

# ANNEXURES

LIST OF PARTICIPANTS IN THE 35<sup>th</sup> ERPC MEETING

Date: 25.02.2017

Venue: Hotel BNR Chanakya, Ranchi

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Date: 24.02.2017

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# POWER SYSTEM DEVELOPMENT FUND (PSDF)

4/3/2017

1

## PSDF Generation of Fund

- ❖ DSM Charges
- ❖ Market Splitting (Power Exchange)
- ❖ Congestion Charges
- ❖ Reactive Energy Charges
- ❖ Additional Transmission Charges from STOA advance bilateral transactions.
- ❖ Such other charges notified by central commission

**Amount deposited in PSDF is Rs. 14477 Crores as on 31.12.2016**

4/3/2017

2

## Eligible Entity

- ❖ Regional Power Committees
- ❖ Generating companies
- ❖ Transmission Licensees
- ❖ Distribution Licensees
- ❖ Load Dispatch Centers

4/3/2017

3

## Eligible Schemes

**The following categories of projects are eligible for funding from PSDF:**

- a) Creating necessary transmission systems of strategic importance.
- b) VAR management for improvement of voltage profile in the Grid.
- c) Installation of SPS, pilot and demonstrative projects, R & U of protection systems, communication, Phasor Measurement Units (PMUs) etc.
- d) Renovation and Modernization (R&M) of transmission and distribution systems for relieving congestion.
- e) Any other scheme/project in furtherance of the above objectives, such as, conducting technical studies and capacity buildings etc.

❖ Projects proposed by distribution utilities in the above areas which are incidental to interstate transmission system and have a bearing on grid safety and security .

❖ Any scheme sanctioned by the Central Government in the interest of development of power system which requires support from PSDF as part of the scheme shall be eligible for assistance from PSDF.

❖ Private sector projects would not be eligible for assistance from the Fund.

## Funding Pattern

Sr. No.	Eligible Schemes	Eligible Grant (% of the Accepted cost)
a	Creating necessary transmission systems of strategic importance.	75 %
b	VAR management for improvement of voltage profile in the Grid.	90 %
c	Installation of SPS, pilot and demonstrative projects, R & U of protection systems, communication, Phasor Measurement Units (PMUs) etc.	90 %
d	Renovation and Modernization (R&M) of transmission and distribution systems for relieving congestion.	75%
e	Any other scheme/project in furtherance of the above objectives, such as, conducting technical studies and capacity buildings etc.	100 %
<b>Note: Schemes from Sikkim (as hilly state) shall be eligible for grant upto 100 %.</b>		

4/3/2017

5

## Process of Approval of the Schemes

- ❖ Scrutiny of DPR (techno-economic appraisal) and prioritization by Appraisal Committee
  - Techno Economic Sub Group: Chaired by Member (GO & D), CEA  
(At least one meeting per month)
  - Appraisal Committee : Chaired by Chairperson, CEA.  
(One meeting in two months)
- ❖ Concurrence of CERC
  - For ascertaining that the scheme falls within the scope of PSDF Regulations.  
( 15 to 60 days for concurrence)
- ❖ Monitoring Committee : Chaired by Secretary (Power), MoP.  
( One meeting in three months)

4/3/2017

6

## All India Schemes Approved

Sr. NO.	Regions	No. of Schemes	Grant Sanctioned (Amount in Rs. Crores)
1	Northern Region	14	1332.92
2	Western Region	9	246.62
3	Southern Region	13	596.83
4	Eastern Region	9	1103.14
5	North Eastern Region	9	604.17
6	All India Schemes (PGCIL,REC)	3	3368.27
<b>Total</b>		<b>57</b>	<b>7251.95</b>

4/3/2017

7

## Eastern Region

State/UT	No. of Schemes
<b>Bihar</b>	3
<b>West Bengal</b>	2
<b>Odisha</b>	1
<b>DVC</b>	1
<b>ERPC</b>	1
<b>Powergrid</b>	1
<b>TOTAL</b>	9

**Total Grant Sanctioned= Rs.1103.14 Cr.**

## Approved Schemes of Bihar

All figures in crores

Sl. No.	Name of Scheme	Date of Submission of Scheme	Estimated Cost	Estimated Cost Accepted	Grant Approved	Grant Released	%age of Grant Released
1	Renovation and Upgradation of protection system of substations of BSPTCL	18-09-2014	74.13	71.35	64.22 on 11.05.2015	18.68	29.09
2	Installation of capacitor bank for Improvement of Voltage profile in BSPTCL, Bihar.	9-01-2016	24.94	20.98	18.88 On 05.09.2016	0	0
3	Renovation and Upgradation of the protection and control system of 132/33kV Grid Sub Station of BSPTCL	9-01-2016	63.15	54.69	49.22 02.01.2017	0	0
<b>Total Three Schemes</b>			<b>162.22</b>	<b>147.02</b>	<b>132.32</b>		

4/3/2017

9

## Approved Schemes of West Bengal

All figures in crores

Sl. No.	Name of Scheme	Date of Submission of Scheme	Estimated Cost	Estimated Cost Accepted	Grant Approved	Grant Released	%age of Grant Released
1	Renovation and Upgradation of protection system of substations	30-07-2014	136.45	120.67	108.6 On 21.12.2014	11.0	10.1
2	The Renovation and Modernization of 220/ 132kV STPS switch yard and implementation of Substation Automation System.	23-12-2015	28.5	26.09	23.48 On 05.09.2016	0	0
<b>Total (Two Schemes)</b>			<b>164.95</b>	<b>146.76</b>	<b>132.08</b>		

4/3/2017

10

## Approved Scheme of Odisha

All figures in crores

Sl. No.	Name of Scheme	Date of Submission of Scheme	Estimated Cost	Estimated Cost Accepted	Grant Approved	Grant Released	%age of Grant Released
1	Renovation and Upgradation of protection system of substations of OPTCL	17-07-2014	180.56	180.56	162.5 11.05.2015	19.53	12.01
<b>Total (One Scheme)</b>			<b>180.56</b>	<b>180.56</b>	<b>162.5</b>	<b>19.53</b>	<b>12.01</b>

4/3/2017

11

## Approved Scheme of ERPC

All figures in crores

Sl. No.	Name of Scheme	Date of Submission of Scheme	Estimated Cost	Estimated Cost Accepted	Grant Approved	Grant Released	%age of Grant Released
1	Creation and Maintanance of Web based Protection Database Management System and Desktop based Protection Setting Calculation Tool for Eastern Regional Grid. (067)	24-09-2015	20.00	20	20 on 17.03.2016	14.54	72.7
<b>Total (One Scheme)</b>			<b>20.00</b>	<b>20</b>	<b>20</b>	<b>14.54</b>	<b>72.7</b>

