

- 5.4.2.1 It is clarified that the computation of Availability under outage due to Force Measure Event shall be in accordance with BERC (Terms and Conditions for determination of Tariff) Regulations, 2007 as amended time to time and any subsequent enactment thereof.

Section-6

6.0 Change in Law

- 6.1 Change in Law means the occurrence of any of the following after the Effective Date, resulting into any addition/ reduction in the Monthly Transmission Charges, as determined or ordered by the Commission (BERC).
- 6.2 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;
- 6.3 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;
- 6.4 the imposition of a requirement for obtaining any Consents, Clearances and Permits which was not required earlier;
- 6.5 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;
- 6.6 Any change in tax or introduction of any tax made applicable for providing transmission service by the BGCL, as per the terms of this Agreement; and
- 6.7 Notwithstanding anything contained in this Agreement, Change in Law shall not cover any change on account of regulatory measures by the BERC.

6.8 Relief for Change in Law

- 6.8.1 Any adjustment in the Monthly Transmission Charges on account of Change in Law shall be determined and effective from such date, as decided by the Commission whose decision shall be final and binding on the Parties, subject to rights of appeal provided under applicable Law. Further, in case of Intra State Transmission System systems awarded through competitive bidding process under section 63 of the Electricity Act, the reference date for determining the implications of Change in law shall be seven (7) days prior to the relevant bid due date for submission of tariff bid.

Section-7

7.0 Events of Default and Termination

7.1 Event of Default of the BGCL

7.1.1 The occurrence and continuation of any of the following events shall constitute an BGCL Event of Default, unless any such BGCL Event of Default occurs as a result of the BSP(H)CL Event of Default or a Force Majeure Event:

7.2 If the BGCL:

7.2.1 assigns, mortgages or charges or purports to assign, mortgage or charge any of its assets or rights related to its assets in contravention of the provisions of this Agreement.

7.2.2 transfers or vests 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

- (a) 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;
- (b) is to a transferee who assumes such obligations under this Agreement remains effective with respect to the transferee.

7.3 If:

7.3.1 the BGCL 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

7.3.2 any winding up or bankruptcy or insolvency order is passed against the BGCL; or

7.3.3 the BGCL 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 BGCL will not be an BGCL Event of Default where such dissolution or liquidation of the BGCL is for the purpose of a merger, consolidation or reorganization with the approval of the BERC as per the applicable provisions of BERC regulations as amended from time to time and any subsequent enactment thereof.

7.3.3.1 Revocation of the transmission license of the BGCL; or

7.3.3.2 The BGCL fails to achieve monthly target availability, as specified in

BERC Regulations for a period of six (6) months or for a non-consecutive period of six (6) months with any continuous aggregate period of eighteen (18) months except the availability is affected by Force Majeure Events as per Clause 5; or

7.3.3 Any of the representations and warranties made by the BGCL in Clause 9.6.1 of this Agreement being found to be untrue or inaccurate; or

7.4 The BGCL fails to comply with the prevailing regulations including the Bihar Electricity Grid Code 2010 or is in material breach of this Agreement and such material breach is not rectified by the BGCL within thirty (30) days of receipt of notice in this regard from the BSP(H)CL.

7.5 Event of Default of a BSP(H)CL

7.5.1 The occurrence and continuation of any of the following events shall constitute a BSP(H)CL Event of Default, unless any such BSP(H)CL Event of Default occurs as a result of the BGCL Event of Default or a Force Majeure Event:

7.5.1.1 If BSP(H)CL fails to comply with the prevailing regulations including the Bihar Grid Code 2010 or is in material breach of this Agreement and such material breach is not rectified by the said BSP(H)CL within thirty (30) days of receipt of notice in this regard from the concerned BGCL;

7.5.1.2 Any of the representations and warranties made by the BSP(H)CL in Clause 9.5.1 of this Agreement being found to be untrue or inaccurate; or

7.5.1.3 If

(a) a BSP(H)CL 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

(b) any winding up or bankruptcy or insolvency order is passed against a BSP(H)CL; or

(c) a BSP(H)CL 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 it shall not constitute a BSP(H)CL Event of Default where such dissolution or liquidation of BSP(H)CL is for the purpose of a merger consolidation or reorganization and where the resulting

entity has the financial standing to perform its obligations under this Agreement, similar to BSP(H)CL and expressly assumes all obligations of BSP(H)CL under this Agreement and is in a position to perform them.

