बिहार सरकार
ऊर्जा विभाग

पत्रांक–प्र0 / BSPTCL–04 / 2025– /पटना, दिनांक–

सेवा में,

महालेखाकार (लेखा एवं हक),
बिहार, वीरचन्द पटेल मार्ग, पटना।

विषयः– माननीय मुख्यमंत्री द्वारा "प्रगति यात्रा" के क्रम में किये गये घोषणा के आलोक में बिहार स्टेट पावर ट्रान्समिशन कम्पनी लि0 के अन्तर्गत संचरण प्रणाली के सुदृढ़ीकरण हेतु समस्तीपुर जिले के वारिसनगर प्रखंड में एक नये 2X80 एम0भी0ए0 क्षमता वाली ग्रिड सब–स्टेशन का निर्माण एवं 132 के0भी0 दरभंगा(शोभन)–समस्तीपुर संचरण लाईन एक सर्किट का वारिसनगर में एल0आई0एल0ओ0 के निर्माण हेतु 135.00 करोड़ (एक सौ पैंतीस करोड़) रूपये की नयी योजना की स्वीकृति एवं उक्त स्वीकृत राशि का 20% अर्थात 27.00 करोड़ (सताईस करोड़) रूपये पूँजीगत निवेश के रूप में इक्विटी स्वरूप एवं शेष 80% अर्थात 108.00 करोड़ (एक सौ आठ करोड़) रूपये राज्य सरकार की गारंटी पर विभिन्न वित्तीय संस्थानों से ऋण प्राप्त करने की स्वीकृति प्रदान करने के संबंध में।

आदेश–स्वीकृत।

राज्य की विद्युत प्रणाली में हो रहे चतुर्दिक विकास के कारण विद्युत मांग में उत्तरोत्तर वृद्धि के कारण संचरण प्रणाली के सुदृढ़ीकरण की आवश्यकता है। समस्तीपुर जिला में बढ़ी हुई विद्युत मांग को पूरा करने के लिए वारिसनगर प्रखंड में एक नये ग्रिड सब–स्टेशन के निर्माण की आवश्यकता है। वर्त्तमान में वारिसनगर प्रखंड के क्षेत्र को मुख्यतः समस्तीपुर ग्रिड सब–स्टेशन से विद्युत आपूर्ति की जाती है। इस कारण वारिसनगर प्रखंड में स्थित पावर सब–स्टेशन के लाईन की लम्बाई अधिक होने से गुणवत्तापूर्ण एवं निर्बाध विद्युत आपूर्ति में बाधा उत्पन्न होती है। इसके अतिरिक्त इस क्षेत्र में विद्युत आपूर्ति हेतु नये पावर सब–स्टेशन का निर्माण किया जा रहा है। अतः उक्त क्षेत्रों में निर्बाध एवं गुणवत्तापूर्ण विद्युत आपूर्ति हेतु समस्तीपुर जिला के वारिसनगर प्रखंड में एक नये 2X80 एम0भी0ए0 क्षमता वाली ग्रिड सब–स्टेशन का निर्माण एवं 132 के0भी0 दरभंगा(शोभन)–समस्तीपुर संचरण लाईन के एक सर्किट का वारिसनगर में एल0आई0एल0ओ0 के निर्माण की आवश्यकता है। इस ग्रिड सब–स्टेशन के निर्माण के पश्चात् वारिसनगर प्रखंड एवं आस–पास के क्षेत्रों में निर्बाध एवं गुणवत्तापूर्ण विद्युत आपूर्ति की जा सकेगी।

2. अतएव बिहार स्टेट पावर ट्रान्समिशन कम्पनी लि0 के अन्तर्गत संचरण प्रणाली के सुदृढ़ीकरण हेतु समस्तीपुर जिले के वारिसनगर प्रखंड में एक नये 2X80 एम0भी0ए0 क्षमता वाली ग्रिड सब–स्टेशन का निर्माण एवं 132 के0भी0 दरभंगा(शोभन)–समस्तीपुर संचरण लाईन एक सर्किट का वारिसनगर में एल0आई0एल0ओ0 के निर्माण हेतु 135.00 करोड़ (एक सौ पैंतीस करोड़) रूपये का प्राक्कलन बनाया गया है।

3. उक्त आलोक में माननीय मुख्यमंत्री द्वारा "प्रगति यात्रा" के क्रम में किये गये घोषणा के आलोक में बिहार स्टेट पावर ट्रान्समिशन कम्पनी लि0 के अन्तर्गत संचरण प्रणाली के सुदृढ़ीकरण हेतु समस्तीपुर जिले के वारिसनगर प्रखंड में एक नये 2x80 एम0भी0ए0 क्षमता वाली ग्रिड सब–स्टेशन का निर्माण एवं 132 के0भी0 दरभंगा(शोभन)–समस्तीपुर संचरण लाईन एक सर्किट का वारिसनगर में एल0आई0एल0ओ0 के निर्माण हेतु 135.00 करोड़ (एक सौ पैंतीस करोड़) रूपये की नयी योजना की स्वीकृति एवं उक्त स्वीकृत राशि का 20% अर्थात 27.00 करोड़ (सताईस करोड़) रूपये पूँजीगत निवेश के रूप में इक्विटी स्वरूप एवं शेष 80% अर्थात 108.00 करोड़ (एक सौ आठ करोड़) रूपये राज्य सरकार की गारंटी पर विभिन्न वित्तीय संस्थानों से ऋण प्राप्त करने की स्वीकृति प्रदान की जाती है।

4. उक्त राशि माँग सं0–10, मुख्य शीर्ष 4801–बिजली परियोजनाओं पर पूँजीगत परिव्यय–उप मुख्य शीर्ष–05 संचरण तथा वितरण, लघु शीर्ष–190–सार्वजनिक क्षेत्र के तथा अन्य उपक्रमों में निवेश, उपशीर्ष–0105–बिहार स्टेट पावर ट्रान्समिशन कं0 लि0 की परियोजना, विपत्र कोड–10–4801051900105 विषय शीर्ष 5401–निवेश के अंतर्गत उपबंधित राशि से विकलनीय होगा।

5. इस राशि की निकासी अवर सचिव–सह–निकासी एवं व्ययन पदाधिकारी, ऊर्जा विभाग, बिहार, पटना के द्वारा CFMS के माध्यम से सचिवालय कोषागार, सिंचाई भवन, पटना से कर बिहार स्टेट पावर ट्रान्समिशन कं0 लि0 के व्यक्तिगत लेखा खाता (पी0एल0 खाता–PTSPLA014) के मुख्य शीर्ष 8448–स्थानीय निधियों की जमा, उप मुख्य शीर्ष–00, लघु शीर्ष–120–अन्य निधियाँ, उपशीर्ष–0044–बिहार स्टेट पावर ट्रान्समिशन कं0 लि0, व्यय शीर्ष–L8448001200044 एवं प्राप्तियाँ–K–8448001200044 में जमा की जाएगी।

6. बिहार स्टेट पावर ट्रान्समिशन कं0 लि0 द्वारा राशि की निकासी कोषागार में खोले गए CFMS खाता संख्या–PTSPLA014 से की जाएगी।

7. वित्त विभाग के परिपत्र संख्या–7355 दिनांक–05.10.2007 के अनुसार इसमें महालेखाकार, बिहार, पटना से प्राधिकार पत्र की आवश्यकता नहीं है।

8. उक्त प्रस्ताव की स्वीकृति हेतु मंत्रिपरिषद् का अनुमोदन संचिका संख्या–प्र0/BSPTCL–04/2025 के पृष्ठ संख्या–17/टि0 पर दिनांक–04.02.2025 को प्राप्त है।

9. राज्यादेश पर आंतरिक वित्तीय सलाहकार की सहमति संचिका संख्या–प्र0/BSPTCL–04/2025 के पृष्ठ संख्या–20/टि0 पर दिनांक–05.02.2025 को प्राप्त है।

10. प्रस्ताव एवं प्रारूप पर सचिव का अनुमोदन प्राप्त है।

बिहार राज्यपाल के आदेश से,

ह०/–
(राज किशोर लाल)
सरकार के उप सचिव।

ज्ञापांक–प्र0/BSPTCL–04/2025– /पटना, दिनांक–

प्रतिलिपि:–महालेखाकार(लेखा परीक्षा), बिहार, पटना/कोषागार पदाधिकारी, सचिवालय कोषागार, सिंचाई भवन, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह0/–
सरकार के उप सचिव।