4/3/2017

12

## Approved Schemes of **DVC**

All figures in crores

Sl. No.	Name of Scheme	Date of Submission of Scheme	Estimated Cost	Estimated Cost Accepted	Grant Approved	Grant Released	%age of Grant Released
1	Renovation and Upgradation of control and protection system and replacement of substation Equipment of 220KV/132KV/33KV Ramgarh S/S of DVC	30-03-2016	39.87	28.85	25.96 On 02.01.2017	0	0
<b>Total (One Schemes)</b>			<b>39.87</b>	<b>28.85</b>	<b>25.96</b>		

4/3/2017

13

## Approved Scheme of **Powergrid for ER**

All figures in crores

Sl. No.	Name of Scheme	Date of Submission of Scheme	Estimated Cost	Estimated Cost Accepted	Grant Approved	Grant Released	%age of Grant Released
1	Installation of STATCOMs in ER at Ranchi-New, Rourkela, Kishanganj and Jeypore substation of POWERGRID	05-06-2015	1059.49	700.31	630.28 On 05.01.2016	0	0
<b>Total (One Scheme)</b>			<b>1059.49</b>	<b>700.31</b>	<b>630.28</b>	<b>0</b>	<b>0</b>

4/3/2017

14



The entities may furnish information on the status of implementation of the schemes (physical as well as financial progress) in the prescribed format by first week of every month on regular basis to Member Convener, PSDF Project Monitoring Group (AGM, NLDC, POSOCO) with a copy to NPC Division.

4/3/2017

15

## ER Schemes Under Examination

Sl. No.	Entity	Name of the scheme	Estimated cost (Rs crore)	Techno-Economic Subgroup Meeting	Remarks
1	WBPDC West Bengal	Implementation of islanding scheme at Bandel thermal power station	1.54	AC recommended	CERC concurrence awaited
2	DVC	R & U of the protection and control system	156.11	AC recommended	CERC concurrence awaited
3	ERPC	Training Program for Power System Engineers of various constituents of Eastern Region	1.01	28 <sup>th</sup> -14.12.16	Input sought
4	ERPC	Study programmes on power market trading at NORD POOL Academy for Power System Engineers of Eastern Regional Constituents	6.20	28 <sup>th</sup> -14.12.16	Input sought
5	ERPC	Study programme on the Integration of Renewables Energy Resources into the Grid	5.20	28 <sup>th</sup> -14.12.16	kept in abeyance
6	WBSETCL West Bengal	Scheme of WBSETCL for improving state transmission system by reactive power management	48.45	28 <sup>th</sup> -14.12.16	Input sought
7	WBSETCL West Bengal	Improvement of State Transmission System by Renovation & Modernisation of Transmission System for relieving congestion in intra-state transmission system by capacity enhancement of existing network with an object to improve security, reliability and voltage profile in the State Grid.	72.65	22 <sup>nd</sup> -05.07.2016	Input sought
8	OHPCL Odisha <sup>2017</sup>	Renovation and Upgradation of protection and control system of OHPC	38.93	26 <sup>th</sup> -28.09.16	Input sought

16

## Revised List of Sub-Stations to be connected with Fibre Optic in Bihar

Sr. No.	Name of Sub-station	KV Level	Link Name	Integration with existing equipment	Length from nearest WB mode (in Kms.)	Remarks	S4.1	L4.1	L4.2	upto 150kms	Base Equipmen 1
1	Bainikisingar	132	Ramnagar-Bainikisingar	Ramnagar	78		0	0	1	0	
2	Ramnagar	132/33			OPGW laying considered under BSPTCL Package		0	1	1	0	
3	Dhaka	132/33	Motihari-Dhaka	Motihari	25		2	2	1	0	1+1
4	Sizamarhi	132/33	Sizamarhi-Dhaka		52		0	2	1	0	
5	Ekra	132/33	Sivan-Ekma	Sivan	1	Up to LUC of Chhapra-Sivan	1	0	0	0	
6	Dalsinghsarai	132/33	Samastipur-Dalsinghsarai	Samastipur	23		1	0	0	0	
7	Samastipur*	132/33			OPGW laying considered under BSPTCL Package		1	1	0	0	
8	Khagaria	132/33	BTPS-Khagaria	BTPS	60		1	0	1	1	
9	BTPS*	220/132/33			OPGW laying considered under BSPTCL Package		0	0	1	1	
			Khagaria-pomia		150		0	0	0	1	
10	Ekansara	132/33	Biharsharif-Ekansara	Biharsharif	30		1	1	0	0	
11	Biharsharif*	220/132/33			OPGW laying considered under BSPTCL Package		3	2	0	0	1+1
12	Hulaganj	132/33	Ekansara-Hulaganj		15		1	0	0	0	
13	Sheikhpura	132/33	Biharsharif-Sheikhpura		20	station planned on new line under BOCL	1	1	1	0	
14	Jamui	132/33	Sheikhpura-Jamui		55		0	2	1	0	
			Jamui-Lakhisarai	Lakhisarai	35						
15	Lakhisarai	132/33			OPGW laying considered under BSPTCL Package		0	1	0	0	
16	Baripakodi	132/33	Biharsharif-Baripakodi		5		1	1	0	0	
17	Rajgir	132/33	Nalanda-Rajgir	Nalanda	14		1	0	0	0	
18	Nalanda	132/33			OPGW laying considered under BSPTCL Package		1	0	0	0	
19	Belaganj	132/33	Chandauli-Belaganj	Chandauli	20		1	0	0	0	
20	Chandauli	152/33			OPGW laying considered under BSPTCL Package		2	2	0	0	1+1
21	Rafiganj	132/33	Chandauli-Rafiganj		41		0	1	0	0	
22	Tekari	132/33	Chandauli-Tekari		29		1	1	0	0	
23	Goh	132/33	Tekari-Goh		22		1	0	0	0	
24	Valshahi	132/33/11	Muzaffarpur-Valshahi	Muzaffarpur	30		0	2	0	0	
25	Muzaffarpur	132/33			OPGW laying considered under BSPTCL Package		1	1	0	0	
26	Supsaul	132/33	Madhepura-Supsaul	Madhepura	30		0	4	0	0	1+1
27	Madhepura	220/132/33			OPGW laying considered under BSPTCL Package		0	1	0	0	
28	Phulparas	132/33	Supsaul-Phulparas		32		1	2	1	0	1+1