7.6 Cessation of BGCL being Party to this Agreement

- 7.6.1 Upon the occurrence and continuance of the BGCL Event of Default under Clause 7.1, the BSP(H)CL shall serve notice on the BGCL, with a copy to the Commission, which shall specify in reasonable detail, the circumstances giving rise to such notice.
- 7.6.2 Following the issue of such notice, as mentioned in Clause 7.6.1, the Consultation Period shall apply and BSP(H)CL and the BGCL 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.
- 7.6.3 During the Consultation Period, the BGCL shall, save as otherwise provided in this Agreement, continue to perform its obligations under this Agreement, and it shall not remove any material or equipment, without prior consent of the BSP(H)CL.
- 7.6.4 Following the expiry of the Consultation Period, unless the BGCL and the BSP(H)CL shall have otherwise agreed to the contrary or the circumstances giving rise to such notice as mentioned in Clause 7.6.1 shall have ceased to exist or shall have been remedied, the concerned BGCL shall cease to be a Party to this Agreement and the BSP(H)CL shall issue a written notice ("Termination Notice") of thirty (30) days to this effect with a copy to the Commission and PGCIL. Unless the Lenders of the BGCL have exercised their rights of substitution as per the provisions of Clause 8.3 of this Agreement and the Commission has agreed to such substitution rights of the Lenders or otherwise directed by the Commission, BGCL shall cease to be a Party to this Agreement on the date of expiry of the Termination Notice. Thereupon, the BSP(H)CL shall approach BERC seeking revocation of the transmission license as per the provisions of the Electricity Act, 2003.

7.7 Cessation of BSP(H)CL being Party to this Agreement

- 7.7.1 Upon the occurrence and continuance of a BSP(H)CL Event of Default under Clause 7.5, the BGCL may serve notice on the BSP(H)CL, with a copy to the Commission (BERC), which shall specify in reasonable detail, the circumstances giving rise to such Notice.
- 7.7.2 Following the issue of such notice, as mentioned in Clause 7.7.1, the Consultation Period shall apply and BGCL and BSP(H)CL 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.

7.7.3 During the Consultation Period, the .BSP(H)CL shall, save as otherwise provided in this Agreement, continue to perform its obligations under this Agreement.

7.7.4 Following the expiry of the Consultation Period, unless the BGCL and the BSP(H)CL shall have otherwise agreed to the contrary or the circumstances giving rise to such notice as mentioned in Clause 7.7.1 shall have ceased to exist or shall have been remedied, the BSP(H)CL shall cease to be a Party to this Agreement and the BGCL shall issue a written notice ("Termination Notice") of thirty (30) days to this effect with a copy to the Commission (BERC) and Principal Secretary, Department of Energy, Govt. of Bihar. The BSP(H)CL shall cease to be a Party to this Agreement on the date of expiry of the Termination Notice.

Section 8

8.0 Assignments and Charges

8.1 Assignments

8.1.1 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 Clause 8.2.4

8.2 Permitted Charges

8.2.1 BGCL shall not create or permit to subsist any encumbrance over all or any of its rights and benefits under this Agreement except as permitted in this Agreement.

8.2.2 BGCL may create any encumbrance over all or part of the receivables or its transmission assets in favour of the Lenders or the Lenders' Representative on their behalf, as security for amounts payable under the Financing Agreements.

Provided that:

- (a) the Lenders or the Lenders' Representative on their behalf shall have entered into the Financing Agreements; and
- (b) any encumbrance granted by BGCL in accordance with this Clause 8.2.2 shall contain provisions pursuant to which the Lenders or the Lender's Representative on their behalf agrees unconditionally with the BGCL to release from such encumbrances upon payment by the BGCL to the Lenders of all amounts due under the Financing Agreements.

8.2.3 Clause 8.2 does not apply to:

8.2.3.1 liens arising by operation of law (or by an agreement

evidencing the same) in the ordinary course of provision of transmission services by the BGCL; or

8.2.3.2 pledges of goods, the related documents of title and / or other related documents, arising or created in the ordinary course of provision of transmission services for raising working capital loans by BGCL; or

8.2.3.3 security arising out of retention of title provisions in relation to goods acquired in the ordinary course of provision of transmission services by BGCL.

8.2.4 Neither BGCL nor BSP(H)CL can relinquish or transfer its rights and obligations, without prior approval of the Commission, save when such encumbrance is created under Clause 8.2.2.

8.3 Substitution Rights of the Lenders of BGCL

8.3.1 BGCL shall operate and maintain its transmission assets under the provisions of its transmission license granted by the Commission and the provisions of this Agreement and can not assign the transmission license or transfer its transmission assets or part thereof to any person by sale, lease, exchange or otherwise, without the prior approval of the Commission.