ज्ञापांक–प्र0/BSPTCL–04/2025– 638 /पटना, दिनांक– 07.02.2025

प्रतिलिपि:–वित्त विभाग, बजट शाखा/प्रधान सचिव, योजना एवं विकास विभाग, बिहार, पटना/प्रधान सचिव, वित्त विभाग, बिहार, पटना/अपर सचिव, मंत्रिमंडल सचिवालय विभाग, बिहार, पटना/अवर सचिव–सह–निकासी एवं व्ययन पदाधिकारी, ऊर्जा विभाग, पटना/आंतरिक वित्तीय सलाहकार/सहायक निदेशक/बजट शाखा, ऊर्जा विभाग, पटना/लेखा शाखा, ऊर्जा विभाग (तीन प्रतियों में), पटना/अध्यक्ष–सह–प्रबन्ध निदेशक, बिहार स्टेट पावर (हो0) कं0 लि0/प्रबंध निदेशक, बिहार स्टेट पावर ट्रान्समिशन कं0 लि0 एवं आई0टी0 मैनेजर, ऊर्जा विभाग, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

07/02/25
सरकार के उप सचिव।

BIHAR STATE POWER TRANSMISSION COMPANY LTD., PATNA

(A subsidiary company of Bihar State Power (Holding) Company Ltd., Patna)

CIN – U74110BR2012SGC018889

[SAVE ENERGY FOR BENEFIT OF SELF AND NATION]

Head Office, Vidyut Bhawan, Bailey Road, Patna – 800021

Name of work: - Construction of 2x80MVA, 132/33 KV GSS Warisnagr (District-Samstipur) with Construction of LILO of S/C 132 KV Darbhanga-Samastipur(Old) Transmission Line at Waisnagar with HTLS Conductor (Line Length - 18RKM).

SL NO.	Description	Price (Rs.)
1	Total Cost For GSS including GST	₹ 79,34,23,330.75
2	Total Cost For Construction of LILO of S/C 132 KV Darbhanga-Samastipur(Old) Transmission Line at Waisnagar with HTLS Conductor (Line Length - 18RKM) including GST	₹ 34,26,64,858.79
3	Total cost of project	₹ 1,13,60,88,189.54
4	Total cost of project including 1% Contingency	₹ 1,14,74,49,071.44
5	IDC @9% on 80% cost of project	₹ 8,26,16,333.14
6	Land cost (08 Acres land @ 1.5 Cr)	₹ 12,00,00,000.00
	Total Price of Project	**₹ 1,35,00,65,405.00**

13.01.2025 — A.Ex.E. (Project-I)

13/01/25 — E.Ex.E. (Project-I)

13/1/25 — E.S.E. (Project-I)

13/01/25 — C .E. (Project-I)

Estt. No. 05

Dated 13.01.2025

TECHNICALLY SANCTIONED

For ₹ 1,35,00,65,405.00 (Rupees One Hundred Thirty Five Crore Sixty Five Thousand Four Hundred Five) only including GST.

13/1/25

(I.C. Yadav)
Director (Projects)

DETAILED PROJECT REPORT

Name of Work: Construction of 2x80MVA, 132/33 KV GSS Warisnagr (District-Samstipur) with Construction of LILO of S/C 132 KV Darbhanga-Samastipur(Old) Transmission Line at Waisnagar with HTLS Conductor (Line Length - 18RKM).

Scheme/Fund: State Plan (80:20)

Background:

Bihar State Power transmission Co. Ltd (BSPTCL) a wholly Owned corporate entity under Bihar Government was incorporated under the Companies Act 1956 on 1st Nov 2012 after re-organisation of erstwhile Bihar State Electricity Board (BSEB).

Bihar State Transmission Company Limited (BSPTCL) is a State Transmission Utility under BSP(H)CL formed under the Company Act 1956 to carry out the activities related with Intra State Transmission and wheeling of electricity in the State. BSPTCL is a Deemed transmission licensee in the State of Bihar. The company is also discharging the functions of State Load Dispatch Centre from its Head-Quarter, 4th floor, Vidyut Bhawan, Patna.

BSPTCL intends to implement 100% load availaibility across all its Transmission & Sub-transmission system for which many progressive works is being carried out for the benefit of people in Bihar State.

Requirement of new GSS at Warisnagar (Samastipur)):-

Due to the long line length of 33KV line from Samastipur/Rosera/Dalsinghsarai/Shahpur Patori GSS to PSS Khanpur, Kalyanpur, Madhurapur, Warisnagar, Hayaghat, Hathauri, Proposed PSS Sari, and Chakmahashi, the quality of power is not satisfactory and low voltage problems are being faced.

Present capacity of existing 33/11 KV PSS in Warisnagar Subdivision and adjacent area along with its peak load and distance of existing and upcoming PSS from existing GSS Samastipur/Rosera/Dalsinghsarai/Shahpur Patori and proposed GSS Warisnagar (Samastipur) are described as below:

Sl. No.	Name of PSSs	Distance of PSS from presently connected GSS	Distance of PSS from Proposed GSS Warisnagar	Present Load
1.	Khanpur	42 KM	12 KM	05 MW
2.	Kalyanpur	25 KM	10 KM	11 MW
3.	Madhurapur	20 KM	10 KM	08 MW
4.	Warisnagar	23 KM	0 KM	05 MW
5.	Hayaghat	38 KM	10 KM	05 MW
6.	Hathauri	36 KM	12 KM	04MW
7.	Sari (upcoming)	20 KM	07 KM	05 MW
8.	Chakmahashi (upcoming)	40 KM	15 KM	06 MW

In light of above and increased demand of the area, new 132/33 kV Warisnagar Grid Substation has been proposed. This Grid Substation will improve the quality and reliability of the power supply in the area. It will shorten the length of the existing 33 kV lines; reduce technical losses, which will increase the overall efficiency of the power system. The proposed substation will also help maintain stable voltage levels during any power outages and shall

provide the capacity needed to support the expected growth in power demand in the Vaishali district.

CEA has technically agreed the proposal for Construction of 2x80MVA, 132/33 KV GSS Warisnagr (District-Samstipur) with Construction of LILO of S/C 132 KV Darbhanga-Samastipur(Old) Transmission Line at Waisnagar with HTLS Conductor (Line Length - 18RKM) vide MOM dated on 10.12.2024

Details of work for proposed Grid Substaion are as under:

1. Warisnagar 132/33 kV GSS having 2x80 MVA capacity
2. Construction of LILO of S/C 132 KV Darbhanga-Samastipur(Old) Transmission Lin Waisnagar with HTLS Conductor (Line Length - 18RKM).

Taken into consideration a proposal for the said work has been prepared.

Accordingly, an estimate Construction of 2x80MVA, 132/33 KV GSS Warisnagr (District-Samstipur) with Construction of LILO of S/C 132 KV Darbhanga-Samastipur(Old) Transmission Line at Waisnagar with HTLS Conductor (Line Length - 18RKM) has been prepared. The cost for the estimate has been taken from SOR 2024-25 of BSPTCL.

Schedule completion period for this work will be 18 (Eighteen) months from the date of issuance of Notification of Award (NOA).

The summary of the estimate are as detailed below:

SL NO.	Description	Price (Rs.)
1	Total Cost For GSS including GST	₹ 79,34,23,330.75
2	Total Cost For Construction of LILO of S/C 132 KV Darbhanga-Samastipur(Old) Transmission Line at Waisnagar with HTLS Conductor (Line Length - 18RKM) including GST	₹ 34,26,64,858.79
3	Total cost of project	₹ 1,13,60,88,189.54
4	Total cost of project including 1% Contingency	₹ 1,14,74,49,071.44
5	IDC @9% on 80% cost of project	₹ 8,26,16,333.14
6	Land cost (08 Acres land @ 1.5 Cr)	₹ 12,00,00,000.00
	Total Price of Project	₹ **1,35,00,65,405.00**

Annexure-XXI

Bihar State Power Transmission Company Limited (BSPTCL)

Detailed Project Report (DPR) Approval of the Govt. and estimates

Name of the Work –

"220/132/33kV GSS Begusarai"

Annexure - 8

Name of the Project:

Construction of 220/132/33kV GSS Begusarai.

NIT No:

Yet to be floted.

Scope of Work:

1 Construction of 220/132/33kV GSS Begusarai.

Estimated Project Cost

Rs. 325 Cr.

Capital Expenditure				Date of Completion	Year of Capitalisation
FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28		
-	65.00	130.00	130.00	March'28	FY 2027-28

Reasons for Investment:

Strengthening of the Transmission System of BSPTCL.

Mode of Funding:

BSPTCL is in process to receive approval for mode of Finance, Therefore, at this Stage BSPTCL has considered Debt : Equity as 80:20.