29	Masrakh	132/ 33	Gopalganj-Masrakh	Gopalganj	40	Upto L.I.O of Gopalganj-Siwan	1	2	0	0	
30	Gopalganj	220/132/ 33			Already considered under BSPTCL Package		2	1	1	0	1+1
31	Siwan	132/ 33			OPGW layiny considered under BSPTCL Package		1	2	1	0	1+1
			siwan-Chhapra		70						
32	Mohania	132/ 33	Purnia(RSER)-Mohania	Purnia(RSER)	10		2	0	0	0	
33	Pusaui(BSER)	220/132			OPGW layiny considered under BSPTCL Package		2	2	1	0	1+1
34	Jainagar	132/ 33	Madhubani-Jainagar	Madhubani	40		0	2	2	0	
			Jainagar-Phulparas		55		0	0	0	0	
35	Madhubani	132/ 33			OPGW layiny considered under BSPTCL Package		0	2	0	0	
36	Dumraon	132/ 33	Ara(PG)-Dumraon	Ara(PG)	60		1	2	1	0	1+1
			Dumraon-Bikranganj		35		0	0	0	0	
37	Ara(PG)*	220/132	Ara(PG)-Khagaul		56		0	1	2	0	
38	Khagaul	220/132/ 33			OPGW layiny considered under BSPTCL Package		2	0	1	0	
39	Buxar	132/ 33	Dumraon-Buxar		17		1	0	0	0	
40	Jagdishpur	132/ 11	Ara(PG)-Jagdishpur		27		0	1	0	0	
41	Digha	132/ 33	Khagaul-Digha	Khagaul	16		1	0	0	0	
42	Bikranganj	132/ 33	Dehri-Bikranganj	Dehri	45		0	2	1	0	
43	Dehri	220/132/33			OPGW layiny considered under BSPTCL Package		1	4	0	1	1+1
44	Banjari	132/ 33	Dehri-Banjari		38		0	1	0	0	
45	Sherghati	132/ 33	Bodhgaya-Sherghati	Bodhgaya	27		0	2	0	0	
46	Bodhgaya*	220/132/ 33			OPGW layiny considered under BSPTCL Package		0	2	0	1	
			Dehri-Gaya(PG)-Bodhgaya		95		0	0	0	0	
47	Wazanganj	132/ 33	Bodhgaya - Wazanganj		30		0	2	0	0	
48	Nawada	132/ 33	Wazanganj - Nawada		26		0	2	0	0	
			Nawada-Bihansharif		41		0	0	0	0	
49	Kishanganj	132/ 33	Forbisanj-Kishanganj	Forbisanj	70		1	1	2	0	1+1
			Kataya-Forbisanj		50		0	0	0	0	
50	Kataya (Bilpur)	132/ 33	Supaul- Kataya		40		0	1	3	0	
51	Katihar	132/ 33	Purnea-Katihar	Purnea	29		1	1	0	0	
52	Purnea	132/ 33			OPGW layiny considered under BSPTCL Package		2	4	2	2	1+1+1
53	Forbisanj	132/ 33	Purnea-Forbisanj		85		1	1	3	0	1+1
54	Mithapur	132/ 33	Sipara-Mithapur	Sipara	16	station planned on new line under BGCL	2	0	0	0	
55	Sipara	220/132/ 33			OPGW layiny considered under BSPTCL Package		3	0	1	0	1+1
56	Jalkapur		Jalkapur-Sipara		10		1	0	0	0	
57	Bihra	132/ 33	Khagaul-Bihra		15	station planned on new line under BGCL	2	0	0	0	

58	Naugachia	132/33	Purnim-Naugachia		70		0	1	1	1	
			Naugachhia-BTPS	BTPS	136		0	0	0	0	
59	Karamnasa	132/33	Mohania-Karamnasa		11		1	0	1	0	
			Karamnasa-Pasauli(BH)	Pasauli(BH)	60	Tran. Line through Kudra TSS	0	0	0	0	
60	Hamaul	132/33	Barpahadi-Hamaul		26		0	1	0	0	
61	Kanpi (Ataul)	132/33	Jehanabad - Ataul		28		0	1	0	0	
62	Jehanabad	132/33				considered under ULDC scheme	0	2	0	0	
63	Rasaul	132/33	Betria - Rasaul		38		0	1	1	0	
64	Bettiah	132/33				OPGW laying considered under BSPTCL Package	0	5	1	0	1+1
			Bettiah-Gupalganj		60		0	0	0	0	
65	Imanganj	132/33	Imanganj - Shergahati		30		0	1	0	0	
66	Teha	132/33	132 KV Ctsanduti/ Jehanabad L.L.O- Teha		6		2	0	0	0	
67	UdaKishanganj	132/33	Saharsa - UdaKishanganj	Saharsa	51		0	0	1	0	
68	Saharsa	132/33				OPGW laying considered under BSPTCL Package	0	1	2	0	
69	Karbigahia	132/33	Karbigahia-Mithapur		3	Aerial/PUG fibre required as line is underground	1	0	0	0	
70	Kochas	132/33	Kudra - Kochas		55		1	2	0	0	
			Dumraon-Dehri L.L.O Kochas		29	Distance b/w L.L.O point to Kochas is 29km	0	0	0	0	
71	Kudra GSS	132/33	Kudra-Dehri		26		1	2	0	0	
			Kudra-Pasauli(PG)		10		0	0	0	0	
72	Pasauli(PG)*					OPGW laying considered under BSPTCL Package	1	0	0	0	
73	Shekhpura	132/33	Hathidah - Shekhpura	Hathidah	28		0	1	0	0	
74	Hathidah	132/33				OPGW laying considered under BSPTCL Package	0	1	0	0	
75	Jandaha	132/33	Sensendpur/Hazipur L.L.O Jandaha		35		1	2	0	0	
76	Hajipur*	132/33				OPGW laying considered under BSPTCL Package	0	1	0	0	
77	MTPS*	220/132/33				OPGW laying considered under BSPTCL Package	0	0	0	0	
78	Sitalpur	132/33	Sitalpur-Vaishali		31		0	2	0	0	
79	Chhapra	132/33	Chhapra-Sitalpur		40		0	1	2	0	
80	Begusarai	220/132/33				OPGW laying considered under BSPTCL Package	2	3	0	0	1+1
81	Kahalgan(NTPC)*					OPGW laying considered under BSPTCL Package	0	0	0	0	
82	Kahalgan	132/33				Already considered under BSPTCL Package	0	1	0	0	
83	Sabour	132/33				OPGW laying considered under BSPTCL Package	1	1	0	0	
			Kahalgan-sabour		25		0	0	0	0	
84	Fatua	220/132/33				OPGW laying considered under BSPTCL Package	0	0	0	0	