Section 9

9.0 Governing Law and Dispute Resolution

9.1 Governing Law

9.1.1 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 exclusive jurisdiction of appropriate courts in Patna.

9.2 Amicable Settlement:

9.2.1 A Party BSP(H)CL or BGCL is entitled to raise any claim, dispute or difference of whatever nature arising under, out of or in connection with this Agreement by giving a written notice to the other Party, which shall contain:

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

9.2.2 The Party against which the Dispute has been raised ("Party



in Dispute") shall, within thirty (30) days of issue of notice issued under Clause 9.2.1, furnish:

(a) counter-claim and defenses, if any, regarding the Dispute;

and

(b) all written material in support of its defenses and counter-claim.

9.2.3 Within thirty (30) days of issue of notice by the Party pursuant to Clause 9.2.1 if the Party in Dispute does not furnish any counter claim or defense under Clause 9.2.2, or thirty (30) days from the date of furnishing counter claims or defense 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 Clause 9.2.3, the Dispute shall be referred for dispute resolution in accordance with Clause 9.3.

9.3 Dispute Resolution

9.3.1 It is agreed to and undertaken by the Parties hereto that any difference or dispute that may arise by and between Parties in the interpretation of this Agreement or other matters arising out of this Agreement, shall be resolved as far as practicable, through mutual negotiations failing which the matter shall be referred to Arbitration. The Arbitration shall be proceeded and resolved as per provisions of Electricity Act, 2003, If the dispute is in respect of any matter covered under the Electricity Act, 2003 otherwise the provision of Arbitration Act, 1996 will be applicable. The Arbitrator(s) will be an independent person(s) mutually agreed by both the parties. The jurisdiction of arbitration shall be at Patna unless otherwise mutually agreed between the parties.

9.3.2 The language of the Arbitration shall be English.

9.3.3 Courts at Patna shall have exclusive jurisdiction.

9.4 Continuity in Performance of Obligations

9.4.3 Notwithstanding the existence of any Dispute and difference referred to as provided in Clause 9.3 above and save as the Commissioner the Arbitration Tribunal may otherwise direct by a final or interim order, the Party who raised the Dispute pursuant to Clause 9.2.1 and the Party in Dispute hereto shall continue to perform their respective obligations (which are not in dispute) under this Agreement.



9.5 Representations and Warranties

9.5 Representation and warranties of the BSP(H)CL

9.5.1 BSP(H)CL hereby represents and warrants to and agrees with the BGCL as follows and acknowledges and confirms that the BGCL are relying on such representations and warranties in connection with the transactions described in this Agreement:

9.5.1.1 It has all requisite powers and has been duly authorized to execute and consummate this Agreement;

9.5.1.2 This Agreement is enforceable against the BSP(H)CL in accordance with its terms;

9.5.1.3 The completion of the transactions contemplated by this Agreement on the part of BSP(H)CL 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 BSP(H)CL is a party or to which the BSP(H)CL is bound, which violation, default or power has not been waived;

9.5.1.4 The BSP(H)CL is not insolvent and no insolvency proceedings have been instituted, nor threatened in writing or pending by or against the BSP(H)CL; and

9.5.1.5 There are no actions, suits, claims, proceedings or investigations pending or, to the best of the BSP(H)CL's knowledge, threatened in writing against the BSP(H)CL 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 Judgements, decrees or orders of any such courts, commission, arbitrator or governmental agencies or authorities, which materially and adversely affect its ability to comply with its obligations under this Agreement.

9.5.2 BP(H)CL make all the representations and warranties above to be valid as on the date of this Agreement.

9.6 Representation and warranties of the BGCL:

9.6.1 This Agreement has been made, executed and signed in consonance with the provisions of the Share Holders Agreement executed between BSP(H)CL and PGCIL on 29.12.2012 and not in derogation of any of the provision of that Agreement. In case of any confusion giving rise to any

dispute the provisions of the Share Holders Agreement on that issue, if available there, will prevail and will be final and binding on the parties.

- 9.7 BGCL makes all the representations and warranties above to be valid as on the date of this Agreement.

Section 10

10.0 Indemnification

10.1 Indemnification by the BSP(H)CLs and BGCL

10.1.1 The BSP(H)CL agree to indemnify from and against any and all damages, losses, liabilities, obligations, claims of any kind including any tax liability, interest, cost, fee, or expenses (including, without limitation, reasonable attorneys' fees and expenses) (collectively, "Losses"), suffered, incurred or paid, directly, as a result of, in connection with or arising out of exercise of BGCL's obligations of billing and collection of transmission charges pursuant to and in accordance with this Agreement.