Approvals taken:

BSPTCL is in the process to receive the approval of said project.

Annexure-XXII

Bihar State Power Transmission Company Limited (BSPTCL)

Detailed Project Report (DPR)

Approval of the Govt. and estimates

Name of the Work –

"Construction of 132/33KV GSS Bhawanipur, Purnea."

And

"Construction of 132/33KV GSS Akhgaon, Bhojpur."

Annexure - 8

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केंद्रीय विद्युत प्राधिकरण
Central Electricity Authority
विद्युत प्रणाली योजना एवं मूल्यांकन प्रभाग-II
Power System Planning & Appraisal Division-II

सेवा में / To,

1. मुख्य अभियन्ता,
योजना और इंजीनियरिंग,
बिहार स्टेट पॉवर ट्रांसमिशन कंपनी लिमिटेड,
विद्युत भवन, बेली रोड,
पटना (बिहार)- 800021

Chief Engineer,
Planning & Engineering
Bihar State Power Transmission Company Ltd.,
Vidyut Bhawan, Bailey Road,
Patna (Bihar) - 800021.
E-Mail: planning.dept@bsptcl.bihar.gov.in;
ceplanningengg@gmail.com

2. मुख्य परिचालन अधिकारी
(सीटीयूआईएल), गुरुग्राम

COO (CTUIL), Gurugram

विषय: वर्ष 2034-35 तक बिहार की ट्रांसमिशन सिस्टम आवश्यकता पर चर्चा करने के लिए बैठक का कार्यवृत्त ।

Subject: Minutes of the Meeting to discuss transmission system requirement of Bihar by the year 2034-35.

महोदय / Sir,

A meeting to discuss the transmission system requirement of Bihar by the year 2034-35 was held on 18th October, 2024 at CEA. The minutes of the meeting are enclosed herewith.

भवदीय/Yours faithfully,

(राहुल राज / Rahul Raj)
निदेशक/ Director

सेवा भवन, आर. के पुरम-I, नई दिल्ली-110066 **टेलीफोन**: 011-26732348 **ईमेल**: cea-pspa2@gov.in वेबसाइट: www.cea.nic.in
Sewa Bhawan, R.K Puram-I, New Delhi-110066 **Telephone**: 011-26732348, **Email**: cea-pspa2@gov.in **Website**: www.cea.nic.in

Annexure - 8

Minutes of the Meeting to discuss transmission system requirement of Bihar by the year 2034-35 held on 18th October, 2024 CEA

A meeting to discuss transmission system requirement of Bihar by the year 2034-35 was held on 18th June, 2023 at CEA, New Delhi. Officials from CEA, CTUIL and BSPTCL participated in the meeting. The list of participants is enclosed at **Annex-I.**

1. Chief Engineer (PSPA-II) (I/c), CEA, welcomed the participants. He stated that Electricity (Transmission System Planning, Development and Recovery of Inter-State Transmission Charges) Rules 2021, provides that CEA to draw up short term plan every year on rolling basis for up to next five years and perspective plan every alternate year on rolling basis for next ten years. Further, CTU to draw up plan for Inter-State Transmission System for up to next five years on rolling basis every year. Accordingly, CEA is in process of studying requirement of transmission system up to 2034-35.

2. Director (PSPA-II), CEA stated that Bihar has submitted their intra-state transmission system requirement by the year 2024-27 and 2031-32. BSPTCL proposed the following Transmission system(s)/schemes:
   (i). Construction of 220/132/33 kV S/s at Shobhan (AIIMS), Darbhanga
   (ii). Construction of 132/33 kV S/s at Halsi, Lakhisarai
   (iii). Construction of 132/33 kV S/s at Roh, Nawada
   (iv). Construction of 132/33 kV S/s at Mahua, Vaishali
   (v). Construction of 220/33 kV S/s at GIS Bairya, Patna
   (vi). Construction of 132/33 kV S/s at Warisnagar, Samastipur
   (vii). Construction of 132/33 kV S/s at Bhawanipur, Purnea
   (viii). Construction of 132/33 kV S/s at Akhgaon, Ara
   (ix). LILO arrangement to connect the existing 132 kV circuits between Gaurichak - Jakkanpur (New) and Katra - Gaighat.
   (x). Reconductoring of 05 Nos. of 132 kV Transmission Lines.

Deliberations on the above proposals are as under:

A. Construction of 220/132/33 kV GSS at Shobhan (AIIMS), Darbhanga

3. Representative of BSPTCL stated that to feed the load of AIIMS, Darbhanga, requirement of a new 220/132/33 kV S/s at Shobhan (AIIMS), Darbhanga has been envisaged. Further, the proposed S/s at Shobhan would also increase the reliability of power supply in the Samastipur, Motipur and Madhubani area.

4. He proposed the following system:

   - Shobhan (AIIMS) 220/132/33 kV S/s having 2x200 MVA capacity at 220/132 kV level and 2x80 MVA capacity at 132/33 kV level.
   - Associated lines:
     - LILO of Darbhanga (DMTCL) – Motipur 220 kV D/c with Single Zebra (24 ckm).
     - LILO of Darbhanga – Samastipur 132 kV S/c with HTLS at Shobhan (34 ckm)
     - Shobhan (AIIMS) – Madhubani 132 kV D/c with Single Moose (82 ckm)

5. Representative of CTUIL stated that in the system studies with the proposed system, power flow observed to be within permissible limits.

6. After deliberations, following transmission system was agreed to be implemented as intra-state transmission system of Bihar:

S.No.	Scope of Transmission Scheme	Capacity/length
1.	Establishment of Shobhan (AIIMS) 220/132/33 kV S/s.	• 220/132 kV, 200 MVA ICTs – 2 Nos. • 132/33 kV, 80 MVA ICTs – 2 Nos.
2.	Shobhan (AIIMS) – Madhubani 132 kV D/c with Single Moose	82 ckm
3.	LILO of Darbhanga (DMTCL) – Motipur 220 kV D/c with Single Zebra	24 ckm
4.	LILO of Darbhanga – Samastipur 132 kV S/c with HTLS at Shobhan	34 ckm
Note: Provision of sufficient space for ICTs/bays for future expansion shall be kept.		

B. Construction of 132/33 kV S/s at Halsi, Lakhisarai

7. Representative of BSPTCL stated presently the area of around Halsi is being fed through long 33 kV lines. Further, the load demand of the area is also increasing. In order to increase reliable power supply to Halsi and nearby areas and to meet the increasing demand in the area construction of 132/33 kV sub-station at Halsi, Lakhisarai has been proposed. The proposed grid substation (GSS), would reduce the 33 kV feeder length of existing distribution power substation (PSS), resulting in better voltage profile. Details of proposed S/s are as under:

- Halsi 132/33 kV S/s having 2x80 MVA capacity.
- Associated lines:
  - Shekhopursarai (BGCL) – Halsi 132 kV D/c with Panther conductor (110 ckm)
  - LILO of Jamui – Lakhisarai 132 kV D/c with Panther conductor (58 ckm)

8. Representative of CTUIL stated that in the system studies with the proposed system, power flow observed to be within permissible limits.

9. After deliberations, following transmission system was agreed to be implemented as intra-state transmission system of Bihar:

S.No.	Scope of Transmission Scheme	Capacity/length
1.	Establishment of Halsi 132/33 kV S/s.	132/33 kV, 80 MVA ICTs – 2 Nos
2.	Shekhopursarai (BGCL) – Halsi 132 kV D/c with Panther conductor	110 ckm
3.	LILO of Jamui – Lakhisarai 132 kV D/c with Panther conductor	58 ckm
Note: Provision of sufficient space for ICTs/bays for future expansion shall be kept.		

C. Construction of 132/33 kV S/s at Roh, Nawada

10. Representative of BSPTCL stated the area nearby Roh are fed through long 33 kV lines. In view of increased demand, new 33 kV PSS are also planned by the DISCOM. In order to meet the anticipated demand upto 64 MW and to supply reliable power in

the area construction of the 132/33 kV Grid Substation at Roh, Nawada has been proposed. This S/s will shorten the length of the existing 33 kV lines and reduce technical losses. The proposed substation will also help maintain stable voltage levels during any power outages. Details of proposed S/s are as under:

- Roh 132/33 kV S/s having 2x80 MVA capacity.
- Associated lines:
  - Narhat (BGCL) – Roh 132 kV D/c with Panther conductor (80 ckm)
  - Warsaliganj – Roh 132 kV D/c with Panther conductor (40 ckm)

11. Representative of CTUIL stated that in the system studies with the proposed system, power flow observed to be within permissible limits.