85	Ara(Bihar)	132/33			OPGW laying considered under BSPTCL Package	0	0	0	0
86	Sultangunj	132/33			OPGW laying considered under BSPTCL Package	1	1	0	0
87	Jamalpur	132/33			OPGW laying considered under BSPTCL Package	0	1	0	0
88	Lakhisarai(PG)*	132/33			OPGW laying considered under BSPTCL Package	0	0	0	0
89	Sonenagar	132/33			OPGW laying considered under BSPTCL Package	0	0	0	0
90	Sasaram(BSEB)	132/33	Sasaram-Dehri	Dehri	20	2	0	0	0
			Sasaram-Pusaull(BH)	Pusaull(BH)	18	0	0	0	0
91	SKMCH	132/33			Already considered under BSPTCL Package	1	1	0	0
			SKMCH-Muzaffarpur		15	0	0	0	0
92	Runisaidpur	132	Kunisaidpur-SKMCH	SKMCH	35	0	1	0	0
93	Darbhanga	220/132/33			OPGW laying considered under BSPTCL Package	0	0	0	0
94	Gangwara	132/33			OPGW laying considered under BSPTCL Package	0	0	0	0
95	Pandaul	132/33			OPGW laying considered under BSPTCL Package	0	0	0	0
96	Purnea(PG)*		Purnea(PG)-Purnea(BH)	Purnea(BH)	2	1	0	0	0
97	Motihari	132/33			OPGW laying considered under BSPTCL Package	1	0	0	0
98	Barh	132/33	Barh-Biharsharif		25	1	0	0	0
99	Barh(NTPC)*				OPGW laying considered under BSPTCL Package	0	0	0	0
100	Banka	132/33			OPGW laying considered under BSPTCL Package	0	2	0	0
101	Banka(PG)*				OPGW laying considered under BSPTCL Package	0	0	0	0
<b>2703</b>						<b>37</b>	<b>34</b>	<b>22</b>	<b>6</b>

**List of Upcoming/underconstruction gss to be connected with Fibre**

1	Motihari new	400/132	Motihari new- Motihan old	15	1	1	1	0
			Motihari new- Dettiah	36	0	0	0	0
			Motihan new- Rasaul	56	0	0	1	0
2	Dhanaha	132/33	Dhanaha- Benlah	35	0	1	0	0
3	Patna(PG)		Patna(PG)- Sipara	1	1	0	0	0
4	Bihra new	220/132/33	Bihra new- Sipara	60	1	0	1	0
			Bihra old-Bihra new	5	0	0	0	0
5	Khagaria new	220/132/33	Khagaria old-purua lilo Khagaria new	10	1	0	0	1
6	Sheohar	132/33	Sitamuhil/ dhaka lilo Sheohar	2	1	0	0	0
7	RamGarh	132/33	Pusaull new/ Kochas lilo Ramgarh	20	1	0	0	0
8	Waisali Garh	132/33	Biharsharif new/ada lilo waisali garh	40	0	1	0	0
9	Jamui new	132/33	jamui old- jamui new	30	0	2	0	0

			Janul new- Banka new		35		0	0	0	0
10	Banka new	132/33	Banka old Banka new		30		0	1	0	0
11	Sivan new	132/33	Chhapra old/ chhapra new lilo sivan ocw		5		0	1	1	0
12	Nathnagar	132/33	Sahour-Saltanganj L.I.O Nathnagar		10		1	1	0	0
13	Korha	132/33	Purnea-Neogachhiu L.I.O Korha		20		0	1	1	0
14	Piro	132/33	Piro - Bakranganj		23		1	0	0	0
15	bhabua	132/33	Bhabua-Pusgali new		33		0	1	0	0
16	Terapur	132/33	Jamalpur/ Sultanganj lilo terapur		16		1	1	0	0
17	Manihari	132/33	Purnia/ Kanchar lilo Manihari		12		1	1	0	0
18	Barsoi	132/33	Barsoi- Kisanaganj new		70		0	0	1	0
19	Dhandaha	132/33	Purnia/Saharsa lilo Dhandaha		1		1	1	0	0
20	Baosi	132/33	Kisanaganj old-Baosi		1		1	0	0	0
21	Nirmali	132/33	Phulparas/Supaul lilo- Nirmali		15		1	1	0	0
22	Trivaniganj	132/33	Purnia/ Forbaganj lilo Trivaniganj		15		1	1	0	0
23	Shahpurgatori	132/33	Shahpurgatori- Samastipur new		31		0	1	0	0
24	Samaonpur New	220/132/33					0	1	0	0
25	Rosera	132/33	Begusarai/Kusheshwarasthan lilo Rosra		9		1	1	0	0
26	Kudeshwarasthan	132/33					0	1	0	0
27	Simri Bhanjarpur	132/33	Simri Bhanjarpur- Sonebansa		16		1	0	0	0
28	Sonebansa	132/33					1	0	0	0
29	Jhanjhapur	132/33	Jhanjhapur/Phulparas lilo Jhanjhapur		35		0	2	0	0
30	Benipatti	132/33	Madhubani/Jainagar L.I.O Benipatti		12		2	1	0	0
31	Pupri	132/33	Pupri - Benipatti		32		0	1	0	0
32	Belsand	132/33	Dhaka/Siamerhi L.I.O Belsand		9		0	2	0	0
33	Maharajganj	132/33	Maharajganj-Madrakh		20		1	0	0	0
34	Hathua	132/33	Gopalganj/Sivan L.I.O Hathua		8		1	1	0	0
35	Pakridiyai	132/33	Pakridiyai-Dhaka		20		1	0	0	0
36	Araonj	132/33	Gopalganj/Betia L.I.O Araonj		15		1	1	0	0
37	Chakia	132/33	Chakia-Motipur new		40		0	1	0	0
38	Motipur New	220/132					0	1	0	0
39	Narkatiyaganj	132/33	Betia/Ramnagar L.I.O Narkatiyaganj		15		0	2	0	0
40	Banmaokhi	132/33	purnia/Saharsa L.I.O Banmaokhi		2		1	0	1	0
41	Mahar	132/33	Mahar-Jandaha		10		1	0	0	0
42	Bakharl	132/33	Bakharl-Begusarai		20		1	1	0	0
43	Balia	132/33	Begusarai/Bakharl L.I.O Balia		11		1	2	0	0
44	Manjhaul	132/33	Begusarai/Bakharl L.I.O Manjhaul		2		2	0	0	0
45	Teghra	132/33	Begusarai-Teghra		40		0	1	0	0
46	Anarfa	132/33	Kishanganj old/Forbaganj L.I.O Anarfa		1		0	2	0	0
Total					944		9	29	4	1
Total					2703+944=3647					

**List of sub-stations and Lines Deleted(already considered in Transmission/ULDC scheme of BSPTCL)**

2	Masaudh	132/33	Jehanabad-Masaudh	30	considered under JLOC scheme	0	1	0	0
3	Sonebarsa		Madhepura-Sonebarsa	50	considered under JLOC scheme	0	0	1	0
4	Kusheshwarsthan	132/33	Sonebarsa - Kusheshwarsthan	75	considered under Tr. scheme	0	0	1	0
5	Hajipur 132kV	132/33	Hazipur (220KV)-Hazipur (132KV)	2	considered under JLOC scheme	1	0	0	0
			Sipara-Masaudh	24	considered under JLOC scheme				
			Sipara-Khagaul	8	considered under JLOC scheme				
			Banka-Bankar(PG)-sabour	25	considered under JLOC scheme				
			Dehri-Somenagar	30	considered under JLOC scheme				
			Muzaffarpur-Vaishali	30	already considered at sr no. 18				

The detailed scope of work for conversion of 220 kV Tenughat-Biharsarif Line at 400 kV level