10.1.2 The BGCL agrees to indemnify BSP(H)CL from and against any and all damages, losses, liabilities, obligations, claims of any kind including any tax liability, interest, cost, fee, or expenses (including, without limitation, reasonable attorneys' fees and expenses) (collectively, "Losses"), claims, demands, action, causes of action, suits and proceeding of every kind, including those for damage to property of any person or entity (including company's employees and agents), which directly or indirectly or indirectly results from or arise out of or in connection with negligence or willful misconduct of the Company (BGCL).

10.2 Indemnity to Survive Termination

10.2.1 The obligations of the BSP(H)CLs and BGCL under Section 10 shall survive the termination of this Agreement.

Section-11

11.0 Amendment and Modification

11.1 In course of implementation of this Agreement if need arises to change/amend any of the terms and conditions of this Agreement then the parties will be free to do the same with mutual agreement in accordance with applicable laws/bye-laws/Rules/regulations.

INWITNESS WHEREOF THE PARTIES HAVE CAUSED THIS AGREEMENT TO
BE EXECUTED BY THEIR DULY AUTHORISED REPRESENTATIVE AS OF THE
DATE AND PLACE AS HEREIN AFTER APPEARING

WITNESS:

Signature: 

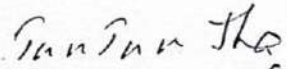
Name: K. R. I. KIRAN

Designation: COMPANY SECRETARY

Address: ..BSP(H)CL

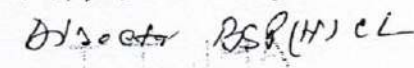
Company Secretary,
Bihar State Power Holding Company Limited

For and on behalf of BSP(H)CL

Signature: 

Name: 

Designation: Director

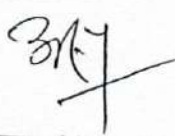
Address: 
BSP(H)CL

Signature:

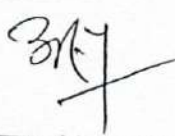
Designation:

Address:

For and on behalf of BGCL

Signature: 

Name: अरुण कुमार

Designation: 
(व्यवहार निदेशक एवं निदेशक)

Address: ग्रिड कारपोरेशन

Grid Co.

सो-2, सेक्टर-2

सो-2, Sector-2

(BSP & P)

लिमिटेड

Ltd.

(इलाहाबाद)

(U.P.)



SCHEDULE 1

DEFINITIONS

In this Agreement, unless the context otherwise requires:

"Act" means the Electricity Act, 2003 (36 of 2003) and any subsequent amendment made thereto;

"CEA" means the Central Electricity Authority constituted under Section 70 of the Electricity Act, 2003;

"BERC" or "Commission" means the Bihar Electricity Regulatory Commission constituted as per the Electricity Act, 2003;

"Central Transmission Utility" or "CTU" means the utility notified by the Central Government under Section 38 of the Electricity Act, 2003;

"Element" means 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 including ICTs, Reactors, SVC, FSC etc. forming part of the Intra State Transmission System, which is owned, operated and maintained by the concerned BGCL;

"Force Majeure" and "Force Majeure Event" shall have the meaning as assigned in Clause 5 of this agreement;

"ITSA" means the Implementation and Transmission Service Agreement to be entered into among BP(H)CL and BGCL in respect of implementation of the project and payment of Transmission services;

"Letter of Credit" or "LC" means a confirmed unconditional, irrevocable, revolving Letter of Credit opened by a BP(H)CL in favour of the BGCL with any scheduled bank;

"Monthly Transmission Charge" means the transmission charges (inclusive of incentives) payable for each calendar month as determined in accordance with the BERC Regulations as amended from time to time and subsequent amendment thereof or the transmission charges arrived through competitive bidding as adopted by the Appropriate Commission under the Act;

"Party" means a signatory to this Agreement, which shall be BSP(H)CL or BGCL

"Parties" means a joint reference to all the signatories to this Agreement, which shall be the BP(H)CLs and the BGCL;

"Prudent Utility Practices" 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 any part of the transmission system and which practices, methods and standards shall be adjusted as necessary, to take account of:

- a. operation, repair and maintenance guidelines given by the manufacturers,
- b. the requirements of Law, and
- c. the physical conditions at the Site
- d. the safety of operating personnel and human beings

"Required Commercial Operation Date" or "RCOD" means the date as stipulated by the Board of Directors of BGCL;

"Regulations" means regulatory orders issued by BERC or in its absence by CERC.

