: Quad Moose (ACSR))	
3.	LILO of 400 kV D/C Pusauli (PG) – Biharsharif (PG) Transmission Line at 400/220/132 kV Kerpa (Conductor: Twin Moose (ACSR))	
4.	LILO of 220 kV D/C Dehri – Pusauli Transmission Line at 400/220/132 kV Kerpa (Conductor: Single Zebra (ACSR))	
5.	LILO of 132 kV D/C Sasaram – Banjari Transmission Line at 400/220/132 kV Kerpa (Conductor: Single Panther (ACSR))	

Note:

1. *Designing of 400kV & 220kV level switchyards of GSS shall be as per Indian Standards and CBIP Manual for Substation and Transmission Lines having suitable facility for Communication of SCADA Data and Energy Accounting/Metering data to SLDC in real time.*
2. *The 2 number of line bays required for termination of 400kV transmission lines and their Operation & Maintenance at 3X800 MW Thermal Power Plant, Nabinagar (Stage-II), Aurangabad shall be provided by Developer of TPP i.e. NTPC Limited.*
3. *The Land for 400/220/132kV Kerpa Substation shall be arranged by the Transmission Service Provider of the current transmission scheme.*
4. *The O&M scope of TSP, related to LILO of various Transmission lines at 400/220/132kV Kerpa substations, shall be applicable from Kerpa substation to the LILO point. The O&M of existing lines beyond the LILO point shall be the responsibility of the owner / utility / TSP of existing transmission line.*

Project Description: This scheme is proposed for Evacuation of power from the 3x800 MW Thermal Power Plant, Nabinagar (Stage-II) at Nabinagar,

Aurangabad into the Intra-state transmission network of Bihar, through the 400 kV Substation at Kerpa (Dist. Rhotas).

The scheme shall establish / interconnect with the 400 kV/220kV/132 kV transmission network required to integrate the Nabinagar (Stage-II) TPP with the Bihar State Power Transmission Company Grid on InSTS part and to strengthen the intra-State transmission system in the Aurangabad region, in line with the Resource Adequacy Plan approved by the Central Electricity Authority (CEA).

A. SPECIFIC TECHNICAL REQUIREMENTS FOR TRANSMISSION LINES

The design, routing and construction of transmission lines shall be in accordance with Chapter V, Part A of CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time. Other CEA Regulations/ guidelines, Indian Standards along with applicable IEC/ASTM/ASCE/British Standards (when applicable Indian Standards are not available) as amended up to date and MoP guidelines, as applicable, shall also be followed.

A.1.0 Selection of tower/monopole structure type shall be made as per CEA Regulations and applicable Indian Standards, however, in case lattice type towers are used, the following shall also be applicable:

A.2.0 Steel section of grade E 250 and/or grade E 350 as per IS 2062, only are permitted for use in towers, extensions, gantry structures and stub setting templates. For towers in snowbound areas, steel sections shall conform to Grade-C of IS-2062.

A.3.0 Towers shall be designed as per IS-802:2015, however the drag coefficient of the tower shall be as follows: -

Solidity Ratio	Drag Coefficient
Up to 0.05	3.6
0.1	3.4
0.2	2.9
0.3	2.5
0.4	2.2
0.5 and above	2.0

The pole structure shall be designed, installed and maintained as per applicable CEA regulations including CEA 'Standard Technical Specification for Steel Monopole Structure for AC Transmission Line', July 2022 or subsequent revision as applicable except otherwise specified in this specification.

A.4.0 Transmission Service Provider (TSP) shall adopt any additional loading/ design criteria for ensuring reliability of the line, if so desired and /or deemed necessary as per site requirements.

A.5.0 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. Further, for transmission line sections passing within a distance of 50 km from the boundary of two wind zones, higher of the two wind zones shall be considered for design of towers located in such sections.

A.6.0 Selection of reliability level for design of tower shall be as per CEA Regulation (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time.

A.7.0 For power line crossings, following should be followed:

A) Under crossing of the existing transmission line of same Voltage shall not be allowed. In the case where it is inevitable to under-cross the existing transmission line then TSP shall seek prior approval from Chief Electrical Inspector, CEA (or equivalent as applicable) with detailed study ensuring that all statutory electrical clearances and Electric Field limit of 10 kV/m at 1 m and 1.8 m from ground level is not violated.

B) For power line crossing of 400 kV or above voltage level, large angle towers of deviation angle of 30-60 degree and designed for dead end towers (i.e. D/DD/QD), with required body extension, shall be used on either side of power line crossing.

C) For power line crossing of 132 kV (or 110 kV) and 220 kV (or 230 kV) voltage level, angle towers (B/C/D/DB/DC/DD/ QB/QC/QD), with required body extension, shall be used on either side of power line crossing depending upon the merit of the prevailing site condition and line deviation requirement.

D) For power line crossing of 66 kV and below voltage level, suspension/tension towers with required body extension, shall be provided on either side of power line crossing depending upon the merit of the prevailing site condition and line deviation requirement.

E) Where two lines cross each other, the crossing shall be made as nearly at right angles as the nature of the case admits and as near the support of the line as practicable, and the support of the lower line shall not be placed in the right of way of the upper line.

F) For crossing of railway tracks, expressways national highways and state highways, the Rules/ Regulations of appropriate authorities shall be followed. These crossings should be kept to minimum, and preferably at right angles.

G) Wherever overhead line of voltage 33 kV or above or high voltage direct current intending to cross the right of way of a Petroleum or Natural Gas pipeline, the angle of crossing of the overhead line with respect to the pipelines shall preferably be at right angles and, in any case, the crossing angle shall not be less than seventy five degrees.

H) For river crossings or power line crossings (66kV or above), railways or road crossings (express way, national highway and state highway) minimum two sets of long rod insulators or two sets of disc insulator strings (as applicable) per phase per circuit shall be used.

I) All electrical clearances shall be as per relevant standard and Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2023, Central Electricity Authority (Safety requirements for construction, operation and maintenance of electrical plants and electric lines) Regulations, 2011, or any of their amendment, successor or subsequent Regulations in this regard.

J) In a transmission line, for a particular Site Pollution Severity class, minimum specific creepage distance (corresponding to the line to line highest system voltage) shall be 31 mm/kV as 'Site Pollution Severity (SPS)' class as per IS 16683:Part-I:2018).

A.8.0 The relevant conductor type and line configuration shall be as follows: -

Transmission Line under the Scope	Conductor Size and Configuration	OPGW / Earthwire configuration at Peak
400 kV DCDS Nabinagar (Stage-II) Thermal Power Plant – Kerpa Transmission Line	Quad Moose (ACSR)	Peak 1 – OPGW Peak 2 – Galvanised Steel Earthwire
LILO of 400 kV DCDS Pusauli (PG) – Biharsharif (PG) Transmission Line at 400/220/132 kV Kerpa	Twin Moose (ACSR)	Peak 1 – OPGW Peak 2 – OPGW
LILO of 220 kV DCDS Dehri – Pusauli Transmission Line at 400/220/132 kV Kerpa	Single Zebra (ACSR)	Galvanised Steel Earthwire
LILO of 132 kV DCDS Sasaram – Banjari Transmission Line at 400/220/132 kV Kerpa	Single Panther (ACSR)	OPGW

Basic Parameters:

Conductor Type / Size	**ACSR Conductor specified**	**Sub-conductor Spacing**
Moose	Moose: Stranding 54/3.53mm-Al + 7/3.53 mm-Steel, 31.77 mm diameter 528.5 mm2, Aluminium area, Maximum DC Resistance at 20°C (Ω/km): 0.05552 Minimum UTS:161.20 kN	457 mm
Zebra	Stranding 54/3.18mm-Al + 7/3.18mm- Steel, 28.62 mm diameter 484.50 mm2, Sectional area	Not Applicable

	Maximum DC Resistance at 20°C (Ω/km): 0.0674 Minimum UTS:131.90 kN	
Panther	Stranding 30/3mm-Al + 7/3mm- Steel, 21mm diameter 261.50 mm2, Sectional area Maximum DC Resistance at 20°C (Ω/km): 0.1390 Minimum UTS:89.67 kN	Not Applicable

Note:

1. **To select any size above the minimum, the sizes mentioned in the Indian standard IS-398 (part-6) shall be followed.*
2. *The transmission lines shall have to be designed for a maximum operatingconductor temperature of 85 deg C.*

A.9.0 The required phase to phase spacing and horizontal spacing for 400 kV line shall be governed by the tower design as well as minimum live metal clearances for 400 kV voltage level under different insulator swing angles. However, the phase to phase spacing for 400 kV line shall not be less than 8 m.

A.10.0 All electrical clearances including minimum live metal clearance, ground clearance and minimum mid span separation between earth wire and conductor as per relevant Indian Standard and regulations shall be considered:

A.11.0 Shielding angle shall not exceed 20 deg for 400 kV transmission line.

A.12.0 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 LILO shall be maintained by developer.

A.13.0 The Fault current for design of line shall be 63 kA for 1 sec for 400 kV transmission line.

A.14.0 The earthwire of appropriate size to cater to predicted and design fault currents and lightning shall be used. Single earthwire shall be used for transmission lines up to 220 kV and two earthwires shall be used for transmission lines of 400 kV and higher voltage classes. The earthwire used in 110 kV and above voltage class lines shall be Optical Ground Wire. In case of 400 kV and above voltage class lines, at least one out of two earth wires shall be OPGW with a minimum of 48 fiber cores in each earthwire peak and second earth wire, if not OPGW, shall be either of Galvanized Stranded Steel (GSS) or Aluminum Alloy Conductor Steel Reinforced (AACSR) conductor type. The selection approach

shall be in line with the Comprehensive guidelines for the usage and sharing of fiber cores of Optical Ground Wire (OPGW)/ Under Ground Fiber Optic (UGFO) Cable for power system applications, 2025 (along with the applicable amendments to date). It shall require to cater essential future requirements, including Loop-In-Loop-Out (LILO) configurations or increased capacity utilizing the same Right of Way (ROW).

For the LILO of both circuit of existing 400kV D/C and above transmission lines, wherein OPGW is installed in both the peaks of existing transmission line, the LILO section shall also accommodate the both the OPGW to be terminated at the proposed substation.

A.15.0 Each tower shall be earthed such that tower footing impedance does not exceed 10 ohms. Pipe type or Counterpoise type earthing or multiple earthing shall be provided in accordance with relevant IS. Additional earthing shall be provided on every 7 to 8 km distance for direct earthing of both shield wires. If site condition demands, multiple earthing or use of environmentally friendly earthing enhancement compound shall be used.

A.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 and 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.

A.17.0 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. In order to optimize the route, use of GATISHAKTI platform shall also be made.

A.18.0 Wherever, transmission lines are passing through cyclone prone areas i.e., areas up to 60 km from coast following shall also be applicable:

a) Terrain category-I, with risk coefficient factor (K1) of 1.08 shall be considered for tower design for exposed open terrain with few or no obstruction, which also includes open sea coasts, open stretch of water, desert and flat treeless plains.

b) For design of transmission line structures in eastern coast and Gujarat coast upto 60 km from sea coast, importance factor for cyclonic region i.e. K4 factor of 1.3 shall be considered to take care of cyclonic wind condition.

c) The number of consecutive spans between the section points/ angle point shall not exceed 10 spans or 3 km instead of conventional practice of 15 spans or 5 km, in order to reduce the failure of such towers in

coastal areas due to cascading effect. The section shall be terminated with tension tower/ angle tower and angle of deviation should be based on the site requirement.