Site	Agreement Details	LOA details	Completion	Scope of Work	Reason for Delay
Tenughat (TVNL)	S/s Date of Agreement: 29.07.2010 Completion Time: 36 Months (i.e. 28.07.2013) Estimated Cost: 24.20 Crore (incl. Consultancy @ 15% + Service Tax)	M/s Sterling & Wilson, Kolkata LOA Date: 25.04.2012 LOA Value: 20.184 Crore.	Scheduled Completion: 30.06.2013  Anticipated Completion: 30.06.2017	Original Scope: 5 Nos. Bays, (TB, BC, ICT-1, ICT-2, Line & L/R).  Additional Scope: Erection, Testing & Commissioning of OSM Equipments (i.e. 2 x 250 MVA ICTs, 50 MVAR L/R).	Very irregular and delayed payment from TVNL forcing agency to demobilized/mobilized frequently. Still 4.07 Crore is pending (Other issues as per annexure-8).
Biharsarif (PG) associated T/L	S/s Date of Agreement: 24.08.2008 Completion Time: 24 Months (i.e. 24.08.2010) 7.13 Crore + Consultancy @ 15% + Service Tax.	M/s Sterling & Wilson, Kolkata LOA Value: 3.57 Crore.	Scheduled Completion: 24.08.2010  Anticipated Completion: 15.04.2017	Original Scope: 1 No. Bay & 0.81 km 400 kV T/L for Termination at Biharsharif S/s end.	Very irregular and delayed payment from JUSNL forcing agency to demobilized/mobilized frequently. The said job is on cost plus basis. The bay work is nearly under completion stage and line diversion work is likely to be completed by 15.04.2017 subject to release of balance payment of 48.5 lakh.



Tenughat end(TVNL)TVNL Consultancy Project, TTPS

Contractor : M/s Sterling &amp; Wilson, Kolkata

LOA Date : 25.04.2012

Sch Completion : 30.06.2013

Ant Completion : 31.06.2017

LOA Value : Rs. 20.184 Crores (Supply= Rs. 13.187 Crs; Services=7.005 Crs) as per last Amnd dtd 16/12/15 +  
Consultancy fee(@15% ) + Service Tax(@ 15% ).

SCOPE : 1) No of Bays : 05 (TB, BC, ICT-1, ICT-2, Line/LR) .

2) New scope : Erection, Testing, commissioning of OSM, i.e., 2x250 MVA ICTs and 50 MVAR Line  
Reactor (OSM : ICT-1 .. OLD, ICT-2 .. NEW, LINE REACTOR .. OLD).MAJOR CONSTRAINTS :

- FUND : Delay in release of balance fund by TVNL for Rs 5.85 Crs (approx) against our Invoice dated 24.12.15. TVNL released 1.78 Crores only in the last week of Dec'16.
- ERECTION OF ICT-2 (NEW): M/s S&W deputed erection engineer to site on 14.01.17 and erection gang is due to reach site by next week. BHEL engineer yet to be deputed to site by TVNL for supervision of erection & commissioning.
- ERECTION OF OLD DSMs (ICT-1 & LR): Test Report for Healthiness submitted to TVNL on 22/02/16. Clearance from TVNL still awaited. TVNL to take up the matter with BHEL and revert back.
- BALANCE SUPPLIES : Balance supplies to site halted due to non-issuance of way bill & C-Form by TVNL despite repeated follow-up since last 2-years. M/s S&W again started supplies with their own road permit since 08/08/16. C-Forms for FY 2012 to 2016 not yet issued to M/s S&W.

PROGRESS OF WORK :

As on 14/01/17

Sl	DESCRIPTION	TOTAL QTY	FDM DONE	EQPT EREC DONE	BALANCE EQPT ERECTION	REMARKS
1	BAY-1 (BUS TRANSFER)	40	40	37	CB=3 poles only	CB steps completed.  220KV LA to be erected after erection of ICT-2.
	BAY-2 (BUS COUPLER)	28	28	28	--	
	BAY-3 (ICT-1 .. OLD)	44	44	44		
	BAY-5 (ICT-2 .. NEW)	50	50	47	220 LA=3	
	BAY-13 (LINE BAY, LR)	61	61	60	--	
2	CABLE TRENCH {Sec: 2-2, 3-3, 4-4}	100%	100%			Cable laying in progress.
3	STRINGING (MOOSE)	100%		98%		
	BUS BAR	100%		98%		
4	EARTH MAT	100%		100%		
	FLAT EARTHING	100%		93%		
5	ICT-2 (NEW)	1	100%	-		Erection gang to reach site by next week; deputation of BHEL engr at site not yet confirmed by TVNL.
	ICT-1 & LR (OLD)	1+1	100%	-		As per TVNL: BHEL engr at site to give advice on Test Report for Healthiness of the old eqpts.

## **Eastern Regional Power Committee, Kolkata**

### **Minutes of Special Meeting on “High voltage issues in Eastern Region” held on 22<sup>nd</sup> December, 2016 at ERPC, Kolkata**

List of participants is at **Annexure-A**. Member Secretary, ERPC welcomed all the participants to the special meeting and informed that this meeting was called on short notice to address the high voltage issues in Eastern Region particularly in West Bengal and Odisha. He expressed concern on the high voltage conditions being experienced at some pockets of E. Region, during off-peak hours, since onset of winter season.

It was informed that Subhasgram 400kV, Jeerat 400kV, Arambag 400kV, Kharagpur 400kV and Meramundali 400kV sub-stations are facing acute high voltage problem. The voltage profile of these and some other S/S recorded by ERLDC SCADA system for the month of November 2016, were presented before the house. It was felt in general that drastic reduction of off-peak demand in W. Bengal and Odisha had aggravated the high voltage problem.

Representative of OPTCL informed that voltage of Meramundali 400kV S/Stn mostly remains well above 412kV during off-peak period. Flow of huge reactive power from Meramundali S/Stn to Angul(PG) 400kV S/S over Meramundali-Angul D/C line is making GRIDCO liable for payment of huge charges in ER Reactive Pool account, every week. ERLDC observed that during most of the day, reactive power flows from 400kV N. Duburi to Meramundali S/Stn of OPTCL. Further, efforts should be made to export VAR from 400kV to 220kV system of Odisha by changing the tap of Meramundali 400/220kV ICT. However, OPTCL informed that high voltage condition is existing in their 220kV system also.

After further deliberations, it was decided that OPTCL would ensure absorption of maximum possible reactive power (as per capability curve) by the units of JSPL, Vedanta and GMR(Odisha). In addition, one circuit of 400kV Meramundali-N. Duburi line is to be switched off (from both ends) in night lean hours on trial basis, and the effect on Meramundali voltage is to be monitored by ERLDC. 50MVAR line reactor at Meramundali end of Vedanta-Meramundali-I 400kV circuit is presently under outage. OPTCL should therefore endeavor to restore this reactor at the earliest.