- Words and expressions used in this Agreement and not defined herein but defined in the Act or Regulations made by the Commission, shall have the meanings assigned to them respectively in the Act, and Regulations made by the Commission from time to time and General Clause Act failing which it shall bear the ordinary English meaning.



SCHEDULE 2

INTERPRETATION

Any reference in this Agreement to:

An "affiliate" of any person shall be construed as a reference to a subsidiary or holding company, or a subsidiary of a holding company, of such person;

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

"Business Day" shall be construed as a reference to a day other than Saturday on which banks are generally open for business;

"Indian Rupee" denotes lawful currency of India;

"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 be construed as a reference to any person, firm, Company, corporation, society, trust, government, or any association or partnership (whether or not having separate legal personality) of two or more of the above;

"Subsidiary" of a Company or corporation (the first mentioned Company) shall be construed as a reference to any Company or corporation:

- (i) which is controlled, directly or indirectly, by the first-mentioned Company, or
- (ii) more than half the issued share capital of which is beneficially owned, directly or indirectly, by the first-mentioned Company, or
- (iii) which is a subsidiary of another subsidiary of the first-mentioned Company

and, 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; and

the "winding-up", "dissolution", "administration", "insolvency", or "re-organization" of a Company or corporation and references to the "liquidator", "assignee", "administrator", "receiver", "administrative receiver", "receiver" and "manager", "manager" or "trustee" of a Company or corporation shall be construed so as to include any equivalent or analogous proceedings or, as the case may be, insolvency representatives or officers under the law of the jurisdiction in which such Company or corporation is incorporated or any jurisdiction in which such Company or corporation or, as the case may be, insolvency representatives or officers is incorporated or constituted or any jurisdiction in which such Company or corporation or, as the case may be, insolvency representatives or officers carries on business including the seeking of liquidation, winding-up, re-organisation, dissolution, administration, arrangement, adjustment, protection or relief of debtors.

SCHEDULE 3

Scope of Project

3.1 Description of Transmission System/ Project

The comprehensive scheme for strengthening of the transmission & sub-transmission system in Bihar for 12th Plan has been divided in Phases & parts as indicated below:

PHASE I :

- **Part-1 : Bihar Sub-transmission Phase-II extension Scheme [Annexure-1]**
- **Part-2(a) : Strengthening Scheme - Phase-1: Schemes identified for year 2012-13, 2013-14 & 2014-15 [Annexure-2a]**
- **Part-2(b) : Strengthening Scheme - Phase-2: Schemes identified for year 2015-16 & Additional Strengthening for year 2016-17 [Annexure-2b]**
- **Part-3 : Generation Linked Scheme: Transmission system for evacuation of power from Lakhisarai, Pirpainti & Buxar generation projects (identified for year 2016-17) [Annexure-3]**

Note 1: The broad indicative cost of the PHASE I transmission system is about Rs. 6300 Cr. (Part-1-300Cr., Part-2(a) – 1400 Cr., Part-2(b) – Rs. 3000 Cr., Part -3 – Rs. 1600 Cr.).

Note 2: The list in annexure is an indicative list. BSP(H)CL/Its Subsidiaries on its own or on direction of the State Government can change the scope of work/the schemes listed by addition or omission as per requirement.

Note 3: Additional scope of work shall be assigned by BSP(H)CL/Its Subsidiaries, from time to time, on mutually agreeable basis .

PHASE II :

In addition to above, BGCL shall also plan, coordinate & implement such transmission systems as may be required to enhance per capita consumption in the State of Bihar to 1275 units by the end of 2016-17, considering the generation capacity that has been/ being contracted by BSP(H)CL.