A.19.0 Wherever, transmission lines are passing through cyclone prone areas (i.e. areas up to 60 km from coast)/ creek regions/ aggressive soil areas following shall also be applicable:

a) The fabricated tower parts and stubs shall have a minimum overall zinc coating of 900 g/m^2 of surface area except for plates and sections below 5 mm which shall have a minimum overall zinc coating of 610 g/m^2 of surface area. The average zinc coating for all sections and plates 5 mm and above shall be maintained as 127 microns and that for plates and sections below 5 mm shall be maintained as 87 microns.

b) Ready mix concrete of M30 Grade shall be used to avoid use of locally available saline water. However, design mix concrete of M30 Grade conforming to IS 456 with potable water can be used at locations where transportation of ready-mix concrete is not feasible. Minimum cement content in any case shall not be less than 330 kg/m^3.

c) The surface of the reinforced steel shall be treated with epoxy-based coating to enhance corrosion performance of foundation. Use of epoxy coated reinforcement in foundation shall be as per IS 13620. In addition, two (2) coats of bituminous painting of minimum 1.6 kg/m^2 per coat shall be applied on all exposed faces of foundation (i.e. pedestal and base slab).

d) Double coat 20 mm thick cement plaster shall be provided on all exposed concrete surface as well up to 300 mm below ground level to give protection to concrete surface from environmental and saline effect.

e) Before coping of chimney top portion, three coats of anti-corrosive paint of minimum 30-35 microns dry film thickness each shall be applied on the stub in the 50 mm coping portion as well as up to 350 mm above CL portion.

A.20.0 The raised chimney foundation is to be provided in areas prone to flooding/water stagnation like paddy field /agricultural field and 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).

A.21.0 Routing of a transmission line shall avoid large habitations, densely populated areas, protected or reserved forest or National Parks or Wild Life Sanctuaries, the habitant zones of Great Indian Bustard and other protected species, civil or military airfields and aircraft landing approaches.

A.21.(a) Routing of transmission line through protected areas of India shall be avoided to the extent possible. In case, it is not possible to avoid protected areas, the towers of the transmission line up to 765 kV level, which are installed in protected areas, shall be designed for Multi-circuit (4-circuits) configuration of same voltage level considering the **Reliability Level and Design Span as per CEA (Technical standards for construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time**. The top two circuits of these multi-circuit towers shall be used for stringing of the transmission line under present scope and the bottom two circuits shall be made available for stringing of any future transmission line of any transmission service providers/ State transmission utilities/Central transmission utilities passing through the same protected area. Further, the configuration, coordinates and Tower Schedule of such transmission towers shall be submitted to Bihar State Power Transmission Company Limited and BPC by the TSP.

It shall be ensured that Minimum ground clearance is maintained such that statutory Electrical Clearances and Electric Field limit of 10 kV/m at 1 m and 1.8 m from ground level are not violated.

A20.(b) Routing of transmission lines through all Metropolitan areas, Municipal Corporations, Municipalities, Nagar Panchayats, and all Urban Planning areas notified by State Governments and Forest areas notified by the Ministry of Environment, Forest and Climate Change (MoEFCC), shall be avoided to the extent possible. However, if it is not possible to avoid these areas, then, **in order to optimize Right of Way (RoW) in all Metropolitan areas, Municipal Corporations, Municipalities, Nagar Panchayats, and all Urban Planning areas notified by State Governments, for up to 765 kV transmission lines, Double Circuit Pole Structures designed with a Reliability Level and Design Span as per CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022, as amended from time to time (preferably with insulated cross arms)** shall be implemented.

It shall also be ensured that Minimum ground clearance is maintained such that statutory Electrical Clearances and Electric Field limit of 10 kV/m at 1 m and 1.8 m from ground level are not violated.

In case of more than TWO parallel Circuits up to 400 kV, the same shall be accommodated using Pole Structures designed for so many Circuits.

A.22.0 The TSP shall abide by the Guidelines of CEA with respect to shifting of transmission lines for NHAI projects and other projects.

A.23.0 Safety precautions in regards to gas/oil pipelines in vicinity of Transmission lines shall be taken in coordination with gas/ petroleum authorities.

A.24.0 The stringing of the transmission line in forest area shall be carried out through drone.

A.25.0 RoW width and Span in different terrain shall be as per Schedule VII of CEA (Technical Standards for Construction of Electrical plants and Electric Lines) Regulations 2022 and RoW guidelines issued vide CEA-PS-14-86/2/2019-PSETD Division dated 24.09.2024 or any of their corresponding amendment / successor or subsequent Regulations in this regard..

B. SPECIFIC TECHNICAL REQUIREMENTS FOR SUBSTATION

All the proposed substation under the project is of Air Insulated Switchgear (AIS) type.

All the proposed substations shall be generally conforming to the requirements of CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time. To ensure quality, CEA's Guidelines for Model Quality Assurance Plan (MQAP) for Major Equipment of Power Sector notified during January 2026 shall be followed. The CEA General Guidelines for 765/400/220/132 KV Sub-Station & Switchyard of Thermal/Hydro Power Projects, June 2012 (or the amendments issued thereof), may also be suitably referred for the proposed Substations. Other CEA Regulations/guidelines as amended up to date and MoP guidelines, as applicable, shall also be followed.

B.1.0 Salient features of Substation Equipment and Facilities

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

B.1.1 System design parameters / Basis of Insulation Coordination

The system design parameters for substations/switchyards shall be as given below:

Sl. No.	Description of parameters	Tech. Requirement			
		400 kV	**220 kV**	**132kV**	**33kV**
1.	System operating voltage	400 kV	220kV	132kV	33kV
2.	Maximum voltage of the system (rms)	420 kV	245kV	145kV	36kV
3.	Rated frequency	50 Hz			
4.	No. of phases	3			
5.	Rated Insulation levels				
i)	Lightning Impulse withstand voltage, (kV_{peak}) for (1.2/50 micro sec.) - for Equipment other than Transformer and reactor - for Insulator String / transmission line	1425 kVp 1550 kVp	1050 kVp 1050 kVp	650 kVp 650 kVp	170kVp 170kVp
ii)	Switching impulse withstand voltage	1050 kVp	NA	NA	NA

Sl. No.	Description of parameters	Tech. Requirement			
		400 kV	220 kV	132kV	33kV
	(250/2500 micro sec.) dry and wet (kV_{peak}) (Phase to Earth)				
iii)	One minute power frequency dry withstand voltage (rms) (kV_{rms} Phase to Earth) - for Equipment other than Transformer and reactor - for Insulator String / transmission line	630kV (650 kV for GIS) 680kV	460kV 460kV	275kV 275kV	70kV
6.	Minimum corona extinction voltage Corona extinction voltage (kV_{rms} Phase to Earth)	320 kV	156kV	105kV	NA
7.	Max. radio interference voltage for frequency between 0.5 MHz and 2 MHz	1000 micro-volt at 266 kV rms	1000 micro-volt at 156 kV rms	500 micro-volt at 92 kV rms	NA
8.	Minimum creepage distance for insulator string/ long rod insulators/ outdoor bushings	13020 mm (31 mm/kV)	7595mm (31 mm/kV)	4495mm (31 mm/kV)	1116mm (31 mm/kV)
9.	Minimum creepage distance for switchyard equipment (kV_{rms}) (Phase to Earth)	13020 mm (31 mm/kV)	7595mm (31 mm/kV)	4495mm (31 mm/kV)	1116mm (31 mm/kV)
10.	Max. fault current	63 kA	50 kA	40 kA	31.5 kA
11.	Duration of fault	1 sec	1 sec	1 sec	1 sec

Note: For installations at altitudes higher than 1000 m above Mean Sea Level, altitude correction factor on the applicable parameters such as rated insulation level, temperature rise limit, clearances and arcing distance for external insulation at the service location shall be applied as per methodology specified in relevant standards.

B.1.2 Switching Scheme

The switching schemes, as mentioned below, shall be adopted at various voltage levels of substation/switchyard:

Switchgear	Proposed Switching Scheme
400kV AIS	One and Half Breaker
220kV AIS	Double Main Bus-Bar and Transfer bus scheme
132kV AIS	Main Bus-Bar and Transfer bus scheme

Notes: -

i) For one and half breaker switching scheme, any double circuit line consisting of two numbers of feeders and originating from the same transmission or generating switchyard shall not be terminated in one diameter. Further, incoming and outgoing feeders shall be in the same diameter as far as possible, so as to make direct connection in case of outage of intermediate substation.

ii) Two transformers of the same HV rating shall not be connected in the same diameter and similarly two bus reactors of same HV rating shall also not be connected in the same diameter.

iii) A diameter in one and half breaker scheme is a set of 3 circuit breakers with associated isolators, earth switches, current transformers etc. for controlling 2 numbers of feeders.

iv) In case of GIS substation (if included in scope) where the bus scheme is One and Half breaker scheme, the diameters shall be complete with feeder/line side isolator and GIS duct of the future bay shall be brought outside the GIS hall/building with extension/interface module suitably.

v) Connection arrangement of Switchable Line reactors (if included in scope) shall be such that it can be used as Line reactor as well as Bus reactor with suitable NGR bypass arrangement. Further, Spare 1-phase Shunt Reactor unit shall be placed and connected in such a way that the spare unit can be utilized for all the bus and switchable line reactor banks (including future reactor banks) without its physical movement.

vi) In case single phase ICT / Power transformers (if included in scope) are provided, minimum one single phase transformer of each rating shall be provided as spare for the entire substation or switchyard Spare. 1-phase ICT / Power Transformers unit shall be placed and connected in such a way that the spare unit can be utilized in any of the ICT / Transformer Bay without physical movement.

vii) Land area required shall be considered based on the present requirement and the planned future expansion.

viii) Space provision for 400 kV future lines shall be kept considering switchable Line reactor for the lines.

ix) TSP shall plan distribution of line and transformer feeders to bus bar in such a way that all power can be evacuated successfully without crossing thermal limit at any point of bus-bar.

B.2.0 Substation Equipment and facilities (Voltage level as applicable):

The switchgear shall be designed and specified to withstand operating conditions and duty requirements. All equipment shall be designed considering the following minimum capacity. Equipments / material with superior / better parameters may be utilized based upon the system requirements in proposed scheme and its' interconnection with the associated system.

Sl.No	Description of bay	Rated Normal Current		
		400 kV	220kV	132kV
1.	Bus Bar	4000 A	4000A	3150 A
2.	Line bay	3150 A	2500 A	1600 A
3.	ICT bay	2000 A	1600 A	1250 A
4.	Reactor bay	2000 A	N/A	N/A
5.	Bus Coupler Bay	N/A	2500 A	N/A
6.	Transfer Bus coupler bay (as applicable)	N/A	2500 A	1600 A

B.2.1 Power Transformers

B.2.1.1 Power Transformer / ICT / Autotransformer (as applicable)

The ICT / Power Transformers covered under the scope shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)" available on CEA website.

B.2.2 Shunt Reactors and Neutral Grounding Reactor

B.2.2.1 Shunt Reactors and Neutral Grounding Reactor

The Reactors covered under the scope shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors available on CEA website.

B.2.3 AIS Substation equipment

The specific technical requirements for various substation equipment are as follows:

B.2.3.1 Circuit Breakers

The circuit breakers and accessories shall conform to IEC: 62271-100, IEC: 62271-1 and shall be of SF6 Type. The circuit breakers shall be of class C2-M2 (as per IEC) with regard to restrike probability during capacitive current breaking and mechanical endurance. The rated break time shall not exceed 40 ms (milli second) for 400 kV. The rated break time shall not exceed 60 ms for 220 kV and 132kV Circuit Breakers. Circuit breakers shall be suitable for single phase and three phase auto reclosing. Each breaker would have two sets of trip circuits which would be connected to separate DC supplies for greater reliability. The Circuit breakers of 400 kV voltage class for lines (of length more than 200 km) and of 765 kV voltage class shall be provided with pre-insertion closing resistor of about 400 ohms with 8 ms insertion time or Controlled Switching Device (CSD) for controlling switching over voltages. Controlled Switching Devices shall be used for minimizing switching transients and inrush currents in transformers and reactors of 400kV and above voltage class. The Controlled Switching Device shall be used only during intentional energization or de-energization of associated Circuit Breaker and shall remain bypassed otherwise including during fault tripping. The short line fault capacity shall be the same as the rated capacity and this is proposed to be achieved without use of opening resistors. Controlled switching device shall be provided in the Circuit Breaker of the switchable line reactor bay and in Main and Tie bay circuit breakers of line with non-switchable line reactors, Bus reactors and Transformers for 400 kV and above voltage class. Due attention shall be given to the operating time and mechanical scatter of Circuit Breakers and grid condition at the point of interconnection while going for use of Controlled Switching Devices.