12. After deliberations, following transmission system was agreed to be implemented as intra-state transmission system of Bihar:

S.No.	Scope of Transmission Scheme	Capacity/length
1.	Establishment of Roh (Nawada) 132/33 kV S/s.	132/33 kV, 80 MVA ICTs – 2 Nos.
2.	Narhat (BGCL) – Roh 132 kV D/c with Panther conductor	80 ckm
3.	Warsaliganj – Roh 132 kV D/c with Panther conductor	40 ckm
Note: Provision of sufficient space for ICTs/bays for future expansion shall be kept.		

D. Construction of 132/33 kV S/s at Mahua, Vaishali

13. Representative of BSPTCL stated area nearby Mahua are fed through long 33 kV lines. In view of increased demand of the area, new 132/33 kV Mahua S/s has been proposed. This S/s will improve the quality and reliability of the power supply in the area. It will shorten the length of the existing 33 kV lines, reduce technical losses, which will increase the overall efficiency of the power system. The proposed substation will also help maintain stable voltage levels during any power outages and shall provide the capacity needed to support the expected growth in power demand in the Vaishali district. Details of proposed S/s are as under:

- Mahua 132/33 kV S/s having 2x80 MVA capacity
- Associated lines:
  - Tajpur-Mahua 132 kV D/c with Panther conductor (80 ckm)
  - LILO of 2nd ckt of Hajipur(New) – Samastipur 132 kV transmission line at Mahua S/s (48 ckm)

14. Representative of CTUIL stated that in the system studies with the proposed system, power flow observed to be within permissible limits.

15. After deliberations, following transmission system was agreed to be implemented as intra-state transmission system of Bihar:

S.No.	Scope of Transmission Scheme	Capacity/km
1.	Establishment of Mahua 132/33 kV S/s.	132/33 kV, 80 MVA ICTs – 2 Nos.
2.	Tajpur-Mahua 132 kV D/c with	80 ckm

	Panther conductor	
3.	LILO of 2nd ckt of Hajipur(New) – Samastipur 132 kV transmission line at Mahua S/s	48 ckm
Note: Provision of sufficient space for ICTs/bays for future expansion shall be kept.		

E. Construction of 220/33 kV S/s at GIS Bairya, 132/33 kV S/s at Warisnagar, 132/33 kV S/s at Bhawanipur and 132/33 kV S/s at Akhgaon

16. After deliberations, it was decided that to examine the requirement of the above mentioned transmission systems, further studies need to be carried out. BSPTCL was requested to submit the relevant data at the earliest.

F. LILO arrangement to connect the existing 132 kV circuits between Gaurichak - Jakkanpur (New) and Katra - Gaighat.

17. Representative of BSPTCL stated that presently, both Katra and Gaighat GSSs receive power from the Fatuha GSS. With this configuration, there are limitations on power delivery during outages of any one circuit. It was also mentioned that Gaurichak – Fatuha 132 kV transmission line has been made loop in loop out (LILO) at 400/220/132/33 kV Jakkanpur (New) substation. Existing arrangement is shown in Figure 1 below.

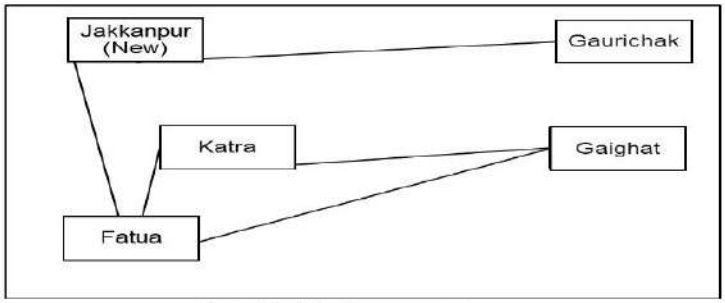

Figure 1 Existing Arrangement

18. As the Jakkanpur (New) – Gaurichak 132 kV S/c transmission line is passing nearby to Katra-Gaighat 132 kV S/c transmission line, BSPTCL proposed to make LILO of the existing 132 kV circuits between Gaurichak – Jakkanpur (New) and Katra – Gaighat to form (i) Jakkanpur (New) – Katra 132 kV S/c Transmission Line and (ii) Gaurichak – Gaighat 132 kV S/c Transmission Line. The proposed arrangement is shown at Figure 2 below.

Annexure - 8

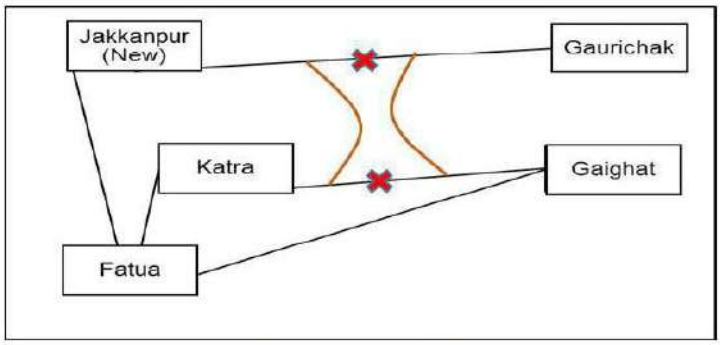

Figure 2 Proposed Arrangement

19. The new configuration will enhance the overall reliability of the power supply. Additionally, it will increase capacity by providing additional power supply to these GSSs, removing limitations experienced during outages.

20. After deliberations, the proposal of BSPTCL to make LILO of the existing 132 kV circuits between Gaurichak – Jakkanpur (New) and Katra – Gaighat to form (i) Jakkanpur (New) – Katra 132 kV S/c Transmission Line and (ii) Gaurichak – Gaighat 132 kV S/c Transmission Line was agreed to be implemented as intra-state transmission system of Bihar.

G. Reconductoring of 05 Nos. of 132 kV Transmission Lines.

21. Representative of BSPTCL proposed reconductoring of following 5 Nos. of 132 kV Transmission Lines with Panther equivalent HTLS conductor, due to increase in load of Grid Sub-station, system improvement and to enhance the of power availability by complying N-1 contingency (of transmission lines).
    (i). Pusauli – Kochas – Dehri 132 kV S/c line
    (ii). Purnea – Dhamdaha 132 kV S/c line
    (iii). Darbhnaga – Madhubani 132 kV D/c line
    (iv). Chhapra – Ekma – Raghunathpur 132 kV S/c line
    (v). Bettiah – Narkatiyaganj 132 kV S/c line

22. After deliberations, it was decided that to examine the requirement of the reconductoring of above mentioned transmission lines, further studies need to be carried out. BSPTCL was requested to submit the relevant data at the earliest.

H. Repurposing of unit – 6 & 7 of Barauni TPS as synchronous condenser

23. Chief Engineer (I/c), CEA stated that during a meeting held under the Chairperson CEA, it was directed to conduct studies for exploring the possibility of using generators of unit – 6 & 7 of Barauni Thermal Power Station, as synchronous condenser.

24. BSPTCL was requested to share their inputs.

I. Any other matter

25. BSPTCL to submit the node wise demand and generation details, requirement of transmission system and system studies up to the year 2034-35 at the earliest.

Annexure-XXIII

Bihar State Power Transmission Company Limited (BSPTCL)

Detailed Project Report (DPR)

Approval of the Govt. and estimates

Name of the Work –

"Construction of 220/33KV GSS Bairiya, Patna."

Annexure - 8

Annexure-I

List of Participants

Sl. No	Name & Designation	Email-id
Central Electricity Authority		
1.	Sh. B.S. Bairwa, Chief Engineer (PSPA-II) (I/c)	bs.bairwa@nic.in
2.	Sh. Rahul Raj, Director (PSPA-II)	rahulraj@nic.in
3.	Sh. Manish Maurya, Deputy Director (PSPA-II)	manishmaurya.89@nic.in
4.	Sh. Ajay Malav, Assistant Director (PSPA-II)	ajaymalav.cea@gov.in
CTUIL		
5.	Sh. Anupam Kumar, Sr. Manager	i.anupamk@powergrid.in
6.	Sh. Divesh Kamdar, Engineer	diveshkamdar@powergrid.in
7.	Sh. Amit Kumar, Engineer	emailamit0014@powergrid.in
BSPTCL		
8.	Sh. Sunil Agrawal, Director (Project)	
9.	Sh. Kumar Prasant, CE (P&E)	ceplaningengg@gmail.com
10.	Sh. Rakesh Kumar , ESE (P&E)	rk.bsptcl@gmail.com
11.	Sh. Abhishek Kumar, EEE(P&E)	abhishek.bsptcl@hotmail.com

Annexure - 8

Minutes of 11th Meeting of State Level Standing Committee held on dated 12-07-2024

Attendance: Annexure 1

Meeting started with the welcome notes of Chief Engineer-P&E, BSPTCL explaining the requirement of various elements necessary for Strengthening of BSPTCL Transmission System.