CESC and HEL representatives informed that one unit of 2X600MW HEL TPS was scheduled to be taken under shutdown from 24-12-16, for planned maintenance. The voltage of Subhasgram 400kV exceeded 430kV on regular basis even after absorption of around 80 MVAR by each of

the units. On 15-12-16, around 112-113 MVAR was absorbed by one unit on experimental basis, keeping the other unit at unity p.f. Since it is not possible to absorb further reactive power, they had proposed raising the setting of Stg-I over-voltage protection of HEL-Subhasgram D/C line at Subhasgram end as follows, to prevent tripping of the line on high voltage:

400kV HEL-Subhasgram-I	112% with 7 sec delay
400kV HEL-Subhasgram-II	111% with 3 sec delay

ERLDC suggested that to control Subhasgram and Jeerat 400kV voltages, apart from HEL units, reactive power should also be absorbed by Sagardighi, Kolaghat and Bakreswar units, as per their respective capabilities. Possibility of opening one or two lightly loaded 220kV lines connected to Subhasgram(PG) may also be explored.

WBSETCL informed that one circuit each of 220kV Jeerat-N. Town and Jeerat-Kasba lines are being switched off during night off-peak hours on regular basis. As such, it is not advisable to open any 220kV line from Subhasgram(PG). CESC apprised that 220kV Subhasgram(PG)-EMSS D/C line feeds essential and critical loads of Kolkata. On reliability considerations it is not advisable to open one circuit of this line. One no. 125MVAR shunt reactor is already planned to be installed at Subhasgram, but as the same would take around 18 months to be ready, the present problem would not be addressed. WBSETCL requested to switch off one circuit each of Chaibasa-Kharagpur and Sagardighi-Durgapur(PG) 400kV D/C lines, during off-peak hours, in order to control high voltages at Kharagpur and Arambag.

ERLDC pointed out that it has already been observed in real time that opening 400kV Chaibasa-Kharagpur line has very little effect in reducing Arambag voltage. However, it would help in reducing voltage of Kharagpur. After further discussions it was decided that one circuit each of 400kV Kharagpur-Chaibasa and Sagardighi-Durgapur(PG) would be opened during night hours on experimental basis. However, at the same time, units at Kolaghat, Bakreswar, Sagardighi and Farakka should absorb reactive power upto their respective capability limits.

The meeting concluded with a vote of thanks to the chair.

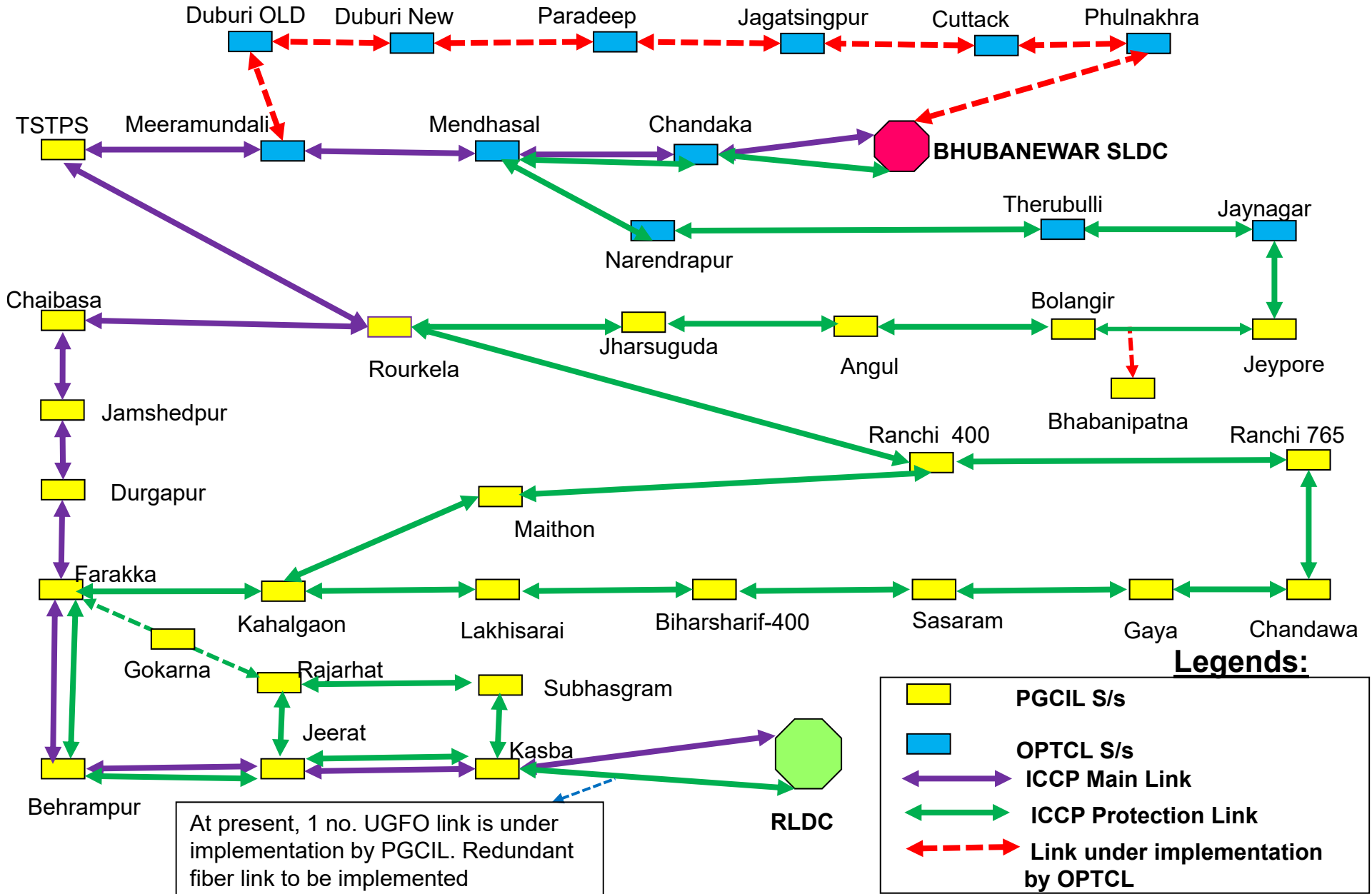
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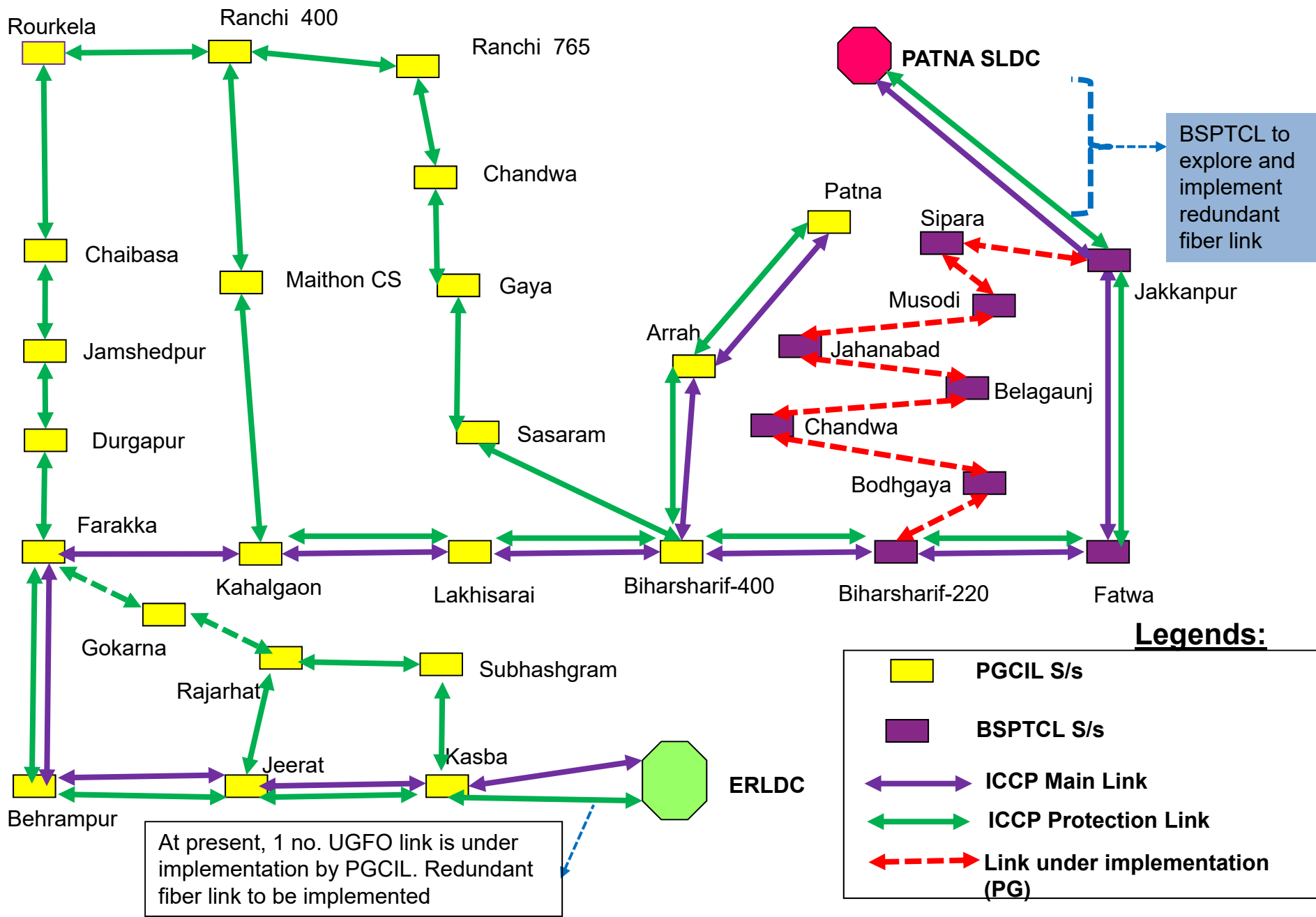
# ICCP FLOW OF OPTCL