B.2.3.2 Isolators

The isolators shall comply to IEC 62271-102 in general. Earth switches shall be provided at various locations to facilitate maintenance. Main blades and earth blades shall be interlocked and interlock shall be fail safe type. All isolators and earth switches shall be motor operated type. The disconnector shall be suitable for local electrical and manual and remote electrical (from control room) operation.

The isolator shall be of extended mechanical endurance class-M2 and suitable for Bus Transfer Current Switching duty as per IEC standards. High speed earthing switches shall be provided for grounding purposes at overhead line terminations and cable terminations and shall have fault making capability as specified. Earth switch for line isolator shall be of earthing switch class E1 and shall be suitable for induced current switching duty as defined for Class-B as per relevant standard. Earthing switches shall be suitable for local electrical and manual operation and only local operation is recommended for earth switches.

B.2.3.3 Current Transformers

Current Transformers shall comply with IEC 61869 in general. All ratios shall be obtained by secondary taps only. Generally, Current Transformers (CT) shall

have five cores (four for protection and one for metering) whereas; CT in Tie bays shall have six cores (four for protections and two for metering) suitably distributed on both sides of CB (for 400 kV and above voltage class). 220 kV and below voltage class Current Transformers shall have five cores (four for protection and one for metering). The burden and knee point voltage shall be in accordance with the requirements of the system including possible feeds for telemetry. The accuracy class for protection core shall be PX and for the metering core it shall be 0.2S. The rated burden of cores shall be closer to the maximum burden requirement of metering and protection system (not more than 20 VA for metering core) for better sensitivity and accuracy. The accuracy class for metering core shall be equal to or better than the accuracy class of the meter specified in the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 or as amended thereof.

The instrument security factor shall be less than 5 for CTs up to 400 kV voltage class.

B.2.3.4 Capacitive Voltage Transformers

The Capacitive Voltage Transformers shall comply with IEC 61869 in general. These shall have three secondaries out of which two shall be used for protection and one for metering. The accuracy class for protection cores shall be 3P and for metering core shall be 0.2. The Capacitive Voltage Transformers on lines shall be suitable for Carrier Coupling. The Capacitance of CVT for 400 kV shall be of 4400/8800 pF depending on PLCC requirements. The rated burden of cores shall be closer to the maximum burden requirement of metering & protection system (not more than 50 VA for metering core) for better sensitivity and accuracy. The accuracy of 0.2 on metering core should be maintained throughout the entire burden range on all the three windings without any adjustments during operation. The CVT should be thermally and dielectrically safe when the secondary terminals are loaded with the guaranteed thermal burdens.

The accuracy class for metering core shall be equal to or better than the accuracy class of the meter specified in the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 or as amended thereof.

B.2.3.5 Surge Arresters

336 kV Station High (SH), 216 kV Station Medium (SM) and 120kV Station Medium (SM) duty gapless type Surge arresters with thermal energy (Wth) of minimum 12 kJ/ kV, 7kJ/kV and 5kJ/kV respectively shall be provided for 420 kV, 245 kV and 145kV system respectively conforming to IEC 60099-4 in general. Other characteristics of Surge arrester shall be chosen in accordance with system requirements. Surge arresters shall be provided at line entrances, near transformers and Reactors so as to achieve proper insulation coordination. A leakage current monitor with surge counter shall be provided with each surge arrester.

B.2.3.6 SF_6 to Air Bushing

Outdoor bushings, for the connection of conventional external conductors to the SF_6 metal enclosed switchgear, shall be provided as per requirement. Bushings shall generally be in accordance with the requirements of IEC-60137. The creepage distance over the external surface of outdoor bushings shall not be less than 31 mm/ kV. SF_6 to air Bushing shall be of Polymer/ composite type and shall be robust and designed for adequate cantilever strength to meet the requirement of seismic conditions. The electrical and mechanical characteristics of bushings shall be in accordance with IEC-60137. Polymer/composite insulator shall be seamless sheath of silicon rubber compound. The housing and weather sheds should have silicon content of minimum 30% by weight. It should protect the bushing against environmental influences, external pollution and humidity. The hollow silicon composite insulators shall comply with the requirements of IEC 61462 and the relevant parts of IEC-62217.

B.2.4 Protection Relaying and Control System

The protective relaying system proposed to be provided for transmission lines, auto-transformers, reactors and bus bars to minimize the damage to the equipment in the events of faults and abnormal conditions, is dealt in this section. All main protective relays shall be numerical type with IEC 61850 communication interface and should have interoperability during integration of numerical relays to communicate over IEC61850 protocol with RTU/SAS/IEDs of different OEMs. All numerical relays shall have built in disturbance recording feature.

The protection circuits and relays of transformer and reactor shall be electrically and physically segregated into two groups each being independent and capable of providing uninterrupted protection even in the event of one of the protection groups failing, to obtain redundancy, and to take protection systems out for maintenance while the equipment remains in service.

a) Transmission Lines Protection

400 kV lines shall have Main-I numerical five zone distance protection scheme with carrier aided inter-tripping feature. 400 kV lines shall also have Main-II numerical distance protection scheme like Main-I but from different make that of Main-I. The Main-I and Main-II protection relays of same make may be provided only if they are of different hardware and manufacturing platform or different principle of operation.

However, Line Current Differential relay (with back up distance protection feature) as Main–I and Main-II shall be considered at both ends for short lines (line length below 30 km) having Fibre Optic communication link. Differential relay at remote end shall be provided by the TSP. Associated power and control cabling and integration with SAS at remote end shall be provided by respective bay owner.

In case of loop in loop out of transmission lines, the existing protection scheme shall be studied and suitable up-gradation (if required) shall be carried out.

Further, all 400 kV lines shall be provided with single and three phase auto-reclosing facility to allow reclosing of circuit breakers in case of transient faults. These lines shall also be provided with distance to fault locators to identify the location of fault on transmission lines.

All 400 kV lines shall also be provided with two stages over standalone voltage protection. Over voltage protection and distance to fault locator may be provided as in-built feature of Main-I and Main-II protection relays. Auto reclose as built-in function of Bay Control Unit (BCU) is also acceptable.

The Main-I and Main-II protection relays shall be fed from separate DC sources and shall be mounted in separate panels.

For 400 kV transmission lines, directional IDMT earth fault relay should be provided as standalone unit or in-built feature of Main-I and Main -II feature.

b) Auto Transformer Protection

These shall have the following protections:

i) Numerical Differential protection
ii) Numerical Restricted earth fault protection
iii) Numerical Back-up Over-current and earth fault protection on HV and IV side
iv) Numerical Over fluxing protection on HV and IV side
v) Numerical Overload alarm

Further, Numerical Back-up Over-current and earth fault protection on HV and IV side of autotransformer shall not be combined with other protective functions in the main relays and shall be independent relays. Besides these, power transformers shall also be provided with Buchholz relay, Magnetic oil Gauge (MOG) with low oil level alarm, protection against high oil and winding temperature and pressure relief device etc.

Suitable monitoring, control (operation of associated circuit breaker and isolator) and protection for LT auxiliary transformer connected to tertiary winding of auto-transformer for the purpose of auxiliary supply shall be provided. The over current and other necessary protection shall be provided for the auxiliary transformer. These protection and control may be provided as built in feature either in the bay controller to be provided for the auxiliary system or in the control and protection IEDs to be provided for autotransformer.

c) 400 kV Reactor Protection

Reactor shall be provided with the following protections:

i) Numerical Differential protection.

ii) Numerical Restricted earth fault protection
iii) Numerical Back-up impedance protection

Besides these, reactors shall also be provided with Buchholz relay, Magnetic Oil Gauge (MOG) with low oil level alarm, protection against oil and winding temperatures and pressure relief device, etc.

d) Bus bar Protection

The high speed low impedance type bus bar differential protection, which is essential to minimize the damage and maintain system stability at the time of bus bar faults, shall be provided for 400 kV and 220kV. Duplicated bus bar protection of different make shall be envisaged for 400 kV bus-bar protection. Bus bar protection scheme shall be such that it operates selectively for each bus and incorporate necessary features required for ensuring security. The scheme shall have complete bus bar protection for present as well as envisaged future bays i.e. input / output modules for future bays shall also be provided.

Bus Bar protection system for new substation shall be de-centralized (distributed) type.

The scheme shall have complete bus bar protection for present as well as envisaged future bays i.e. input / output modules for future bays for the bus sections under present scope and PUs shall be provided by the respective bay owners.

In case, the bus section is provided, then each side of bus section shall have separate set of bus bar protection schemes.

For existing substations, the existing bus bar protection shall be augmented as per requirement.

e) Local Breaker Back up Protection

This shall be provided for each 400 kV and 220kV circuit breakers and will be connected to de-energize the affected stuck breaker from both sides.

Notes:

1. *LBB and REF relays shall be provided separately from transformer differential relay.*
2. *LBB relay may also be provided as built-in protection function of distributed bus bar protection scheme; however in such case separate LBB relay shall be provided for tie bays (in case of One and Half breaker scheme).*
3. *Over fluxing* and *overload protection can be provided as built-in feature of differential relay.*
4. *In 400 kV switchyard, if spare bay of half diameter is identified as future, Tie CB relay panel shall be with Auto-reclosure feature.*

B.2.5 Substation Automation System

a) For all the new substations, state of art Substation Automation System (SAS) conforming to IEC-61850 shall be provided. The distributed architecture shall be used for Substation Automation system, where the controls shall be provided through Bay control units. The Bay control unit is to be provided bay wise for voltage level 110 kV and above. All bay control units as well as protection units are normally connected through an Optical fibre high speed network. The control and monitoring of circuit breaker, dis-connector, re-setting of relays etc. can be done from Human Machine Interface (HMI) from the Relay Control Room.

The functions of control, annunciation, disturbance recording, event logging and measurement of electrical parameters shall be integrated in Substation Automation System.

At new substations, the Substation Automation System (SAS) shall be suitable for operation and monitoring of the complete substation including proposed future bays/elements.

In existing substations with Substation automation system (SAS), augmentation of existing SAS shall be done for bays under present scope.

In existing Substations where Substation automation is not provided, control functions shall be done through control panels.

Necessary gateway and modems (as required) shall be provided to send data to RLDC/SLDC as per their requirement and shall be provisioned with 2+2 redundancy i.e. 2 channels for Main Control Centre and 2 channels for Backup Control Centre. In order to meet this requirement, suitable redundancy at port and card level need to be ensured by the TSP to avoid any single point of failure which may lead to interruption in real-time grid operation. Accordingly, all the hardware for communication services of station as stated above shall support dual redundancy for data transmission of station to respective main and backup RLDCs. Any augmentation work at RLDC/SLDC is excluded from TSP's scope. However, all the configuration work at substation end required to send data to RLDC/SLDC shall be in the scope of TSP.

b) Time synchronization equipment

Time synchronization equipment complete in all respect including antenna, cable, processing equipment required to receive time signal through GPS or from National Physical Laboratory (NPL) through INSAT shall be provided at new substations. This equipment shall be used to synchronize SAS and IEDs etc.

B.3.0 Substation Support facilities

Certain facilities required for operation and maintenance of substations as described below shall be provided at new substation. In existing substation, these facilities have already been provided and would be extended/ augmented as per requirement.

B.3.1 AC and DC power supplies

For catering the requirements of three phase and single phase AC supply and DC supply for various substation equipment (for present and future scope), the following arrangement is envisaged:-

(i) For LT Supply at each new Substation, two (2) Nos. of LT Transformers (minimum 630 kVA for substations with highest voltage rating as 400 kV) shall be provided which shall be fed from two independent sources as per CEA (Technical Standards for Connectivity to the Grid) Regulations, 2007 or its' successor regulations from the date of publication / notification as amended from time to time.

Metering arrangement with Special Energy Meters (SEMs) shall be provided by TSP at 33 kV tertiary of 400/220 kV Transformer for drawing auxiliary supply at new substation. Such SEMs shall be provided by STU at the cost of the TSP. Accounting of such energy drawn by the TSP shall be done by RLDC/RPC as part of Regional Energy Accounting.