Annexure-1

Strengthening of Sub-Transmission System in Bihar – Extension of Phase-II Works

A.	Transmission Lines	Length (Km)
1.0	132kV D/c Banka(PG) – Sultanganj line	
2.0	132kV D/c Lakhisarai(PG) – Lakhisarai line #	
3.0	132kV D/c Lakhisarai(PG) – Jamui line #	
4.0	<p>Reconductoring of 132kV Transmission Lines</p> <ul style="list-style-type: none"> - Baripahari - Fatuha – Gaighat – Mithapur -Jakkanpur S/c line – 70 km - BTPS – Naugachia&Purnea – Khagaria S/c line – 280 km - Darbhanga – Pandaul S/c – 20km - Chapra – Siwan S/c – 70km - Biharsharif – Hathidah D/c and Hathidah – Lakhisarai S/c – 60.5km - Samastipur – Darbhanga S/c - MTPS – Muzaffarpur D/c - Lalmatia – Sabour S/c - MTPS – Motihari S/c - Purnea – Dalkhola S/c - Bettia – Ramnagar S/c <p>317.5km</p>	<p>820</p> <p>Note : Earlier re-conductoring of one circuit of Biharsharif-Hathidah line was proposed. Now it is re-conductoring of both circuits.</p>
5.0	<p>Reconductoring of 220kV transmission lines</p> <ul style="list-style-type: none"> - Bodhgaya – Biharsharif 220kV D/c - 80km - Biharsharif-Fatuha 220kV D/c - 40km 	<p>120</p> <p>Note : Length of Bodhgaya-Biharsharif 220 KV line to be taken as 80 kms., in place of 40 kms considered earlier</p>
6.0	Patna(PG) – Sipara(BSEB) 220kV S/c line (line length is negligible as both the substations are adjacent)	
7.0	220 kV D/c Hazipur - Fatuha Transmission Line (Restoration of the line)	12
B.	<u>Substation works</u>	Scope of Work
1.0	220/132kV Fatuuh substation (extension).	Addition of one no. 150MVA, 220/132 kV Transformer along with associated bays
2.0	220/132kV Biharsharif substation (extension)	Addition of one no. 150MVA, 220/132 kV Transformer along with associated bays
3.0	220/132kV Begusarai substation (extension)	Addition of one no. 150MVA, 220/132 kV Transformer along with associated bays
4.0	220/132kV Bodhgaya substation (extension)	Addition of one no. 150MVA, 220/132 kV

		Transformer along with associated bays
5.0	220/132kV Gopalganj substation (extension)	Addition of one no. 150MVA, 220/132 kV Transformer along with associated bays
6.0	220/132kV Darbhanga substation (extension)	Addition of one no. 150MVA, 220/132 kV Transformer along with associated bays
7.0	132/33kV Khagaul substation (extension)	Addition of one no. 50MVA, 132/33 kV Transformer along with associated bays
8.0	132/33kV Bihta substation (extension)	Addition of one no. 50MVA, 132/33 kV Transformer along with associated bays
9.0	132/33kV Sitamarhi substation (extension)	Addition of one no. 50MVA, 132/33 kV Transformer along with associated bays
10.0	132/33kV Ara substation (extension)	Addition of one no. 50MVA, 132/33 kV Transformer along with associated bays
11.0	132/33kV Nawada substation (extension)	Addition of one no. 50MVA, 132/33 kV Transformer along with associated bays
12.0	132/33kV Sabaur substation (extension)	Addition of one no. 50MVA, 132/33 kV Transformer along with associated bays
13.0	132/33kV Naugachia substation (extension)	Addition of one no. 20MVA, 132/33 kV Transformer along with associated bays
14.0	132/33kV Jainagar substation (extension)	Addition of one no. 20MVA, 132/33 kV Transformer along with associated bays
15.0	132/33kV Phulparas substation (extension)	Addition of one no. 20MVA, 132/33 kV Transformer along with associated bays
16.0	132/33kV Supaul substation (extension)	Addition of one no. 20MVA, 132/33 kV Transformer along with associated bays
17.0	132/33kV Dhaka substation (extension)	Addition of one no. 20MVA, 132/33 kV Transformer along with associated bays
18.0	132/33kV Belaganj substation (extension)	Addition of one no. 20MVA, 132/33 kV Transformer along with associated bays
19.0	220/132kV Sipara substation (extension)	Addition of one no. 150MVA, 220/132 kV Transformer along with associated bays and 1 No. 220kV Line Bay
20.0	400/220kV Patna substation (extension)	1 No. 220kV Line Bay
21.0	400/132 kV Banka substation (POWERGRID - extension)	2 No. 132kV Line Bays (for Sultanganj line)
22.0	132/33kV Lakhisarai substation (BSEB - extension)	2 No. 132kV Line Bays