All the points related to load growth and subsequent planning for quality & uninterrupted power supply to the State were discussed in detail.

Discussion & Deliberations:

Item 1: Renovation and Modernization (R&M) of 6 nos. of GSSs:

- R&M of some old GSS was approved by State Govt. considering the requirements to change the equipments such as Isolator, CT, PT, Battery & Battery Charger, LT Switchgear etc. as these equipments are much old and protection system is getting compromised. R&M work of few old GSS have already been completed in the past.
- R&M of two nos. 220/132/33KV GSS **Khagaul & Bodhgaya** and Four nos. of 132/33 kV GSSs – **Jehanabad, Banjari, Sheikhpura, Hajipur** have been considered.
- The said work includes replacement of older 132KV & 33KV isolators, CTs, PTs and replacement of 132 KV C&R Panels, Battery & Battery charger, LT switchgear etc along with necessary associated works.
- This will ensure better utilization of transformation capacity and GSS.

DELIBERATION: Members agreed on the above proposal and suggested to include old GSSs one by one on basis of requirement in future time frame in Rolling Plan [2027-2028]. Members also suggested to take care the work of implementation of SAS during R&M to avoid duplicacy of work.

Item 2: Evacuation of 50 MW Solar Power from Avaada to Banka (New)

- M/s AVAADA Clean Sustainable Energy Private Limited submitted the application for planning and grant of connectivity for power evacuation of 50 MW Solar Power at 132 KV level at Banka (New) GSS
- Single circuit single strung (SCSS) connectivity with one 132 KV bay adjacent to existing switchyard had been allocated to M/s ACSEPL (AVAADA) as it seems technically feasible for evacuating 50 MW power of M/s ACSEPL solar power at 132 KV level at Banka (New) GSS
- In view of above, following scheme has been finalized for M/s Avaada and agenda had already been placed in ERPC:

  1. Connectivity of 50 MW Solar power plant at Banka (New) GSS through ACSEPL-Banka (New), SCSS, Panther.

  2. Allocation of one 132 KV bay adjacent to existing switchyard of Banka (New) GSS to M/s ACSEPL

DELIBERATION: Members agreed on the above proposal with allocation of 132 kV Bay adjacent to existing system at Banka (New).

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Item 3: Reconductoring of 220 kV and 132 kV Transmission Lines

- BSPTCL has planned for Reconductoring of 220kV and 132kV Transmission Lines with HTLS equivalent to Zebra and Panther conductor, respectively based on reasons mentioned below-

Increase in Load of Grid Sub-station
System improvement
Enhancement of power availability by complying N-1 contingency (of transmission lines)
High-Capacity conductor at Source points
Evacuation of power from Generating Plants (BTPS and TTPS)

- **Ampacity of HTLS conductor at 180 deg C as per CEA Planning Manual**
  1. Eq. to Panther (Casablanca): 1049 A
  2. Eq. to Zebra (Drake): 1539 A
- The proposal/ Scheme is already approved by CEA in its meeting on Transmission Planning of Bihar.
- Following transmission Lines have been considered for Reconductoring as mentioned below: -
- **LIST 1 – 12 nos. of Lines – 10th SLSC**

Sl. No.	Name of the lines
1	220 KV Darbhanga (DMTCL)-Darbhanga (220 KV) DCDS
2	220 KV BTPS – Begusarai DCDS
3	400 KV TTPS – Biharsharif S/C charged on 220kV
4	220 kV Pusauli – Nadhokhar DCDS
5	132 KV Sitamarhi – Runisaidpur (Single Circuit)
6	132 KV Begusarai – Dalsinghsarai (Single Circuit)
7	132 KV Musahari - Sitamarhi DCDS
8	132 KV Motihari (DMTCL) – Bettiah DCDS
9	132 kV Motipur – Motihari (Single Circuit)
10	132 kV Supaul – Phulparas(Single Circuit)
11	132 kV Supaul – Nirmali (Single Circuit)
12	132 kV Phulparas - Nirmali (Single Circuit)

- **LIST 2 – 5 nos. of Lines – New Agenda**

Sl. No.	Name of the lines
1	132 kV Pusauli – Kochas – Dehri S/C
2	132 kV Purnea – Dhamdaha S/C
3	132 kV Darbhanga – Madhubani DCDS
4	132 kV Chapra – Ekma – Raghunathpur S/C
5	132 kV Bettiah – Narkatiyaganj S/C

DELIBERATION: Members agreed on the above proposal and suggested to prepare a fresh list of Transmission Lines on the basis of "n" loading considering the ongoing as well as approved schemes in Rolling Plan [2027-2028].

Item 4: SAS implementation in GSS

- A substation automation system, known as SAS, is a collection of hardware and software components that are used to monitor and control an electrical system, both locally and remotely.
- BSPTCL has proposed to implement the SAS in all the existing/old 12 nos. 220/132/33 kV GSSs where SAS was not available. Accordingly, the proposal was sent to NLDC for funding under PSDF:
- Under this scheme following existing 220/132/33 kV GSSs have been considered:

1. 220/132/33 KV Bihta (New)	*7. 220/132/33 KV Begusarai*
2. 220/132/33 KV Khagaul	*8. 220/132 KV Darbhanga*
3. 220/132/33 KV Gaurichak	*9. 220/132/33 KV Pusauli*
4. 220/132/33 KV Fatuha	*10. 220/132/33 KV Dehri-On-Sone*
5. 220/132/33 KV Bodhgaya	*11. 220/132 Hajipur*
6. 220/132/33 KV Madhepura	*12. 220/132/33 KV Gopalganj*

- NLDC vide Letter No. MoP,GoI, 10/1/2014-OM [234849] dated: 16.01.2023 has given approval for funding for implementation

DELIBERATION: Members agreed on the above proposal.

- BSPTCL mentioned that they have already implemented Substation Automation System (SAS) in all new GSS under 13th plan and under implementation in various existing GSSs.
- Now, it is proposed to implement SAS at various (10 nos.) 132/33kV GSSs in Patna area viz. Bihta (Old), Digha (Old), Gaighat, Jakkanpur, Karbighaiya, Katra, Paliganj, Hatidah, Masaurhi and Barh.

DELIBERATION: Members agreed on the above proposal.

Item 5: Construction of 132/33 kV GSS at Bhorey (Gopalganj) and 132 kV Hatuha - Bhore DCDS Transmission line

- As we can notice in the District Map of Bihar, Block: Bhorey, Dist. Gopalganj is situated in the remote and densely populated region of Gopalganj.
- The 33 kV power of these areas are being fed from 132/33 kV Hathua GSS with average feeder length greater than 40 kM.
- Construction of 132/33 kV GSS with Transformation capacity (2x50 MVA) at Block: Bhorey, Dist.: Gopalganj along with associated 132 kV Hathua - Bhorey DCDS, Panther conductor has been planned to cater to load demand by minimising the feeder length resulting in better voltage profile and lowering the maintenance issue at remote place.

DELIBERATION: Members agreed on the above proposal.

Item 6: Construction of 132/33 kV GSS at Chandi (Nalanda) and 132 kV Harnaut - Chandi DCDS Transmission line

- Construction of 132/33 kV GSS with Transformation capacity (2x50 MVA) at Block: Chandi, Dist.: Nalanda along with associated **132 kV Asthawan – Chandi DCDS**, Panther conductor as primary source, has been planned to cater to load demand of 33 kV PSSs – Chandi, Nagarnausha, Bhobhi, Sirnawan, Noorsarai, Hilsa &Tharthari.
- By construction of the proposed GSS, 33KV feeder length of existing PSS will decrease & resulting in increase in voltage profile.
- 2nd source connectivity of 132 kV Harnaut - Chandi DCDS, Panther is also being considered.

DELIBERATION: Members agreed on the above proposal.