Additionally, Active Energy Meters may be provided at the same point in the 33 kV tertiary of 400/33 kV Transformer by local SEB/DISCOM for energy accounting.

(ii) 2 sets of 220 V battery banks for control and protection and 2 sets of 48 V battery banks for PLCC/ communication equipment shall be provided at each new Substation. Each battery bank shall have a float-cum-boost charger.

At new substation, sizing of 220 V battery and battery charger shall be done based on the number of bays specified (including future bays) as per CEA Regulations and relevant IS. 2 sets of 48 V battery banks for PLCC and communication equipment for present and future scope shall be provided at each new Substation with at least 10-hour battery backup and extended backup, if required. 48 V DC can be achieved from 220 V DC battery bank using adapter, if so desired by TSP, without compromising backup time.

(iii) Suitable AC and DC distribution boards and associated LT Switchgear shall be provided at new substation.

(iv) For new substation, following switch boards shall be considered with duplicate supply with bus coupler/ sectionalizer and duplicate outgoing feeders except for Emergency lighting distribution board which shall have

only one incoming feeder:

(a) 415 V Main Switch board – 1 No.
(b) AC distribution board – 1 No.
(c) Main lighting distribution board – 1 No.
(d) Emergency lighting distribution board – 1 No.
(e) 220 Volt DC distribution board – 2 Nos.
(f) 48 Volt DC distribution board – 2 Nos.

Sizing of LT Switchgear shall be suitable to cater the requirement for all present and future bays. AC and DC distribution boards shall have modules for all the feeders (including future as specified).

(v) At new Substation, one No. of DG set (minimum 250 kVA for substations with highest voltage rating as 400 kV) shall be provided for emergency applications.

(vi) For substation extensions, existing facilities shall be augmented as required.

B.3.2 Fire Fighting System

Fire-fighting system for substation including transformer and reactor shall conform to CEA (Measures Relating to Safety and Electric Supply) Regulations, 2023 as amendment time to time.

Further, adequate water hydrants and portable fire extinguishers shall be provided in the substations. The main header of firefighting system shall be suitable for extension to bays covered under the future scope; necessary piping interface in this regard shall be provided.

Optical Beam type heat detection for GIS hall fire protection system shall be provided for all the GIS halls.

At existing substations, the fire-fighting systems, as available, shall be augmented/ extended to meet the additional requirements.

B.3.3 Oil evacuating, filtering, testing and filling apparatus

To monitor the quality of oil for satisfactory performance of transformers, shunt reactors and for periodical maintenance necessary oil evacuating, filtering, testing and filling apparatus would be provided at new substations. Oil storage tanks of adequate capacities for storage of transformer oil would be provided.

Online Transformer Oil Drying Out System shall be provided in line with the provisions of Standard Specification and Technical Parameters for Transformers and Reactors (66 kV and above Voltage Class) as amended up to date available on CEA website.

B.3.4 Illumination

Normal and emergency AC and DC illumination shall be provided adequately in the control room and other buildings of the substation. The switchyard shall also be provided with adequate illumination.

Lighting of the entire control room building, fire-fighting pump house, other building (if any) and switchyard shall be done by LED based low power consumption luminaries.

B.3.5 Control Room

For new substation, substation control room shall be provided to house substation work stations for station level control (SAS) along with its peripheral and recording equipment, AC and DC distribution boards, DC batteries and associated battery chargers, Fire Protection panels, Telecommunication panels and other panels as per requirements. Air conditioning shall be provided in the building as functional requirements. Main cable trenches from the control room shall have adequate space provision for laying of cables from control room for all the future bays also.

At existing substations, the adequacy of size of control room shall be ascertained and the same shall be augmented as per requirement.

B.3.6 Control Concept

All the EHV circuit breakers in substation/switching stations shall be controlled and synchronized from the switchyard control room/remote control center. All the isolators shall have control from remote/local whereas the earth switches shall have local control only.

B.3.7 Visual monitoring system (VMS) for watch and ward of substation premises:

Visual monitoring system for effective watch and ward of substation premises shall cover all the transformers and reactors, all other major AIS / GIS Equipment (such as CB, isolators, CT, CVT, SA etc. as applicable), GIS bays, panel room, all the gates of switchyard and all entry and exit points of control room building and accordingly the location of cameras shall be decided. In addition to the gates of the switchyard, the cameras shall also be located around the boundaries at suitable locations. The camera shall be high-definition color CCD camera with night vision feature. The VMS data partly/completely shall be recorded (minimum for 15 days) at least @25fps (or better) and stored on network video recorder. The system shall use video signals from various cameras installed at different locations, process them for viewing on workstations/monitors in the control room and simultaneously record all the cameras. The VMS data should go only to the intended personnel/facility and not to the remote server of the Camera (VMS supplier).

Mouse/keyboard controllers shall be used for pan, tilt, zoom and other functions of the desired camera. The Visual Monitoring System shall have provision of WAN connectivity for remote monitoring.

(i)

All camera recordings shall have Camera ID and location/area of recording as well as date/time stamp. The equipment should generally conform to Electromagnetic compatibility requirement for outdoor equipment in EHV substation.

(ii)

At existing substations, the visual monitoring system if available shall be augmented as per existing or better specification as required.

B.4 Grounding

(a) The grounding system shall be designed as per IEEE 80 for expected life of the substation maintaining the touch and step potential within acceptable limits throughout the life.

(b) Special consideration shall be given for Gas Insulated Sub-station earthing design to handle high frequency transients.

(c) If earth enhancement compound or material is considered for effective grounding in high soil resistivity area, the same shall be environmental friendly.

(d) Condition assessment of earthing mat, earthing pits, earth rod, surface layer material, and associated connections shall be carried out periodically to ensure

B.5 General Facilities

a) Line Gantry/Towers are envisaged for bays under present scope only. However, for adjacent future line bay, tower shall be designed for extension (considering Quad conductors for 400 kV future lines) and Twin conductor for 220 kV future lines) wherever applicable.

b) Bay extension works at existing substation shall be executed by TSP in accordance with the requirement/provisions mentioned above. However, interface points shall be considered keeping in view the existing design/arrangement at the substation.

c) TSP has to arrange for construction power and water on its own.

d) All outdoor steel structures including anchor/foundation bolts shall be fully galvanized. The weight of the zinc coating shall be at least 610 g/m^2. However, for coastal/creek regions it shall be at least 900 g/m^2.

e) In Future 400 kV switchyard, if spare bay of half diameter is identified as future, all the equipment for Tie and Future Bay shall be designed considering the current rating of line bay i.e. 3150 A.

f) Boundary wall shall be brick masonry wall with RCC frame or Stone masonry wall or Precast RCC wall under present scope along the property line of complete substation area including future switchyard area to prevent encroachment and unauthorized access. Minimum height of the boundary wall shall be of 1.8 m from finished ground level (FGL).

g) All electrical equipment shall be installed above Highest Flood Level and where such equipment is not possible to be installed above Highest Flood Level, it shall be ensured that there is no seepage or leakage or logging of water.

h) As per CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022/CEA Manual on Transmissions Planning criteria 2023, line approaching substation shall normally be perpendicular to the substation boundary for a stretch of 2-3 km. Accordingly, TSP shall ensure that line terminations at substations are arranged in a manner to avoid hindrance to future line terminations at the substations.

i) TSP shall finalize the substation site/layout such that the corridor for the termination of lines, including future lines at the substation, can be accommodated without any constraints. Accordingly, forests, large water bodies, or hills adjacent to the substation boundary should be avoided.

C. SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION

The communication requirement shall be in accordance to CEA (Technical Standards for Communication System in Power System Operations) Regulations, 2020, CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022, CEA's Comprehensive guidelines for the usage and sharing of fiber cores of Optical Ground Wire (OPGW)/ Under Ground Fiber Optic (UGFO) Cable for power system applications, 2025, CERC (Communication System for inter-State transmission of electricity) Regulations, 2017, CEA (Cyber Security in Power Sector) Guidelines, 2021, CEA Guidelines on Unified Philosophy for placement of PMUs in Indian Grid, March 2025 and CERC Guidelines on "Interface Requirements" 2024 all above documents as amended from time to time.

In addition to the above notified regulations and guidelines, the Central Electricity Authority (Cyber Security in Power Sector) Regulations, 2026 shall also be followed from the date of its' publication / notification and their amendments thereof.

Optical Ground Wire and Power Line Carrier Communication**.** ─
(a) Optical Ground Wire along with necessary terminal equipment shall be provided on transmission lines of voltage rating of 110 kV and above for speech transmission, line protection, and data channels.
(b) The primary path for tele-protection shall be on point-to-point Optical Ground Wire and alternative path shall be either on Power Line Carrier Communication or predefined physically diversified Optical Ground Wire paths.
(c) For reliable communication below 110 kV level the Central Electricity Authority (Technical Standards for Communication System in Power System Operation) Regulations, 2020 shall be used.
(d) The protection system for 400kV and higher voltage transmission line and the line compensating equipment shall have one hundred percent back up communication channels i.e. two channels for teleprotection in addition to one channel for speech plus data for each direction.
(e) The generating company and the transmission licensee or transmission licensees at both end of substation or switchyard shall coordinate with each other and ensure the compatibility of Optical Ground Wire and Power Line Carrier Communication equipment at their respective ends.

Whenever a Transmission Licensee implements a Loop-In-Loop-Out (LILO) arrangement on an existing transmission line, adjustments must be made in the existing Substations, including Fiber Optic Terminal Equipment (FOTE), relays, and other protection equipment to ensure seamless integration and reliable protection.

The protections for transmission line and the line compensating equipment shall have hundred percent back up communication channels i.e. two channels for tele- protection in addition to one channel for speech plus data for each direction.

The complete InSTS communication system commissioned by TSP under the RFP shall be the asset of InSTS and shall be available for usage of InSTS requirements as suggested by STU from time to time.

The communication services viz. SCADA, VoIP, PMU, AGC & AMR (wherever applicable) have been identified as critical services and therefore shall be provisioned with 2+2 redundancy i.e. 2 channels for Main Control Centre and 2 channels for Backup Control Centre. In order to meet this requirement, suitable redundancy at port and card level need to be ensured by the TSP to avoid any single point of failure which may lead to interruption in real-time grid operation.

PMU to PDC communication (wherever required) shall be through 2 channels to the PDC (main) as there is no backup PDC at present.

Accordingly, all the hardware for communication services of station as stated above shall support dual redundancy for data transmission of station to respective main and backup SLDCs/RLDCs.

In order to meet the requirement for grid management and operation of substations, Transmission Service Provider (TSP) shall provide the following**:**

C.1.0 Establishment of Greenfield Substation under the Project Scope.

(I) TSP shall supply, install & commission One or more nos. of FODP (168F or higher) along with panel and required Approach Cable (48F) with all associated hardware fittings from gantry tower to Control Room for all the incoming lines envisaged under the present scope.

(II) TSP shall supply, install & commission One or more STM-16 (FOTE) equipment along with panel/s supporting minimum Seven (7) directions with MSP (Multiplex Section Protection – 1+1). These directions shall exclude protected (1+1) local patching among equipment (if any). Communication Equipment shall be provided with necessary interfaces to meet the voice and data communication requirement of the proposed substations. The suitable DC Power Supply and backup to be provided for communication equipment.

(III) FODP & FOTE equipment with panels shall be provided. FOTE & FODP Equipment can be accommodated in same panel to optimize space.

(IV) The new communication equipment under the present scope shall be compatible for integration with existing regional level centralized NMS. The local configuration of the new communication equipment shall be the responsibility of TSP. The configuration work in the existing centralized NMS for integration of new Communication equipment shall be done by Regional ULDC Team, however all the necessary support in this regard shall be ensured by TSP.

(V) TSP shall supply, install & commission Firewall in redundant mode (1+1) in line with the specification attached at **Annexure F.1**.

(VI) The maintenance of all the communication equipment including FOTE, FODP, approach cable, PMU, DCPS along with Battery Bank & Firewall shall be the responsibility of TSP.

C.2.0 LILO of existing transmission lines at the proposed substations.