## Annexure - B12.2



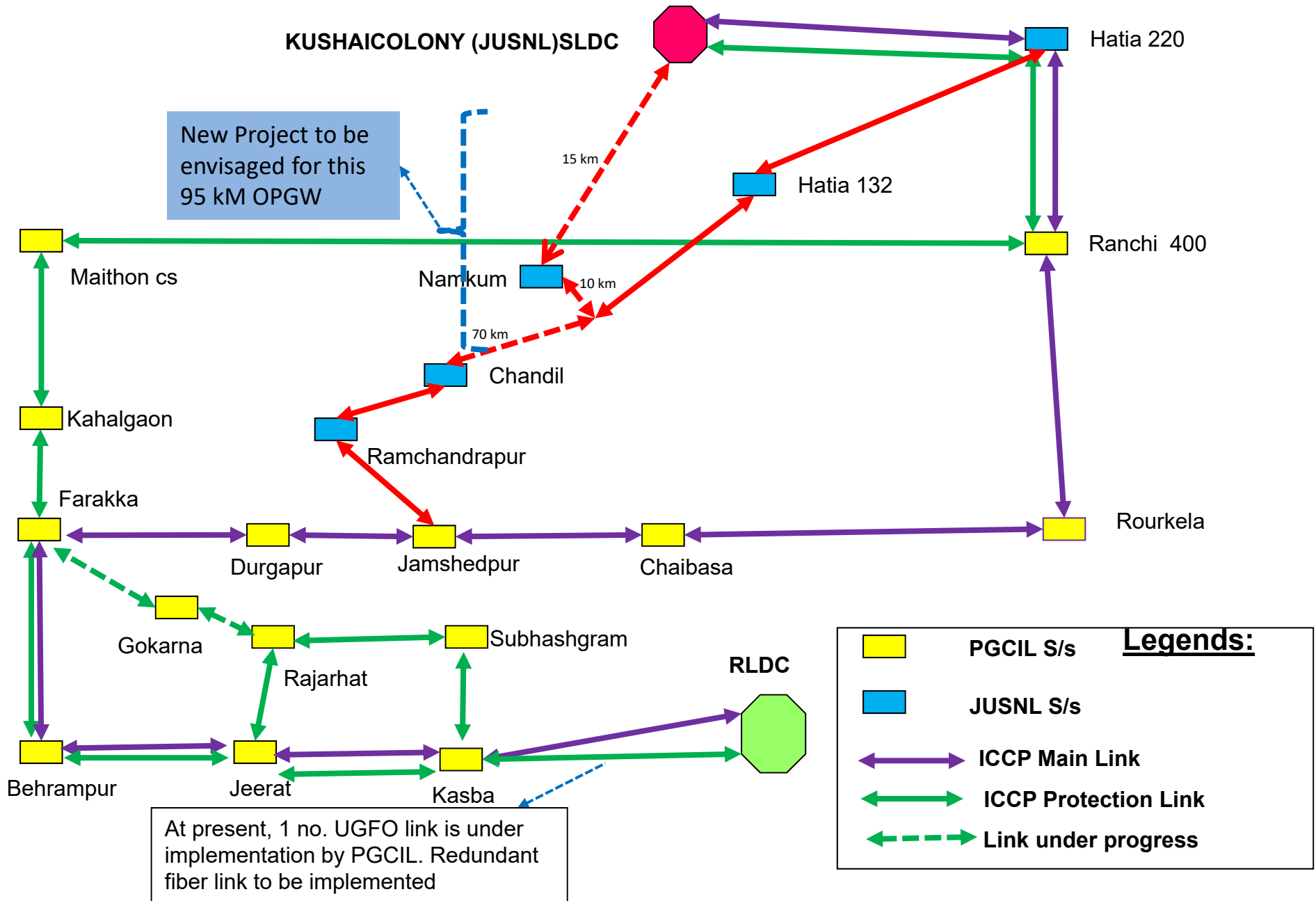
# ICCP FLOW OF BSPTCL

## Annexure - B12.2



# ICCP FLOW OF JUSNL

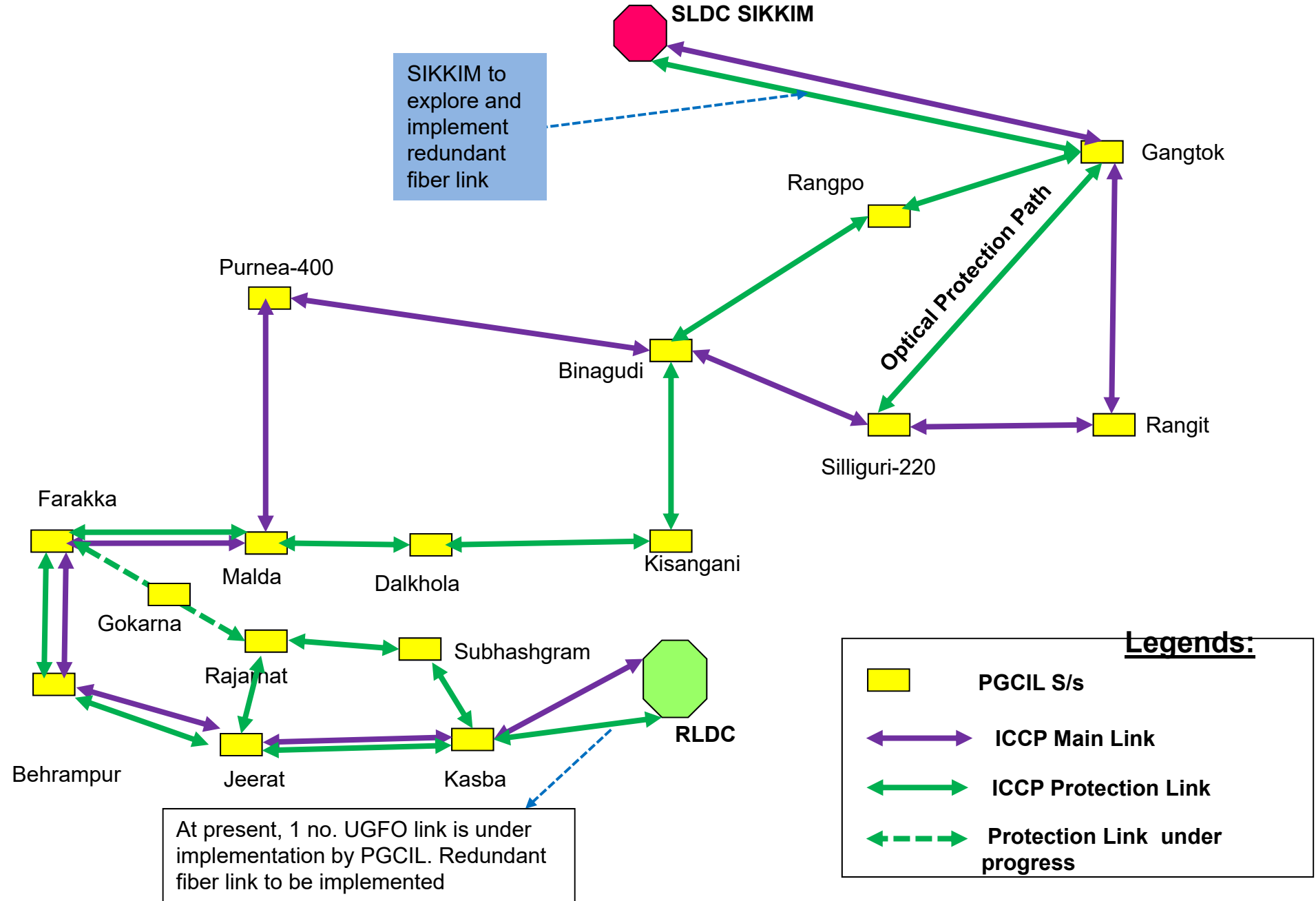
## Annexure - B12.2





# ICCP FLOW OF SIKKIM

## Annexure - B12.2



## Annexure-B13

### Utilization of Transmission line

#### WBSETCL lines

Sl	Name of Line	Percentage utilization to meet West Bengal Demand		
		Quarter 1 2016-17	Quarter 2 2016-17	Quarter 3 2016-17
1	132 kV Birpara(PG)-Birpara-I	99.2%	94.4%	99.3%
2	132 kV Birpara(PG)-Birpara-II	99.2%	94.4%	99.3%
3	132 kV NJP-NBU-I	98.6%	99.2%	98.1%
4	132 kV NJP-NBU-II	98.6%	99.2%	98.1%
5	132 kV Malda(PG)-Malda-I	99.9%	99.9%	99.9%
6	132 kV Malda(PG)-Malda-II	99.9%	99.9%	99.9%
7	400 kV Kharagpur-Baripada	Natural ISTS		
8	220 kV Santaldhi-Chandil	Natural ISTS		
9	220 kV Waria-Bidhannagar-I	Natural ISTS		
10	220 kV Waria-Bidhannagar-II	Natural ISTS		
11	132 kV Rangit-Rammam	75.0%	70.0%	72.7%