Item 7: Construction of 132/33 kV GIS at PMCH and 132 kV Digha (New) - PMCH DCDS:

- Patna Medical College and Hospital (abbreviated as PMCH) was **established in 1925** and originally known as Prince of Wales Medical College, is a medical college located in Patna, the state capital of Bihar, India
- PMCH is getting power from 132/33 kV Gaighat which was constructed in 1994 . Presently redevelopment work of PMCH is going on for making it a 5462 bed hospital aims to make PMCH a world class hospital.
- Accordingly, Health Dept., GoB has requested Energy Dept./BSPTCL for construction of new 132/33 Green GIS GSS considering expected increase in load in near future.
- After system study, BSPTCL is proposing to construct a new GIS with Green Building in the PMCH premise to provide better uninterrupted power supply to PMCH connected directly on higher voltage level source (i.e., 220/132/33 kV Digha (New)) which will provide better voltage regulation.

  Scope of work: *Construction of 132/33 kV Green GIS with Transformation capacity (2x80 MVA) along with 132 kV Digha (New) - PMCH DCDS transmission line with Single Moose Conductor.*

DELIBERATION: Members agreed on the above proposal.

Item 8: Construction of 132/33 kV GSS at Sarairanjan and 132 kV Tajpur - Sarairanjan DCDS Transmission Line:

- NBPDCL has recommended for construction of 132/33 kV GSS at Sarairanjan, Dist.- Samastipur.
- BSPTCL has performed the system study considering load details obtained from NBPDCL..
- In the load flow, load demand of 38MW has been considered in the time frame of the financial year 2026-27 and connectivity from Tajpur have been analyzed.

  Connectivity: 132 kV Tajpur-Sarairanjan DCDS, Panther.
- To cater the load demand of aforesaid feeders [Khajuri, Sarairanjan, Panchbhinda and 33KV Shree Ramjanaki Medical College (u/c)and avoid maintenance issue due to larger feeder length, proposal for construction of 132/33 kV Sarairanjan, Samastipur is essentially required.

DELIBERATION: Members agreed on the above proposal.

Item 9: Construction of 132/33 kV GIS at Maithi and LILO of 132 kV SKMCH - Mushari DCDS Transmission Line

- **Consideration:**

  Capacity: 3x80 MVA

  Connectivity: LILO of 132 kV Mushari – SKMCH DCDS, Panther
- BSPTCL is planning for construction of new GSS between Muzaffarpur and Darbhanga to cater the growing demand in the area.
- Presently, only one 132/33KV GSS SKMCH is situated between new Flyover SKMCH to Benibadh (Darbhanga NH-57) and distance between them is 50km. Moreover, proposal of capacity augmentation from 3x50MVA (=150MVA) to 3x80MVA (=240MVA) for GSS SKMCH has also been received from O&M wing.
- As such to off-load and to avoid further augmentation at SKMCH GSS, Muzaffarpur, Maithi GSS at 132/33 kV voltage level is essentially required.

DELIBERATION: Members agreed on the above proposal.

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Item 10: Construction of 132/33 kV GSS at Warisnagar and 132 kV Tajpur - Warisnagar DCDS Transmission Line

- The construction of a 132/33 kV GSS at Block-Warisnagar, Dist-Samastipur, with a transformation capacity of 2x50 MVA, along with the associated transmission line 132KV Warisnagar-Tajpur as primarly source, has been planned to cater to the load demand of approximately 49MW in the present scenario and 67MW by FY 2027-28.
- This project will support the 33KV PSSs in Khanpur, Kalyanpur, Madhupur, Warisnagar, Hayaghat, Hathauri, and the upcoming PSSs in Sari and Chakmahashi as planned by DISCOMs.
- By constructing the proposed GSS, the voltage profile of the 33KV PSSs will be maintained, and the load from the 132KV Samastipur GSS will be shifted to the proposed GSS. This shift will enhance the reliability and efficiency of the power supply in the region, ensuring a stable and consistent voltage profile for the connected PSSs.
- This proposal will be highly beneficial for the districts of Samastipur and Darbhanga, as well as the area between the Gandak and Bagmati rivers.
- 2nd source connectivity of LILO of 132KV S/C Samastipur-Darbhanga Transmission line, Panther is also being considered.

DELIBERATION: Members agreed on the above proposal.

Item 11: Construction of 132/33 kV GSS at Rupauli and LILO of 132 kV Purnea – Dhamdaha S/C Transmission Line

- The construction of a 132/33 kV GSS at Block-Rupauli, Dist-Purnea (Transformation capacity: 2x50 MVA) along with the associated Transmission line LILO of 132KV Dhamdaha-Banmankhi, Panther conductor, has been planned to cater to the load demand of, approx. 40MW in present scenario and 52MW in time frame of FY 2027-28.
- It will support 33KV PSSs Dargaha, Sondip, Bhitta, Shrimatta, W. Tola, as well as upcoming PSSs planned by DISCOMs.
- By constructing the proposed GSS, the voltage profile of 33KV PSSs will be maintained, and the load of the 132KV Dhamdaha GSS will be shifted to proposed GSS, achieving the N-1 contingency criteria for GSS Purnea and GSS Dhamdaha, which is fed by GSS Purnea.
- This proposal aims to improve the reliability and efficiency of the power supply in the Purnea district, ensuring stable and sufficient electricity for the connected areas.

DELIBERATION: Members discussed the proposal. It was deliberated to proceed ahead with feasibility for 132/33 kV GSS at Bhawanipur, Purnea in place of Rupauli. Revised proposal to be sent by NBPDCL. It was conveyed that the proposed GSS will be fed power from Purnea or/and Dhamdaha.

Item 12: Construction of 132/33 kV GSS at Halsi and LILO of 132 kV Jamui - Lakhisarai S/C Transmission line

- Construction of 132/33kV GSS at Halsi, Lakhisarai with transformation capacity 2x80 MVA has been planned to cater the load demand of upcoming and existing nearby 33kV PSSs.
- By construction of the proposed GSS, 33kV feeder length of existing PSS will decrease, resulting in better voltage profile.

BPTCL has performed the system study considering load details obtained from SBPDCL. In the load flow, load demand of 90 MW has been considered and connectivity from LILO of 132kV Jamui – Lakhisarai Transmission line has been analyzed.

DELIBERATION: Members agreed on the above proposal.

Item 13: Construction of 132/33 kV GIS at Akhgaon (Sandesh) and 132 kV Naubatpur (BGCL) – Akhgaon DCDS Transmission Line

- SBPDCL has recommended for construction of 132/33kV GSS at Akhgaon (Sandesh), Ara with transformation capacity 2x80 MVA to cater the load demand of 33kV PSSs Akhgaon, Sandesh, Azimabad, Bahiyara, Agion, Sahar, Koilwar & Narayanpur(upcoming).
- By construction of the proposed GSS, 33kV feeder length of existing PSS will decrease, resulting in better voltage profile.
- BSPTCL has performed the system study considering load details obtained from SBPDCL. In the load flow, load demand of 48 MW has been considered and connectivity from GSS Naubatpur(BGCL).

DELIBERATION: Members agreed on the above proposal.

Item 14: Construction of 220/33kV GIS at Bairiya, Patna along with associated Transmission Line

- SBPDCL requested for construction of new GSS at Bairiya, Patna(with transformation capacity of 2x50 MVA) for providing power to proposed PSS at Nandlal Chhapra, Bhogipur/Sahpur, Simra and existing PSSs.
- There is very rapid growth in the nearby area due to construction of **new ISBT and Patna metro**. Therefore, construction of new GSS at Bairiya will cater the load demand of the area and for insuring the uninterrupted power supply.

  Voltage level of 220/33kV, 3x100 MVA will be more feasible as 220kV Gaurichak – Jakkanpur (BGCL) & Gaurichak – Fatuha transmission line crosses through the proposed land. Also transmission of power at 220 kV voltage level will reduce the losses, as compared to that of at 132 kV voltage level.

DELIBERATION: Members discussed on the above proposal and it was also emphasized upon inclusion of 132KV voltage level based on feasibility and interconnection.

Item 15: Requirement of 132kV and 33kV Bays

- O&M, BSPTCL wing along with respective DISCOMs have proposed the requirement of 33 kV Bays in various Grid Sub-stations necessary for Transformer Augmentation to meet upcoming load demand.