(I) TSP shall supply, install & commission One (1) no. OPGW cable containing 48 Fibres (48F) on one of the Earthwire peak and conventional galvanized steel earth wire on other Earthwire peak. In case of 220kV and below voltage lines with single peak, OPGW cable containing 48 Fibres (48F) shall be installed and commissioned.

(II) The TSP shall install this OPGW from gantry of the proposed substation up to the LILO point of each existing transmission line with all associated hardware and accessories including Vibration Dampers, mid-way & gantry Joint Boxes (called OPGW Hardware hereafter) and finally terminate in Joint Boxes at end Substations. TSP shall provide the repeaters wherever required in each of the existing transmission lines.

(III) Maintenance of OPGW Cable, & OPGW Hardware shall be the responsibility of TSP.

C.5.0 Proposed Transmission Lines under the Project

i) On each of the proposed transmission line in the project, TSP shall supply, install and commission One (1) no. OPGW cable containing 48 Fibres (48F) on one of the Earthwire peak and conventional galvanized steel earth wire on other Earthwire peak. In case of 220kV and below voltage lines with single peak, OPGW cable containing 48 Fibres (48F) shall be installed and commissioned.

ii) The TSP shall install OPGW cables from gantry of one proposed substation up to the gantry of another proposed substation, with all associated hardware and accessories including Vibration Dampers, mid-way and gantry Joint Boxes (called OPGW Hardware hereafter) and finally terminate in Joint Boxes.

However, TSP shall finalize the requirement and location of repeater station depending upon the actual site conditions. Further TSP shall comply to the requirements mentioned as per **Appendix-F.1**

Maintenance of OPGW Cable and OPGW Hardware shall be responsibility of TSP.

C.6.0 FOTE requirement for 400 kV Line bays at all remote end substations

i) TSP shall supply, install and commission 1 No. FODP (72F or higher) along with panel and required Approach Cable (48F) per earthwire peak with all associated hardware fittings from gantry tower to Bay Kiosk and from the Bay Kiosk to Control room.

ii) TSP shall supply, install and commission One STM-16 (FOTE) equipment along with panel/s supporting minimum three (3) directions with MSP (Multiplex Section Protection – 1+1) with necessary interfaces to meet the voice and data communication requirement between all remote end substations. The suitable DC Power Supply and backup to be provided for communication equipment.

iii) FOTE/FODP panel shall be installed in the new Bay Kiosk/ Switchyard Panel Room (SPR). The FOTE under present scope shall be integrated by TSP with the existing FOTE at control room of all remote end substations which shall be communicating with respective control center. TSP to provide necessary FODP sub rack / Splice trays/ Patch cords etc. and optical interfaces/equipment in the existing FOTE/FODP panels in control room for integration with the existing FOTE for onwards data transmission.

In case spare optical direction is not available in the existing FOTE at the control room, the TSP shall coordinate with station owner to reconfigure the directions in existing FOTE at control room. Alternatively, The TSP may integrate the FOTE under the present scope with existing FOTE in the nearby Kiosk connected to the control room FOTE (if available with spare direction). For this purpose, TSP shall provide necessary FODP sub rack / Splice trays/ Patch cords etc. and suitable optical interfaces/ equipment in the existing FOTE/FODP panels in another Kiosk (SPR) FOTE and FODP can be accommodated in same panel to optimize space.

iv) The new communication equipment under the present scope shall be compatible for integration with existing regional level centralized NMS. The local configuration of the new communication equipment shall be the responsibility of TSP. The configuration work in the existing centralized NMS for integration of new Communication equipment shall be done by Regional ULDC Team, however all the necessary support in this regard shall be ensured by TSP.

The maintenance of all the communication equipment including FOTE, FODP, approach cable, PMU, DCPS along with Battery Bank shall be the responsibility of TSP.

C.7.0 Specific Requirement for Phasor Measurement Units (PMUs)

TSP shall supply, install & commission required no. of Phasor Measurement Units (PMUs) PMUs at all the locations under the scope of TSP under this RFP as per CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022 (alongwith all amendments if any), CEA Guidelines on Unified Philosophy for Placement of Phasor Measurement Unit (PMU) in Indian Grid, 2025 (alongwith all amendments if any) and all the applicable Regulations, Standards, Guidelines issued time to time. The signal list shall be as per the Annexure-I Part-B of CERC Guidelines on "Interface Requirements" These PMUs shall be provided with GPS clock and LAN switch and shall connect with LAN switch of control room of respective substations/ generating stations with Fibre Optic cable. These PMUs shall be connected with the FOTE at Substation/ generating stations for onwards data transmission to the PDC (Phasor Data Concentrator) located at respective SLDC/RLDC. Configuration work in existing PDC at RLDC for new PMU integration shall be done by respective SLDC/RLDC, however all the necessary support in this regard shall be ensured by TSP. The maintenance of all the PMUs and associated equipment shall be the responsibility of TSP.

C.8.0 Specific Requirement for UNMS Integration of FOTE

Communication system integration in UNMS/CSMS

TSP is to ensure integration of communication system into UNMS/CSMS as per following:

"The new communication equipment/ system under the present scope shall be compatible for integration with existing regional level NMS system/ Centralized Supervision & Monitoring System (CSMS) i.e. Regional UNMS. The local configuration of the new communication equipment/ system at the station end shall be the responsibility of TSP as per followings. The configuration work in the existing centralized NMS/ UNMS at Control center end, for integration of new Communication equipment/ system shall be done by Regional ULDC Team/ NMT, however all the necessary support in this regard shall be ensured by TSP.

Requirement for integration of Communication Equipment/ system with Regional UNMS:

1. TSP shall ensure that NMS/EMS/NE supplied by them is NBI compliant and all FCAPS functionality is supported in the NBI such as NE Inventory, Hardware Inventory– Shelf/Slot/Card/SFP/Port, Topology, Protections, Alarms, Performance-real time & periodic, Performance KPI parameters (E-1, STM, Ethernet), Remote Configuration, Cross Connects, Trails & Circuits, Services Provisioning (NE), E-1, STM, Ethernet, TX & RX Trace, loop back and details are published in the NBI guide for the configuration parameters.

2. TSP shall be obliged to provide/share all necessary documentations such as NBI Guide/MIB/IDL/WSDL/API files etc. for onward integration of their NMS/EMS/NE with regional UNMS.

3. The following support shall be provided by TSP for integration of their supplied equipment with regional UNMS:

- Enabling & activating NBI license in their EMS/NMS and providing NBI login access along with User credentials
- Assist in verifying NBI Connectivity with UNMS vendor for the successful communication and retrieval of data
- Assist in troubleshooting (if required) for NBI connectivity along with UNMS vendor for the communication and retrieval of data.

4. For standalone NE which is not integrated with any EMS/NMS, TSP shall provide modality of complete FCAPS data acquisition as above through industry standard programmatic methods and provide the CLI command manual.”

Note: Existing Station owner/s to provide necessary support to integrate different equipment & applications of new extended bays with the existing substation e.g. Communication (through FOTE), Voice etc. for smooth operation and monitoring of new added grid elements.

Annexure-F.1

Next Generation Firewall (NGFW)

TSP shall provide 2 NGFW one in Main & another in Standby mode having electrical ethernet interfaces/ports and placed between FOTE & SAS gateway/s at the substation. All ethernet based applications shall be terminated in the firewall ports directly (e.g. PMU, AMR, VOIP, SAS/SCADA etc.). Each port of firewall shall work as a separate zone. Firewall shall be hardware based with features of Block/Allow/drop and IPSec VPN (network encryption).

The number of ports/interfaces in each firewall (i.e. Main & Standby) shall be minimum 16 nos. TSP shall provide either single firewall or multiple firewalls to meet this interfaces requirement, each for main as well as standby firewall. Minimum throughput of firewall shall be 300 Mbps.

The Firewall shall be managed/ configured as standalone at present and shall also have compatibility to manage/configure through Centralized Management Console (CMC) remotely in future.

Firewall shall be tested and certified for ISO15408 Common Criteria for least EAL4+. Further, the OEM must certify that it conforms to Secure Product Development Life Cycle requirements as per IEC62443-4-1. The firewall shall generate reports for NERC-CIP Compliance.

The specifications for the firewalls are given at **Annexure-F.2** and schematic diagram showing firewall placement given at **Figure F.2**.

Annexure F.2

Specifications of Next Generation Firewall (NGFW)

1. NGFW shall have following features including but not limited to:
   Encryption through IPSec VPN (Virtual Private Network), Deep Packet Inspection (DPI), Denial of service (DoS) & Distributed Denial of Service (DDoS) prevention, Port Block/ Allow, rules/ policies for block/allow, IP (Internet Protocol) & Media Access Control (MAC) spoofing protection, threat detection, Intrusion Prevention System (IPS), Anti-Virus, Anti-Spyware, Man In The Middle (MITM) attack prevention.

2. The proposed firewall shall be able to handle (alert, block or allow) unknown /unidentified applications e.g. unknown TCP & UDP packets. It shall have the provision to define application control list based on application group and/or list.
3. Firewall shall have feature and also have capability to update the definition/ Signatures of Anti-Virus online as well as offline. Firewall shall also be compatible to update the definitions/signatures through CMC. There shall be a defined process for security patching and firmware up-gradation. There shall be a feature to field validate firmware checksum. The same shall also be validated before using the OEM provided file/binary in the process of firmware up-gradation and security patching

4. Firewall shall have Management Console port to configure remotely.

5. Firewall shall be EMI/EMC compliant in Substation environment as per IEC 61850-3.
6. Firewall shall be rack mounted in existing standard equipment cabinets.

7. Firewall shall have support of SCADA applications (IEC-60870-5-104), ICCP, PMU (IEEE C37.118), Sub-Station Automation System (IEC 61850), Ethernet and other substation environment protocols.

8. Client based Encryption/ VPN must support different Operating System platforms e.g. Windows, Linux & Mac.

9. The solution must have content and comprehensive file detection policies, blocking the files as function of their types, protocols and directions.

10. Firewall shall have logging facility as per standard logs/events format. Firewall shall have features to export the generated/stored logs/events in csv (Comma Separated Value) and also any other standard formats for offline usage, analysis and compliance. Firewall shall have suitable memory architecture and solution to store and be enable to export all logs/events for a period of last 90 days at any given time.
11. Firewall shall have features and be compatible with local as well as central authentication system (RADIUS, LDAP, or TACACS+) for user account and

access right management. It shall also have Role Based User management feature.

12. Firewall shall have the capability to configure sufficient number of VLANs.

13. Firewall shall have the capability to support sufficient number of sessions.

14. Firewall shall have provision to configure multiple IP Sec VPNs, at least 100 nos., (one-to-many or many-to-one). Shall support redundant operation with a similar router after creation of all the IP Sec VPN. IPSec VPN shall support encryption protocols as AES128, AES256 and hashing algorithms as MD5 and SHA1. IPSec VPN throughput shall support at least 300 Mbps.

15. Firewall shall be capable of SNMP v3 for monitoring from Network Management system. It shall also have SNMPv3 encrypted authentication and access security
16. Firewall shall support in Active/Passive or Active-Active mode with High Availability features like load balancing, failover for firewall and IPsec VPN without losing the session connectivity.

17. Firewall should have integrated traffic shaping (bandwidth, allocation, prioritisation, etc.) functionality

18. Shall support simultaneous operation with both IPv4 and IPv6 traffic

19. Firewall shall be compatible with SNTP/NTP or any other standards for clock synchronization

20. Firewall shall have the features of port as well as MAC based security

21. Firewall shall support exporting of logs to a centralized log management system (e.g. syslog) for security event and information management.

22. Firewall time shall be kept synchronised to official Indian Timekeeping agency, time.nplindia.org.

23. Firewall product shall be provided with all applicable updates at least until 36 months since the applicable date of product shipping to the concerned utility.