32



23.0	132/33kV Jamui substation (BSEB - extension)	2 No. 132kV Line Bays
24.0	132/33kV Sultanganj substation (BSEB - extension)	2 No. 132kV Line Bays
25.0	Provision for procurement of critical equipment viz the breaker, CT's and other critical items etc. is to be made for meeting the requirement on medium term basis.	<ul style="list-style-type: none"> • 220 KV breaker : 10 sets. • 132 KV breaker : 25 sets. • 33 KV breaker : 30 sets. • 220 KV CT : 30 Nos. • 132 KV CT : 75 Nos. • 33 KV CT : 90 Nos. • Lightning Arrestor 220 KV : 05 Nos. • Lightning Arrestor 132 KV : 10 Nos. • Lightning Arrestor 33 KV : 20 Nos. • 1000 GPH oil filtration machine : 01 No.
26.0	Procurement of two sets of emergency restoration system upto 220 KV level. — <i># Note : 4 nos. 132 kV line bays required at Lakhisarai (POWERGRID) for termination of lines from Lakhisarai(BSEB) and Jamui are already under construction as part of 2x200 MVA, 400/132 kV Lakhisarai (POWERGRID) sub-station.</i>	Two Sets

Annexure-2(a)

12th Plan Transmission & Sub-Transmission System Strengthening in Bihar - Phase-1

A. Transmission system for evacuation of power from Darbhanga & Motihari 400 kV sub-stations

1	Darbhanga 400/220 kV - Darbhanga (BSEB) 220kV D/c line
2	2X160MVA + 3x50 MVA, 220/132/33 kV new sub-station at Bhikhanpura
3	LILO of Darbhanga(BSEB) - Kanti 220 kV D/c line at Bhikhanpura new
4	LILO of Kanti - Bhikhanpura 132 kV D/c at Bhikhanpura new 220/132/33 kV sub-station
5	Darbhanga 400/220 kV - Bhikhanpura new 220kV D/c line
6	2x160 MVA + 2x50 MVA, 220/132/33kV new sub-station at Samastipur-new
7	LILO of Begusarai(BSEB) - Kanti TPS 220 kV D/c at Samastipur-new sub-station
8	Darbhanga 400/220 kV - Samastipur new 220kV D/c line (S/c strung)
9	Samastipur 220/132/33 kV new S/s - Samastipur 132/33 kV S/s 132 kV D/c (Zebra Conductor)
10	2x160 MVA + 2x50 MVA, 220/132/33 kV new sub-station at Supaul-new

11	Darbhangha 400/220 kV – Supaul new 220kV D/c line
12	Supaul 220/132/33 kV new S/s - Supaul 132/33 kV S/s 132 kV D/c (Zebra Conductor)
13	Motihari 400/132 kV - Motihari (BSEB) 132 kV D/C line
14	Motihari 400/132 kV - Betiah 132kV D/C line
15	Motihari 400/132 kV – Raxaul 132kV D/C line
16	Addition of 2x50 MVA, 132/33 kV transformer at Motihari 132/33 kV sub-station
17	Addition of 1x50 MVA, 132/33 kV transformer at Raxaul 132/33 kV sub-station

B. Transmission system for evacuation of power from BTPS Extension (2x250 + 1x150 MW)

1	LILO of both circuit of 220 KV D/C Biharshariff-Begusarai line at BTPS Extn.
2	LILO of both circuit of 220 KV D/C Begusarai – Purnea lines at BTPS Extn.
3	BTPS Extn. - Hazipur 220/132kV S/s 220 KV D/C line
4	Provision of 220/132 KV, 2X150 MVA ICT at BTPS Extn. for interconnection of both projects (under the scope of Generation Project)

C. Strengthening in Intra-State Transmission System

1	Re-conductoring of Purnea (PG) - Purnea (BSEB) 132 kV line (3 ckts.) by high capacity conductor
2	Replacement of 1x20 MVA, 132/33 kV transformer by 1x50 MVA, 132/33 kV transformer at Purnea 132/33 kV sub-station
3	LILO of Baripahari - Nalanda 132 kV S/c at Biharsharif
4	Addition of 1x50 MVA, 132/33 kV transformer at Baripahari 132/33 kV sub-station
5	Replacement of 1x20 MVA, 132/33 kV transformer by 1x50 MVA, 132/33 kV transformer at Sitamarhi 132/33 kV sub-station (another 50 MVA transformer already proposed under extension of Bihar ST Phase-II Scheme)
6	2 nd circuit stringing of Kishanganj – Forbesganj 132 kV D/c line
7	2 nd circuit stringing of Forbesganj - Kataiya 132 kV D/c line
8	LILO of Madhepura(Saharsa-New) – Sonbarsha 132 kV S/c (on D/c Tower) at Saharsa (existing)
9	2nd circuit Stringing of Madhepura(Saharsa-New) - Saharsa 132kV line