GSSs for 33 kV Bays:

A. **LIST of SBPDCL**

Sl. No	GSS	No of 33KV Bays
1	Biharsharif	02
2	Sonenagar(old)	01
3	Belaganj	01
4	Goradih	02
5	Kahalgaon	02
6	Gaighat	04
7	Karbighaiya	03
8	Katra	05
	Total	**20**

Annexure - 8

B. LIST of NBPDCL

Sl. No	GSS	No of 33KV Bays		Net 33KV bay requirement(a+b)
		Required for Existing PSS(a)	For PSS proposed in State Plan(b)	
1	SKMCH	8	0	8
2	Vaishali	6	0	6
3	Rosera	2	0	2
4	Hathua	4	0	4
5	Muzaffarpur (Bhikanpura)	2	0	2
6	Darbhanga	2	0	2
7	Ekma	1	1	2
8	Manjhaul	1	0	1
9	Balia	1	0	1
10	Chakiya	1	0	1
11	Areraj	1	0	1
12	Sheohar	1	0	1
13	Motihari	1	1	2
14	Shahpur Patori	1	0	1
15	U'dakishanganj	2	0	2
16	Runnisaidpur	2	0	2
17	Benipatti	1	1	2
18	Pupri	1	0	1
19	Simribakhtiyarpur	2	0	2
20	Banmankhi	1	0	1
21	Dalsinghsarai	1	0	1
22	Mushahri	1	0	1
23	Khagaria (old)	0	1	1
24	Sheetalpur	0	1	1
25	Masrakh	0	2	2
26	Laukahi	0	1	1
27	Barsoi	0	2	2
28	Madhepura	0	1	1
	Total	**43**	**11**	**54**

DELIBERATION: Members agreed on the above proposal and opined that the requirement of 33 kV Bays may also be reviewed and prepared by O&M, BSPTCL in coordination with DISCOMs.

7

Item 16: Augmentation/Addition of 132/33 kV Power Transformers

A. 23 nos. of 50 MVA - cont., Ref NIT 40/PR/BSPTCL/2021 (Under Implementation)

- Considering the growth in power demand/load growth and to ensure uninterrupted power supply, capacity augmentation by addition/replacement of few 132/33 KV GSS has been planned.
- Accordingly, augmentation/ replacement of 23 nos. of 50 MVA Power Transformers are in progress against NIT 40/PR/BSPTCL/2021.

B. 10 nos. of 50 MVA & 5 nos. of 80 MVA (New Proposal)

Sl. No.	Name	Capacity in MVA	Peak Load (MW)	Remarks
1	Hajipur (old)	3x50	120	Replacement of existing 50MVA with 80MVA
2	Purnea	3x50	116	Replacement of existing 50MVA with 80MVA
3	Dumraon	2x50	77	Replacement of existing 50MVA with 80MVA
4	Siwan	3x50	115	Replacement of existing 50MVA with 80MVA
5	Muzaffarpur	3x50	104	Replacement of existing 50MVA with 80MVA
6	Bodhgaya	3x50	113	Addition
7	Goh	3x20	45	Replacement of existing 20MVA with 50MVA
8	Simri Bakhtiyarpur	2x20	29	Replacement of existing 20MVA with 50MVA
9	Tarapur	2x20	29	Replacement of existing 20MVA with 50MVA
10	Tehta	2x20	29	Replacement of existing 20MVA with 50MVA
11	Shahpurpatori	2x20	28	Replacement of existing 20MVA with 50MVA
12	Manjhaul	1x20 + 1x50	42	Replacement of existing 20MVA with 50MVA
13	Ramnagar	1x20 + 2x50	83	Replacement of existing 20MVA with 50MVA
14	Banka (old)	2x20 + 1x50	62	Replacement of existing 20MVA with 50MVA
15	Chakiya	1x20 + 1x50	48	Replacement of existing 20MVA with 80MVA

DELIBERATION: Members agreed on the proposal. Moreover, it was suggested by the committee to DISCOMs and O&M, BSPTCL to analyse the load growth and suggest the requirement of Augmentation of 50/80/160/200 MVA.

Item 17: Evacuation of 185 MW Solar Power from Kajra Solar Plant Pool:

- It has been informed by Chief Engineer, Generation the M/S Gujrat Energy Research & Management Institute (GERMI) has submitted the DRAFT DPR for 185 MW AC Solar Power at Kajra, Lakhisarai due to unavailability of necessary/ required land for 250 MW Solar Power.
- The work along with Battery Energy Storage System (BESS) has been awarded to M/S L&T.
- Earlier proposal for Evacuation of Power
  220 kV Kajra (Solar Plant) – Haveli Kharagpur DCDS, Zebra
- Revised proposal for Evacuation of Power
  LILO of 132KV D/C Haveli Kharagpur – Lakhisarai at 132 kV Kajra (Solar Plant)

DELIBERATION: Members agreed on the above proposal.

Item 18: Lakhisarai (PG) downlinking line and bays:

- BSPTCL is facing the practical problems of high voltage at 220 KV level in nearby sub-stations as well as violating N-1 criteria in some GSSs. Accordingly, system studies were performed and observed that there is need of creation of 220 kV voltage at existing 400/132 kV Banka (PG) and Lakhisarai (PG) which may be connected to the remote end grids to provide an alternate source 220 kV at Haveli Kharagpur and Goradih and to maintain better voltage regulation.
- **Creation of 220 KV System at Banka (PG) along with construction of 220 KV Banka (PG) – Goradih DCDS was agreed in the 2nd and 3rd Meeting of ERPC-TP.**
- It has been gathered from the Study that reversal of power during Peak to Off-peak period and vice versa, voltage regulation is within the permissible limit (5%) with the inclusion of 220 kV Bus system at Lakhisarai (PG) and connecting it 220/132/33 kV Haveli Kharagpur GIS, in the ring system of vicinity of 220/132 kV GSSs.
- **Scheme:**
  1) Construction of 220 kV Bus at Lakhisarai (PG) and 2 nos. 220 kV Bays at Haveli Kharagpur
  2) Construction of 220 kV Lakhisarai (PG) - Haveli Kharagpur DCDS Transmission Line
  3) Installment of 400/220 kV Auto Transformers at Lakhisarai (PG) and corresponding bays – by PGCIL
- The work has been awarded.

DELIBERATION: Members agreed on the above proposal.

Item 19: 132KV Khagaul - Digha Transmission line Construction with Monopole:

- Recently, a number of trippings and failures were observed in the cable portion due to internal growth of moisture tree which resulted in complete outage of Digha (old) GSS.
- Due to elevated Digha - AIIMS flyover and construction of roads there is severe corridor issue. Moreover, this portion is severely water logged.
- Maximum Peak Demand of Digha (old) is 145MW. Considering load growth of Digha (old) and N-1 (contingency for failure of Digha (New) or tripping of 220kV Amnour-Digha (New) T/L, it is advisable to go ahead with HTLS.
- This proposal has been received from field/O&M.
- The work has been awarded.

DELIBERATION: Members agreed on the above proposal.

ADDITIONAL AGENDA

Item 20: Evacuation Plan for Upcoming Expansion of Nabinagar Thermal Power Plant (NPGCL), Dt-Aurangabad:

- NPGCL Existing Capacity : 2x660 MW
- Being evacuated through Inter State Transmission System (ISTS) at 400/220/132 kV Chandauti (New, PMTL)
- As learnt, expansion (upcoming unit) of NPGCL is being proposed.
- BSPGCL and PMC wings may confirm for the exact quantum of power, ownership of the bus, time frame and % share for Bihar.

NOTE: *Exact expansion plan yet to be confirmed by CEA.*

DELIBERATION: Members suggested to coordinate with PMC and BSPGCL for the exact quantum of power, ownership of the bus, time frame and % share for Bihar. P&E has envisaged with PMC/BSPGCL to gather required data for performing System Study.

Item 20: Upcoming Grid Sub-stations:

Sl. No.	Proposed GSS	Reasonings
1	**400/220 kV at Buxar/ Nearby Areas with inclusion of 132 kV**	1. In case of tripping of 400/220 kV ICTs at Buxar Thermal Power Plant (BTPP), N-1 condition will be violated for Evacuation of Power from existing System. 2. To feed power to proposed Market Cluster/ SEZ which is being planned at Nawanagar. 3. To further avoid dependency from 400/220/132 kV Pusauli (PG) 4. To Evacuate additional power from proposed 3rd unit of SJVN/ Buxar Thermal Power Plant.
2	**132/33 kV GSS at Bhelahi to be upgraded at 220 kV**	NBPDCL is exploring the feasibility of 132/33 kV GSS at Bhelahi, Saharsa. However, direct connectivity of Bhelahi at 220 kV from Saharsa (New) and extending 220 kV or/and 132 kV to the GSSs situated in the vicinity will reduce burden of Drabhanga (New), Madhepura and Laukahi.
3	**132/33 kV GSS at Narkatiyaganj, West Champaran**	NBPDCL is exploring the feasibility of 132/33 kV GSS at Narkatiyaganj, West Champaran.

DELIBERATION: Members perused on the above and deliberated to come up with complete proposal.