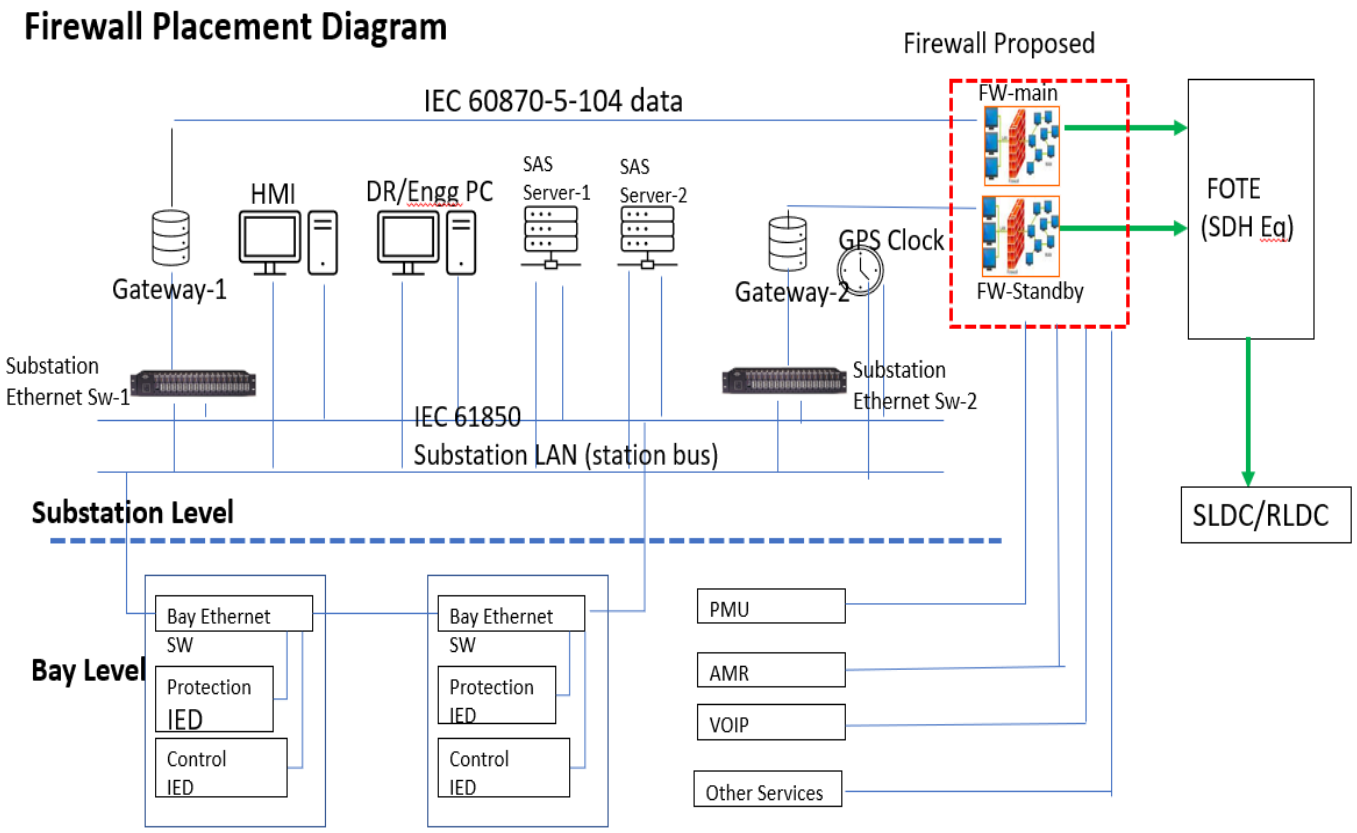

Firewall Placement Diagram
Firewall Proposed
IEC 60870-5-104 data
FW-main
FW-Standby
FOTE
(SDH Eq)
HMI
DR/Engg PC
SAS
Server-1
SAS
Server-2
GPS Clock
Gateway-1
Gateway-2
Substation
Ethernet Sw-1
Substation
Ethernet Sw-2
IEC 61850
Substation LAN (station bus)
SLDC/RLDC
Substation Level
Bay Level
Bay Ethernet
SW
Protection
IED
Control
IED
Bay Ethernet
SW
Protection
IED
Control
IED
PMU
AMR
VOIP
Other Services

Figure F.2

C.9.0 PLCC and PABX:

Power line carrier communication (PLCC) equipment complete for speech, tele-protection commands and data channels shall be provided on each transmission line. The PLCC equipment shall in brief include the following: -

i) Coupling device, line traps, carrier terminals, protection couplers, HF cables, PABX (if applicable) and maintenance and testing instruments.

ii) At new substation, a telephone exchange (PABX) of 24 trunk and 12 subscribers lines shall be provided at as means of effective communication among various buildings of the substation, remote end substations and with control centers (RLDC/SLDC) etc.

iii) Coupling devices shall be suitable for phase to phase coupling for 400 kV and above Transmission lines. The pass band of coupling devices shall have sufficient margin for adding communication channel in future if required. Necessary protection devices for safety of personnel and low voltage part against power frequency voltages and transient over voltage shall also be provided.

iv) The line traps shall be broad band tuned suitable for blocking the complete range of carrier frequencies. Line Trap shall have necessary protective devices such as lightning arresters for the protection of tuning device. Decoupling network consisting of line traps and coupling capacitors may also be required at certain substation in case of extreme frequency congestion.

v) The carrier terminals shall be of single side-band (SSB) amplitude modulation (AM) type and shall have 4 kHz band width. PLCC Carrier terminals and Protection couplers shall be considered for both ends of the line.

vi) PLCC equipment for all the transmission lines covered under the scheme shall be provided by TSP. PLCC to be provided for following lines under present scope:

Sl. No	Line name	PLCC configuration
1	400 kV all transmission lines terminating at 400 kV GIS Solapur Switching Station	1 set Analog PLCC + 1 set Digital Protection Coupler for each circuit at both ends.

Further, CVT and Wave trap for all 400 kV line bays under present scope shall be provided by TSP.

vii) All other associated equipment like cabling, coupling device and HF cable shall also be provided by the TSP.

viii) 2 sets of 48 V battery banks for PLCC and communication equipment shall be provided at each new Substation with at least 10-hour battery backup and extended backup, as required.

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]

Evacuation of Power from 3X800 MW Thermal Power Plant, Nabinagar (Stage – II), Aurangabad				
Sl. No.	**Name of the Transmission Element**	**Scheduled COD**	**(iii) Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project**	**Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element**
1	Construction of 400/220/132 kV Grid Substation (GSS) at Kerpa, Rohtas **400 kV GSS:** • ICTs: 3 X 500 MVA, 400/220 kV • ICT Bays: 3nos. • Line Bays: 6 nos. • Bus Reactors 2x125 MVAR, 400 kV: 2nos. • Bus Reactor Bays: 2 Nos. **Future Space Provisions (400kV):** • Space for 2 x 500 MVA, 400/220 kV ICTs: 2 Nos. • Space for ICT Bays: 2 Nos. • Space for 400 Line Bays: 4 Nos. • Space for Reactor 2x125 MVAR, 400kV: 2 Nos. • Space for Reactor Bays: 2 Nos. **220 kV GSS:** • ICTs: 3 X 200 MVA, 220/132 kV	30.11.2028	100%	All elements need to be commissioned simultaneously.

Evacuation of Power from 3X800 MW Thermal Power Plant, Nabinagar (Stage – II), Aurangabad				
Sl. No.	**Name of the Transmission Element**	**Scheduled COD**	**(iii) Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project**	**Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element**
	• ICT Bays: 6 nos. • Line Bays: 4 nos. • Bus-Coupler Bay: 1nos. • Transfer bus - coupler bay: 1 Nos. **Future Space Provisions (220kV):** • Space for 2 x 200 MVA, 220/132 kV ICTs: 2 Nos. • Space for ICT Bays: 4 Nos. • Space for Line Bays: 4 Nos. **132 kV GSS:** • ICT Bays: 3 Nos. • Line Bays: 4 nos. • Transfer bus - coupler bay: 1 Nos. **Future Space Provisions (132kV):** • Space for ICT Bays: 2 Nos. • Space for Line Bays: 4 Nos.			
2	Construction of 400 kV D/C Transmission Line from Nabinagar (Stage-II) Thermal Power Plant – Kerpa GSS (Conductor: Quad Moose (ACSR))			
3.	LILO of 400 kV D/C Pusauli (PG)			

Evacuation of Power from 3X800 MW Thermal Power Plant, Nabinagar (Stage – II), Aurangabad				
Sl. No.	**Name of the Transmission Element**	**Scheduled COD**	**(iii) Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project**	**Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element**
	– Biharsharif (PG) Transmission Line at 400/220/132 kV Kerpa (Conductor: Twin Moose (ACSR))			
4.	LILO of 220 kV D/C Dehri – Pusauli Transmission Line at 400/220/132 kV Kerpa (Conductor: Single Zebra (ACSR))			
5.	LILO of 132 kV D/C Sasaram – Banjari Transmission Line at 400/220/132 kV Kerpa (Conductor: Single Panther (ACSR))			

Note:

1. *Designing of 400kV & 220kV level switchyards of GSS shall be as per Indian Standards and CBIP Manual for Substation and Transmission Lines having suitable facility for Communication of SCADA Data and Energy Accounting/Metering data to SLDC in real time.*
2. *The 2 number of line bays required for termination of 400kV transmission lines and their Operation & Maintenance at 3X800 MW Thermal Power Plant, Nabinagar (Stage-II), Aurangabad shall be provided by Developer of TPP i.e. NTPC Limited.*
3. *The Land for 400/220/132kV Kerpa Substation shall be arranged by the Transmission Service Provider of the current transmission scheme.*
4. *The O&M scope of TSP, related to LILO of various Transmission lines at 400/220/132kV Kerpa substations, shall be applicable from Kerpa substation to the LILO point. The O&M of existing lines beyond the LILO point shall be the responsibility of the owner / utility / TSP of existing transmission line.*

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 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.

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.

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 provisions of this agreement.

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%

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%

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:

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

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

Illustration5: In case of delay in achieving COD of Element but Project COD achieved on time

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	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

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

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 X 25% X (91/365)	8.72	1-Apr-2019 to 30-Jun-19	--	0.00
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-30-Jun)	140 X 100% X (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:

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%;

   Monthly Transmission Charges MTC(m) = Tmn *1

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

   Monthly Transmission Charges MTC(m) = Tmn * (AA/ 98.5%)

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

   Monthly Transmission Charges MTC(m) = Tmn * (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%;

   Monthly Transmission Charges MTC(m) = Tmn * (AA/ 98%)

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

Monthly Transmission Charges MTC(m) = Tmn * (AA/ 98%) - 0.02 * (Tmn * (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%;

   Monthly Transmission Charges MTC(m) = Tmn *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%;

   Monthly Transmission Charges MTC(m) = Tmn * (AA/ 96%)

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

   Monthly Transmission Charges MTC(m) = Tmn * (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%;

   Monthly Transmission Charges MTC(m) = Tmn * (AA/ 95%)

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

   Monthly Transmission Charges MTC(m) = Tmn * (AA/ 95%) - 0.02 * (Tmn * (AA/ 92%)

where:

- AA is the actual Availability, as certified by RPC/ SLDC, as per procedure provided in Schedule 6.
- m is the month in Contract Year ‘n’
- Tmn= Transmission Charges for the month ‘m’ in Contract Year ‘n’ = (=Transmission Charge/ no. of days in the Year n)* no. of days in month m

Provided, no Transmission Charges shall be paid during the period for which the RLDC/ SLDC 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 RLDC and SLDC Fee & Charges

The payment of RLDC and SLDC fee & charges, in accordance with relevant regulations of Central Commission / State Commission, shall be the responsibility of the TSP.

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. …… Million

Proportionate Transmission Charges payable for each Element of the Project:

Sl. No.	Name of the Transmission Element	Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element
1	Construction of 400/220/132 kV Grid Substation (GSS) at Kerpa, Rohtas **400 kV GSS:** • ICTs: 3 X 500 MVA, 400/220 kV • ICT Bays: 3nos. • Line Bays: 6 nos. • Bus Reactors 2x125 MVAR, 400 kV: 2nos. • Bus Reactor Bays: 2 Nos. **Future Space Provisions (400kV):** • Space for 2 x 500 MVA, 400/220 kV ICTs: 2 Nos. • Space for ICT Bays: 2 Nos. • Space for 400 Line Bays: 4 Nos. • Space for Reactor 2x125 MVAR, 400kV: 2 Nos. • Space for Reactor Bays: 2 Nos.	100%	All elements need to be commissioned simultaneously.