10	2 nd circuit stringing of Muzaffarpur (Bhikhanpura) - Vaishali 132 kV D/c line
11	Addition of 1x50 MVA, 132/33 kV transformer at Forbesganj 132/33 kV sub-station
12	Addition of 1x50 MVA, 132/33 kV transformer at Sonenagar 132/33 kV sub-station
13	Addition of 1x50 MVA, 132/33 kV transformer at Rafiganj 132/33 kV sub-station
14	Replacement of 1x20 MVA, 132/33 kV transformer by 1x50 MVA, 132/33 kV transformer at Dumraon 132/33 kV sub-station
15	Addition of 2x50 MVA, 132/33 kV transformer at Sultanganj 132/33 kV sub-station
16	Addition of 1x50 MVA, 132/33 kV transformer at Kahalgaon 132/33 kV sub-station
17	Addition of 1x50 MVA, 132/33 kV transformer at Banka 132/33 kV sub-station
18	Addition of 1x50 MVA, 132/33 kV transformer at Bodhgaya 132/33 kV sub-station
19	Addition of 1x50 MVA, 132/33 kV transformer at Chandauti (Gaya) 132/33 kV sub-station
20	Addition of 1x50 MVA, 132/33 kV transformer at Jehanabad 132/33 kV sub-station
21	Addition of 1x50 MVA, 132/33 kV transformer at Karamnasa 132/33 kV sub-station
22	Addition of 1x50 MVA, 132/33 kV transformer at Pandaul 132/33 kV sub-station
23	Replacement of 1x20 MVA, 132/33 kV transformer by 1x50 MVA, 132/33 kV transformer at Jakkanpur 132/33 kV sub-station
24	Addition of 1x50 MVA, 132/33 kV transformer at Dehri 220/132/33 kV sub-station
25	Replacement of 2x20 MVA, 132/33 kV transformer by 2x50 MVA, 132/33 kV transformer at Hazipur 132/33 kV sub-station
26	Addition of 3x50 MVA, 132/33 kV transformer at Pusauli(Mohania) 220/132 kV sub-station being established by BSEB** ** Note : 2X160MVA, 220/132 kV sub-station at Pusauli(Mohania) with LILO of Ara - Pusauli 220 kV D/c line is already being taken up by BSEB under ADB scheme with 132 kV lines to Sasaram, Mohania (Bhabhua) & Dinara, 132/33 kV S/s. Addition of 3x50 MVA, 132/33 kV transformers are to be included in the present scheme
27	Stringing 2 nd circuit of Darbhanga-Phulparas 132 kV
28	LILO of one circuit of Darbhanga-Phulparas 132 kV D/c line at Pandaul and other circuit at Madhubani
29	2X160MVA + 3x50 MVA, 220/132/33 kV new sub-station at SKMCH-New
30	LILO of Darbhanga (BSEB) - Kanti 220 kV D/c line at SKMCH new sub-station
31	SKMCH 220/132/33 kV new S/s - Sitamarhi 132 kV D/c line
32	SKMCH 220/132/33 kV new S/s - SKMCH 132/33 kV S/s 132 kV D/c (Zebra Conductor)

33	2 nd circuit stringing of Motihari - Daka - Sitamarhi 132 kV D/c line
34	2 nd circuit stringing of Betiah - Raxaul 132 kV D/c line
35	Darbhanga 220/132 kV (BSEB) - Gangwar 132 kV D/c \$ \$ Note : In case of space constraints at Darbhanga / Gangwar, LILO of 132 kV D/c Darbhanga 220/132 kV - Darbhanga 132/33 kV line may be done at Gangwar
36	New 2x50 MVA, 132/33 kV sub-station at Shivhar
37	LILO of one circuit of Daka - Sitamarhi 132kV D/c line at Shivhar
38	Addition of 1x50 MVA, 132/33 kV transformer at Aurangabad 132/33 kV sub-station
39	Addition of 1x50 MVA, 132/33 kV transformer at Begusarai 220/132/33 kV sub-station
40	Addition of 1x50 MVA, 132/33 kV transformer at Buxar 132/33 kV sub-station
41	Addition of 2x50 MVA, 220/132/33 kV transformer at Gopalganj 220/132/33 kV sub-station
42	Addition of 1x50 MVA, 132/33 kV transformer at Katihar 132/33 kV sub-station
43	Addition of 1x50 MVA, 132/33 kV transformer at Khagaria 132/33 kV sub-station
44	Addition of 1x50 MVA, 132/33 kV transformer at Kishanganj 132/33 kV sub-station
45	Addition of 1x50 MVA, 132/33 kV transformer at Siwan 220/132/33 kV sub-station
46	Addition of 1x50 MVA, 132/33 kV transformer at Saharsa 220/132/33 kV sub-station