MD, BSPTCL and MD, SBPDCL have instructed P&E, BSPTCL to work on the overall plan of SEZ so that reliable, quality and uninterrupted power supply may be ensured to Market Cluster. It was further informed to explore feasibility of such cluster at Buxar, Gaya and Bettiah (Kumarbag, Paschim Champaran & Nawanagar).

REFERENCES

1. 20th EPS
2. Bihar Power Atlas
3. Planning Procedure
4. CEA Planning Manual

Meeting ended with the votes of thanks.

Attendees

Sl. No.	Name of Officer	Designation
	BSPTCL	
	Sri Sunil Agrawal	Director (Projects)
	Sri A K Singh	Director (Operations)
	Sri Kumar Prasant	Chief Engineer (P&E)
	Sri A K Chaudhary	Chief Engineer (SO)
	Sri Perwez Alam	Chief Engineer (STU)
	Special Invitee	
	Sri Ratan Kumar	Chief Engineer (Project-I)
	BSPGCL	
	Sri A K Singh	Director (Operations)
	NBPDCL	
	Sri I.C. Yadav	Director (Projects)
	Sri Nasim Eqbal	Director (Operations)
	SBPDCL	
	Sri Deepak Kumar Singh	Director (Projects)
	Sri Vijay Kumar	Director (Operations)
	BGCL	
	Mahesh Tewari	Managing Director

Annexure-XXIV

Bihar State Power Transmission Company Limited (BSPTCL)

Detailed Project Report (DPR)

Approval of the Govt. and estimates

Name of the Work –

"Supply, Erection, Testing and Commissioning of 05 Nos. of 80 MVA Power Transformer & 10 Nos. of 50 MVA Power Transformer and its associated works by manufacturers in different GSSs of BSPTCL."

BIHAR STATE POWER TRANSMISSION COMPANY LTD., PATNA
(A subsidiary company of Bihar State Power (Holding) Company Ltd., Patna)
CIN – U74110BR2012SGC018889
[SAVE ENERGY FOR BENEFIT OF SELF AND NATION]
Head Office, Vidyut Bhawan, Bailey Road, Patna – 800021

Name of Work:- Supply, Erection, Testing and Commissioning of 05 Nos. of 80 MVA Power Transformer & 10 Nos. of 50 MVA Power Transformer and its associated Works by Manufacturers in different GSSs of BSPTCL.

Sl. No.	Description of Cost	Total Cost (in Rs.)
1	Total Price for Supply of all materials and equipment including GST	99,20,70,707.60
2	Total Price for Freight and Insurance Charges including GST	3,96,83,108.30
3	Total Price for Erection, Testing & Commissioning including GST	1,38,28,408.20
4	Total Price for Civil works including GST.	15,28,50,000.00
5	Total Price for the complete project (in Figure)	**1,19,84,39,224.00**
6	Contingency @ 3 % on (5)	3,59,53,177.00
	Grand Total (in Rs)	**1,23,43,92,401.00**

A.E.E. (Project-I) 10.06.2024 E.E.E. (Project-I) 10/06/24 E.S.E. (Project-I) 10/6/24 C.E. (Project-I) 10/6/24

Estt. No. 11 Dated 10-06-2024

TECHNICALLY SANCTIONED

For Rs 1,23,43,92,401.00 (Rs One Hundred Twenty Three Crore Forty Three Lakh Ninety Two Thousand Four Hundred One) only including GST.

10/6/24
(Sunil Agrawal)
Director (Project)

DETAILED PROJECT REPORT

Name of Work: Supply, Erection, Testing and Commissioning of 05 Nos. of 80 MVA Power Transformer & 10 Nos. of 50 MVA Power Transformer and its associated works by manufacturers in different GSSs of BSPTCL.

Scheme/Fund: Special Assistance to States for Capital Investment 2024-25

Background:

Bihar State Power transmission Co. Ltd (BSPTCL) a wholly Owned corporate entity under Bihar Government was incorporated under the Companies Act 1956 on 1st Nov 2012 after re-organisation of erstwhile Bihar State Electricity Board (BSEB).

Bihar State Transmission Company Limited (BSPTCL) is a State Transmission Utility under BSP(H)CL formed under the Company Act 1956 to carry out the activities related with Intra State Transmission and wheeling of electricity in the State. BSPTCL is a Deemed transmission licensee in the State of Bihar. The company is also discharging the functions of State Load Dispatch Centre from its Head-Quarter, 4th floor, Vidyut Bhawan, Patna.

BSPTCL intends to implement 100% load availability across all its Transmission & Sub-transmission system for which many progressive works is being carried out for the benefit of people in Bihar State.

Various requests has been made by North Bihar Power Distribution Company Limited (NBPDCL) & South Bihar Power Distribution Company Limited (SBPDCL) along with Planning & Engineering (P&E) and Operation & Maintenance (O&M) wing of BSPTCL for requirement of Power Transformer in order to meet exponentially growing peak load demand in various areas of Bihar.

The 80 MVA & 50 MVA power transformers are required at various GSS of BSPTCL for replacement with existing 20 MVA/ 50 MVA power transformer to meet required load requirement.

The details of locations where 80 MVA & 50 MVA power transformers are urgently required is as detailed below:

SL. No.	Name of GSS	Existing Capacity in MVA	Existing Capacity in MW	Peak Demand	Additional Requirement	Augmentation/ Addition
1	Hajipur Old	3x50=150	120	120	1x80 MVA	Replacement of existing 50 MVA with 80 MVA
2	Purnea	3x50=150	120	116	1x80 MVA	Replacement of existing 50 MVA with 80 MVA
3	Dumraon	2x50=100	80	77	1x80 MVA	Replacement of existing 50 MVA with 80 MVA
4	Siwan Old	3x50=150	120	115	1x80 MVA	Replacement of existing 50 MVA with 80 MVA
5	Muzaffarpur	3x50=150	120	104	1x80 MVA	Replacement of existing 50 MVA with 80 MVA
6	Bodhgaya	3x50=150	120	113	1x50 MVA	Addition
7	Goh	3x20=60	48	45	1x50 MVA	Replacement of existing 20 MVA with 50 MVA
8	Simri Bakhtiyarpur	2x20=40	32	29	1x50 MVA	Replacement of existing 20 MVA with 50 MVA
9	Tarapur	2x20=40	32	29	1x50 MVA	Replacement of existing 20 MVA with 50 MVA
10	Tehta	2x20=40	32	29	1x50 MVA	Replacement of existing 20 MVA with 50 MVA
11	Shahpurpatori	2x20=40	32	28	1x50 MVA	Replacement of existing 20 MVA with 50 MVA
12	Manjhaul	1x20+1x50= 70	48	42	1x50 MVA	Replacement of existing 20 MVA with 50 MVA
13	Ramnagar	1x20+2x50= 120	96	83	1x50 MVA	Replacement of existing 20 MVA with 50 MVA
14	Banka Old	2x20+1x50= 90	72	62	1x50 MVA	Replacement of existing 20 MVA with 50 MVA
15	Chakiya	1x20+1x50= 70	56	48	1x50 MVA	Replacement of existing 20 MVA with 80 MVA

Taken into consideration the requirements of 80 MVA & 50 MVA power transformers from Discoms and P&E (BSPTCL) and O&M (BSPTCL) and to meet any eventually, a proposal for 05 Nos. of 80 MVA Power Transformer & 10 Nos. of 50 MVA Power Transformer.

Accordingly, an estimate for procurement of 05 Nos. of 80 MVA Power Transformer & 10 Nos. of 50 MVA Power Transformer along with required accessories has been prepared. The cost for the estimate has been taken from proposed SOR 24-25 of BSPTCL.

The summary of the estimate are as detailed below:

Sl. No.	Description of Cost	Total Cost (in Rs.)
1	Total Price for Supply of all materials and equipment including GST	99,20,70,707.60
2	Total Price for Freight and Insurance Charges including GST	3,96,83,108.30
3	Total Price for Erection, Testing & Commissioning including GST	1,38,28,408.20
4	Total Price for Civil works including GST.	15,28,50,000.00
5	Total Price for the complete project (in Figure)	**1,19,84,39,224.00**
6	Contingency @ 3 % on (5)	3,59,53,177.00
	Grand Total (in Rs)	**1,23,43,92,401.00**
	(Rs One Hundred Twenty Three Crore Forty Three Lakh Ninety Two Thousand Four Hundred One) only	

Annexure-XXV

Bihar State Power Transmission Company Limited (BSPTCL)

Detailed Project Report (DPR)

Approval of the Govt. and estimates

Name of the Work –

"132/33KV GSS Amarpur, Banka."