Sl. No.	Name of the Transmission Element	Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element
	220 kV GSS: • ICTs: 3 X 200 MVA, 220/132 kV • ICT Bays: 6 nos. • Line Bays: 4 nos. • Bus-Coupler Bay: 1nos. • Transfer bus - coupler bay: 1 Nos. **Future Space Provisions (220kV):** • Space for 2 x 200 MVA, 220/132 kV ICTs: 2 Nos. • Space for ICT Bays: 4 Nos. • Space for Line Bays: 4 Nos. **132 kV GSS:** • ICT Bays: 3 Nos. • Line Bays: 4 nos. • Transfer bus - coupler bay: 1 Nos. **Future Space Provisions (132kV):** • Space for ICT Bays: 2 Nos. • Space for Line Bays: 4 Nos.		
2	Construction of 400 kV D/C Transmission Line from Nabinagar (Stage-II) Thermal Power Plant – Kerpa GSS (Conductor: Quad Moose (ACSR))		

Sl. No.	Name of the Transmission Element	Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element
3.	LILO of 400 kV D/C Pusauli (PG) – Biharsharif (PG) Transmission Line at 400/220/132 kV Kerpa (Conductor: Twin Moose (ACSR))		
4.	LILO of 220 kV D/C Dehri – Pusauli Transmission Line at 400/220/132 kV Kerpa (Conductor: Single Zebra (ACSR))		
5.	LILO of 132 kV D/C Sasaram – Banjari Transmission Line at 400/220/132 kV Kerpa (Conductor: Single Panther (ACSR))		

Note:

1. *Designing of 400kV & 220kV level switchyards of GSS shall be as per Indian Standards and CBIP Manual for Substation and Transmission Lines having suitable facility for Communication of SCADA Data and Energy Accounting/Metering data to SLDC in real time.*
2. *The 2 number of line bays required for termination of 400kV transmission lines and their Operation & Maintenance at 3X800 MW Thermal Power Plant, Nabinagar (Stage-II), Aurangabad shall be provided by Developer of TPP i.e. NTPC Limited.*
3. *The Land for 400/220/132kV Kerpa Substation shall be arranged by the Transmission Service Provider of the current transmission scheme.*
4. *The O&M scope of TSP, related to LILO of various Transmission lines at 400/220/132kV Kerpa substations, shall be applicable from Kerpa substation to the LILO point. The O&M of existing lines beyond the LILO point shall be the responsibility of the owner / utility / TSP of existing transmission line.*

Schedule: 6

Appendix-II
(See Reg. 16.2)

1. Transmission system availability factor for a calendar month (TAFM) shall be calculated by the respective Transmission Licensee certified by the SLDC, separately for each AC and HVDC transmission system and grouped according to sharing of transmission charges.

2. NAFM for A.C. and HVDC system / sub-systems shall be calculated as follows:

% TAFM for AC system

$$= \frac{o \times AVo + p \times AVp + q \times AVq + r \times AVr}{o + p + q + r} \times 100$$

% TAFM for HVDC system

$$= \frac{s \times AVs + t \times AVt}{S + t} \times 100$$

Where

o = Total number of AC lines.

AVo = Availability of o number of AC lines.

p = Total number of bus reactors/switchable line reactors

AVp = Availability of p number of bus reactors/switchable line reactors

q = Total number of ICTs.

AVq = Availability of q number of ICTs.

r = Total number of SVCs.

AVr = Availability of r number of SVCs.

s = Total number of HVDC poles

AVs = Availability of s number of HVDC poles

t = Total number of HVDC back-to-back station blocks

AVt = Availability of t number of HVDC back-to-back station blocks

The weightage factor for each category of transmission elements shall be as under:

(a) For each circuit of AC line – Surge Impedance Loading for Uncompensated line (SIL) multiplied by ckt-km. As specified in Annexure-B.

However, for the voltage levels and/or conductor configurations not listed in Annexure-B, appropriate SIL based on technical considerations may be used for availability calculation under intimation to long-term transmission customers.

For compensated AC line, Surge Impedance Loading (SIL) shall be as certified by the SLDC considering the compensation on the line.

For shunt compensated line the reduced value of SIL shall be taken in accordance with the location of the reactor. Similarly in case of the lines with series compensation the higher SIL shall be taken as per the percentage of compensation.

(b) For each HVDC pole- The rated MW capacity x ckt-km.

(c) For each ICT bank – The rated MVA capacity.

(d) For SVC- The rated MVAR capacity (inductive and capacitive).

(e) For Bus Reactor/switchable line reactors – The rated MVAR capacity.

(f) For HVDC back-to-back station connecting two Regional grids/Intra State Sub-Stations- Rated MW capacity of each block.

The availability for each category of transmission elements shall be calculated based on the weightage factor, total hours under consideration and non-available hours for each element of that category.

FORMULAE FOR CALCULATION OF AVAILABILITY OF EACH CATEGORY OF TRANSMISSION ELEMENTS

AV*o*(Availability of *o* no. of AC lines)= $\sum_{i=1}^{o} \frac{Wi(Ti-TNAi)}{Ti} \Big/ \sum_{i=1}^{o} Wi$

AVs(Availability of s no. of HVDC pole)= $\sum_{j=1}^{s} \frac{Wj(Tj-TNAj)}{Tj} \Big/ \sum_{j=1}^{s} Wj$

AV*q*(Availability of *q* no. of ICTs)= $\sum_{K=1}^{q} \frac{Wk(Tk-TNAk)}{Tk} \Big/ \sum_{k=1}^{q} Wk$

AV*r*(Availability of r no. of SVCs)=

$$\sum_{l=1}^{r} \frac{0.5Wil(Til-TNAil)}{Til} + \sum_{l=1}^{r} \frac{0.5\,Wcl(Tcl-Acl)}{Tcl} \Big/ \sum_{l=1}^{r} 0.5Wil + \sum_{l=1}^{r} 0.5\,Wcl$$

AV*p*(Availability of *p* no. of Switched Bus Reactor)=

$$\sum_{m=1}^{p} \frac{Wm(Tm-TNAm)}{Tm} \Big/ \sum_{m=1}^{p} Wm$$

AVt (Availability of t no. of HVDC Back-to back Blocks)=

$$\sum_{n=1}^{t} \frac{Wn(Tn-TNAn)}{Tn} \Big/ \sum_{n=1}^{t} Wn$$

Where W*i* = Weightage factor for *i*th transmission line

Wj = Weightage factor for jth HVDC pole

W*k*= Weightage factor for *k*th ICT

WI*l*&WC*l*= Weightage factors for inductive & capacitive operation of *l*th SVC

Wm = Weightage factor for mth bus reactor

Wn = Weightage factor for nth HVDC back to back block

Ti, Tj, T*k*, TI*l*, TC*l*, -	The total hours of ith AC line,jth HVDC pole, kth ICT, lth SVC T*m*&T*n*(Inductive Operation), lth SVC (Capacitive Operation), *m*th Switched Bus Reactor &nth HVDC back-to-back block during the period under consideration (excluding time period for outages not attributable to transmission licensee .
TNA*i*,TNA*j*, TNA*k*-	The non-availability hours (excluding the time period for outages not attributable to transmission licensee taken as deemed availability) for ith AC line, jth HVDC pole, KthICT, lth SVC (Inductive Operartion), ith SVC (Capacitive Operation), mth Switched Bus Reactor and nth HVDC back-to-back block.
TNAI*l*, TNAC*l*, TNA*m*, TNA*n*	

Note :-

"Factors have been applied in the above formula of NAFM such that a 315 MVA transformer would have the same weightage as a 200 km long D/C line with twin conductors, and a 50 MVAR switched reactor would have one-fourth the weightage of a 315 MVA transformer. The transmission lines shall have a weightage proportional to their circuit – km and number of sub-

conductors (to which the current carrying capacity is directly proportional). Voltage has been omitted by design for the present, to deliberately enhance the weightage for 220 kV and 132 kV lines (as they are critical for supply to beneficiaries), and to suppress the weightage for 765 kV lines (since they presently carry power much below their capability). The Commission may review and modify the formula when the situation changes in future".

4. The transmission elements under outage due to following reasons shall be deemed to be available:
   i. Shut down availed for maintenance or construction of elements of another transmission scheme. If the other transmission scheme belongs to the Transmission Licensee, SLDC may restrict the deemed availability period to that considered reasonable for the work involved.
   ii. 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.
   i. Outage of elements due to acts of God and force majeure events beyond the control of the Transmission Licensee. 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 restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available.
   ii 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, HVDC, 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 shall be considered not available for the period of outage after issuance of SLDC's direction for restoration.

6. The format for issuance of Availability Certificate by SLDC is given in Appendix-I.

Schedule: 7

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

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.)

(To be provided separately in the name of each of the Long Term Transmission Customer(s), in proportion to their Allocated Project Capacity as provided in Schedule A of this document)

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 …… (being the 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] in respect of the Long Term Transmission Customer as per the terms of TSA separately to each Long Term Transmission Customer in the ratio of Allocated Project Capacities 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 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 …… [Insert name of the SPV] or the Selected Bidder, as the case may be, to make any claim against or any demand on …… [Insert name of the SPV] or the Selected Bidder, as the case may be, or to give any notice to …… [Insert name of the SPV] 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 …… [Insert name of the SPV] or the Selected Bidder, as the case may be.

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 3.1.2of 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]

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

SCHEDULE 8A
(ISB for CPG)
FORMAT FOR SURETY INSURANCE CONTRACT

(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 of India)

In consideration of the ..... [Insert name of the SPV or Selected Bidder on behalf of SPV or Lead Member in case of the Consortium, with address] (hereinafter referred to as the **'Principal Debtor'** for the purposes of this Surety Insurance Contract as provided in Section 126 of the Indian Contract Act, 1872) having been selected to undertake the Transmission Project on the terms and conditions contained in the Transmission Service Agreement dated ...../ to be executed as per the Model Transmission Service Agreement provided along with the Request for Proposal **('RFP')** and other RFP Project Documents, subject to the condition of providing a Performance Bank Guarantee or a Surety Insurance Contract guaranteeing/insuring the due performance of the obligations under the Transmission Service Agreement, to the Long Term Transmission Customers, the [Insert name and address of the Insurance Company issuing the Surety Insurance Contract and address of the head office] (hereinafter referred to as **"Surety")** hereby agrees unequivocally, irrevocably, absolutely and unconditionally, without demur, to pay to the Long Term Transmission Customers at _____ [Insert Place and Address of the Long Term Transmission Customers indicated in Transmission Service Agreement, or to the designated Bank Account of the Long Term Transmission Customers, namely.....] forthwith on demand in writing from the Long Term Transmission Customers, or any Officer authorized by it in this behalf, intimated to the Surety at the address mentioned above, any amount as may be decided by the Nodal Agency not exceeding Rupees .....Crores (Rs.....) only [Insert the amount of the Surety Insurance Contract]

The Surety hereby acknowledges, accepts and confirms that the Surety has received from the Principal Debtor, by way of premium the entire consideration for the Surety to execute, in favour of the Long Term Transmission Customers, this Surety Insurance Contract, as extended by the Surety from time to time and assuming the obligation to pay to the Long Term Transmission Customers the amount in terms hereof, without any requirement for payment of any other consideration to the Surety by the Principal Debtor, or otherwise.

This Surety Insurance Contract shall be valid and binding on the Surety, as the principal obligation of the Surety to pay on demand by the Long Term

Transmission Customers, and shall not be terminable by notice or any change in the constitution of the Surety or the term of the Transmission Service Agreement or by any other reasons whatsoever and the liability hereunder of the Surety shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed (with or without the knowledge or consent of the Surety) by or between the Principal Debtor and the Long Term Transmission Customers.

The liability of the Surety under this Surety Insurance Contract is restricted to Rupees ..... Crores (Rs) only. The Surety Insurance Contract shall remain in force until [Insert the date of validity of the Surety Insurance Contract]. The Long Term Transmission Customers shall be entitled to invoke this Surety Insurance Contract up to three hundred sixty five (365) days after the last date of the validity of this Surety Insurance Contract.

The Surety hereby expressly agrees that it shall not require any proof except for the written demand from the Long Term Transmission Customers, containing the statement that the contractor has failed to meet its contractual obligations raised at the above mentioned address of the Surety (address of Surety office should be a place in NCR only) and the Surety shall pay the amount without reference to the Principal Debtor.

Any such demand made by the Long Term Transmission Customers on the Surety shall be conclusive and binding not withstanding any difference between the Long Term Transmission Customers and the Principal Debtor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Surety undertakes not to revoke this guarantee during its currency without previous consent of the Long Term Transmission Customers and further agrees that the Surety Insurance Contract herein contained shall continue to be enforceable till the Long Term Transmission Customers discharges this contract or till the expiry of tenor (including Claim period) whichever is earlier.

The Surety shall make payment hereunder within two (02) working days on first demand without restriction or conditions and notwithstanding any objection by the Principal Debtor, namely, ... [Insert name of SPV], or [Insert name of the Selected Bidder], or ..... [Insert name of the TSP] and/or any other person. The Surety shall not require the Long Term Transmission Customers to justify the invocation of this Surety Insurance Contract, nor shall the Surety have any recourse against the Long Term Transmission Customers in respect of any payment made hereunder.

This SURETY INSURANCE CONTRACT shall be interpreted in accordance with the laws of India.

This SURETY INSURANCE CONTRACT is being executed by the Surety in terms of the IRDAI (Surety Insurance Contract) Guidelines, 2022 and the Surety hereby acknowledges, accepts and confirms that this Surety Insurance Contract shall be a Contract of Guarantee as provided under Section 126 of the Indian Contract Act, 1872 and further shall be covered by Section 14(3)(b) of the Insolvency and Bankruptcy Code, 2016 (as amended) shall be enforceable as such.

The Surety represents that this Surety Insurance Contract has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Surety in the manner provided herein.

This SURETY INSURANCE CONTRACT 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 Surety.
In order to give effect to this surety Bond, the Long Term Transmission Customers shall be entitled to act as if the surety insurer were the principal debtor and any change in the constitution of the contractor and/or the surety insurer, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the surety insurer under this surety Bond.

This SURETY INSURANCE CONTRACT shall be a primary obligation of the Surety as a Principal to pay on demand by the Long Term Transmission Customers and the Long Term Transmission Customers shall not be obliged before enforcing this Surety Insurance Contract to take any action in any court or arbitral proceedings against the Principal Debtor, namely, ... [Insert name of SPV], or ...[Insert name of the Selected Bidder], or ..[Insert name of the TSP] and/or any other person, as the case may be, to make any claim against or any demand on the Principal Debtor, namely, [Insert name of SPV], or ..... [Insert name of the Selected Bidder], or [Insert name of the TSP] and/or any other person, as the case may be, or to give any notice to Principal Debtor, namely..... [Insert name of SPV], or ..... [Insert name of the Selected Bidder], or [Insert name of the TSP] and/or any other person, 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 the Principal Debtor, namely, ... [Insert name of SPV], or ..... [Insert name of the Selected Bidder], or ..... [Insert name of the TSP] and/or any other person, as the case may be.

The Surety acknowledges that this Surety Insurance Contract is not personal to the 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 Provided that any such assignment shall be in compliance with the relevant provisions of the Insurance Act 1938

The Surety hereby agrees and acknowledges that the Long Term Transmission Customers shall have a right to invoke this Surety Insurance Contract either in part or in full, as it may deem fit. In case of invocation of this Surety Insurance Contract in part, besides making payment for the part of Surety Insurance Contract invoked, surety at the request of Long Term Transmission Customers shall amend the value of Surety Insurance Contract to the extent of balance amount.

The Surety undertakes not to revoke this Surety Contract during its currency, except with the previous express consent of the Long Term Transmission Customers in writing and declares and warrants that it has the power to issue this Surety Contract and the undersigned has full powers to do so on behalf of the Surety

In witness where of:

Signature.....
Name: .....

Power of attorney No/ Employee No. as applicable.: ……

For:

..... [Insert Name of the Surety-Insurance Company]

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

Notes:

1. The Stamp Paper should be in the name of the Executing Insurance Company.

SCHEDULE 8B
(POI for CPG)

Format for Issuance of Payment on Order Instrument

Dear Sir,

1. Indian Renewable Energy Development Agency Limited ('IREDA")/PFC/REC has sanctioned a non-fund based limit loan of Rs. (Rupees.....Only) to M/s. ……. [Insert name of SPV or selected Bidder] under the Loan Agreement executed on ..... to execute Transmission System Projects.

2. In consideration of the .....[Insert name of the SPV or Selected Bidder on behalf of SPV or Lead Member in case of the Consortium, with address] for the purposes of this Payment on Order Instrument ("POI") having been selected to undertake the Transmission Project on the terms and conditions contained in the Transmission Service Agreement dated ...../ to be executed as per the draft of the Model Transmission Service Agreement provided along with the Request for Proposal (,,RFP") and other RFP Project Documents, subject to the condition of providing a POI guaranteeing the due performance of the obligations under the Transmission Service Agreement to the Long Term Transmission Customers, the.....[Insert name and address of the non-banking financial institutions(IREDA/PFC/REC) issuing the POI and address of the head office] (hereinafter referred to as **"Guarantor")** hereby agrees unequivocally, irrevocably, absolutely and unconditionally, without demur, to pay to the Long Term Transmission Customers at ..... [Insert Place and Address of the Long Term Transmission Customers indicated in Transmission Service Agreement, or to the designated Bank Account of the Long Term Transmission Customers, namely . . . . .] forthwith on demand in writing from the Long Term Transmission Customers, or any Officer authorized by it in this behalf, intimated to the Guarantor at the address mentioned above, any amount as may be decided by the Long Term Transmission Customers not exceeding Rupees ..... Crores (Rs) only [Insert the amount of Payment on Order Instrument]

3. At the request of .....and on behalf of M/s. ....., [Insert name of SPV or selected Bidder] this Payment on Order Instrument (POI) for an amount of Rs. ..... (Rupees .....) is being issued with IREDA/PFC/REC assuming the obligations to remit such amount to MSTU from the sanctioned loan.

4. This Payment on Order Instrument comes into force immediately and IREDA/PFC/REC confirms that it has sufficient amount out of the sanctioned loan and shall maintain the required amount to pay under this Payment on Order Instrument, during the validity and claim period of this Payment on Order Instrument.

5. This POI has been issued by IREDA/PFC/REC utilizing the credit limit of M/s.....[Insert name of SPV or selected Bidder] IREDA/PFC/REC confirms that its liability to pay under this Payment on Order Instrument shall be primary and independent of whether at the time of invocation of Payment on Order Instrument, the sanctioned funds are available or not and notwithstanding, the status of M/s……

   [Insert name of SPV or selected Bidder] at the relevant time and to whether IREDA/PFC/REC is able to recover the amount advanced by it to the said developer.

6. IREDA/PFC/REC and M/s. ……[Insert name of SPV or selected Bidder] hereby acknowledges, accepts and confirms that this Payment on Order Instrument shall be a Contract of Guarantee as provided under Section 126 of the Indian Contract Act, 1872 and further shall be covered by Section 14(3)(b) of the Insolvency and Bankruptcy Code, 2016 (as amended) shall be enforceable as such.

7. IREDA/PFC/REC liability under this POI is restricted to Rupees Crores (Rs.....) only. This POI shall remain in force until..... [Insert the date of validity of the POI]. The Long Term Transmission Customers shall be entitled to invoke this POI up to three hundred sixty-five (365) days after the last date of the validity of this POI. This POI shall be extended from time to time for such period, as may be desired by the TSP.

8. The Guarantor hereby expressly agrees that it shall not require any proof except for the written demand from the Long Term Transmission Customers, raised at the above- mentioned address of the Guarantor (address of Guarantor office should be in NCR only) and the Guarantor shall pay the amount to the Long Term Transmission Customers without reference to the TSP.

9. Any such demand made by the Long Term Transmission Customers on the Guarantor shall be conclusive and binding not withstanding any difference between the Long Term Transmission Customers and the TSP or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The

Guarantor undertakes not to revoke this guarantee during its currency without previous consent of the Long Term Transmission Customers and further agrees that the POI herein contained shall continue to be enforceable till the Long Term Transmission Customers discharges this contract or till the expiry of tenure or (including Claim period) whichever is earlier.

10. The Guarantor shall make payment hereunder within two (02) working days on first demand without restriction or conditions and notwithstanding any objection or disputes raised by the TSP, namely, [Insert name of SPV], or [Insert name of the Selected Bidder], or [Insert name of the TSP] and/or any other person. The Guarantor shall not require the Long Term Transmission Customers to justify the invocation of this POI, nor shall the Guarantor have any recourse against the Long Term Transmission Customers in respect of any payment made hereunder.

11. This POI shall be interpreted in accordance with the laws of India.

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

13. This POI 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.

14. This POI Contract shall be a primary obligation of the Guarantor as a Principal to pay on demand by the Long Term Transmission Customers and the Long Term Transmission Customers shall not be obliged before enforcing this POI Contract to take any action in any court or arbitral proceedings against the TSP, namely, ... [Insert name of SPV], or..... [Insert name of the Selected Bidder], or ..... [Insert name of the TSP] and/or any other person, as the case may be to make any claim against or any demand on the TSP, namely, ... [Insert name of SPV], or ..... [Insert name of the Selected Bidder], or ..... [Insert name of the TSP] and/or any other person, as the case may be, or to give any notice to TSP, namely..... [Insert name of SPV], or ..... [Insert name of the Selected Bidder], or ..... [Insert name of the TSP] and/or any other person, 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 the TSP, namely, ... [Insert name of SPV], or ……. [Insert name of the Selected Bidder], or ..... [Insert name of the TSP] and/or any other person, as the case may be.

15. The Guarantor acknowledges that this POI Contract is not personal to the 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.

16. The Guarantor hereby agrees and acknowledges that the Long Term Transmission Customers shall have a right to invoke this POI Contract either in part or in full, as it may deem fit. In case of invocation of this POI Contract in part, besides making payment for the part of POI Contract invoked, Guarantor at the request of Long Term Transmission Customers shall amend the value of POI Contract to the extent of balance amount.

    IN WITNESS WHERE OF the non- banking financial institutions through its authorized officer, has set its hand and stamp on this..... day of.....at.....

    Signature .....
    Name:
    ……
    Power of attorney No.:
    .....For:
    .....[Insert Name of the non- banking financial institutions Company]
    Seal and Full Address, including mailing address of the Head Office

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.

Schedule: 10

SUPPLEMENTARY AGREEMENT

BETWEEN

…….…… [Insert name of the TSP]

AND

North Bihar Power Distribution Company Limited (NBPDCL)

South Bihar Power Distribution Company Limited (SBPDCL)

.
.
.

…… [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/ 2013, having its registered office at …….. (herein 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

North Bihar Power Distribution Company Limited (NBPDCL) 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,

South Bihar Power Distribution Company Limited (SBPDCL) 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 Customers as listed out in Schedule 1 of the TSA.

B. The existing Long Term Transmission Customers as listed out in Schedule 1 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 Customers as per the terms and conditions of the TSA.

D. The Allocated Project Capacity of the existing Long Term Transmission Customers as on this date……[Insert date] is as detailed below:

Table : 1

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

E. The existing Long Term Transmission Customers 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(s) 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(s)	Allocated Project Capacity (in MW)
1		
2		
3		
.		
.		

2) The new Long Term Transmission Customer(s) 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(s) 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(s) 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 Customers (as listed out in Table 1 of this Supplementary Agreement) shall apply, mutatis mutandis without any change, to the new Long Term Transmission Customers (as listed out in Table 2 of this Supplementary Agreement)

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

WITNESS:

Table 3:
WITNESS

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