12	220 kV Subhasgram(PG)-Subhasgram-I	98.6%	98.0%	97.6%
13	220 kV Subhasgram(PG)-Subhasgram-II	98.6%	98.0%	97.6%
14	400 kV Parulia-Bidhannagar-I	74.2%	67.8%	59.2%
15	400 kV Parulia-Bidhannagar-II	74.2%	67.8%	59.2%
16	220 kV Dalkhola(PG)-Dalkhola-I	99.7%	99.8%	99.8%
17	220 kV Dalkhola(PG)-Dalkhola-II	99.7%	99.8%	99.8%
18	132 kV Kurseong-Rangit	Part of ISTS		
19	132 kV Kurseong-Silliguri	Part of ISTS		
20	220 kV Subhasgram(PG)-Bantala	98.5%	98.3%	98.0%
21	220 kV Subhasgram(PG)-New Town	96.8%	96.6%	96.0%

#### DVC lines

Sl	Name of Line	Percentage utilization to meet DVC Demand		
		Quarter 1 2016-17	Quarter 2 2016-17	Quarter 3 2016-17
1	Raghunathpur-DSTPS D/C	14.4%	20.4%	15.2%
2	Raghunathpur-Ranchi (quad) D/C	14.2%	10.7%	20.5%
3	LILO of Maithon(PG)-Ranchi(PG) line at RTPS	Part of ISTS		
4	Termination segment at DSTPS of Jamsedpur PG line	Part of ISTS		

## Annexure-B13

### OPTCL lines

Sl	Name of Line	Percentage utilization to meet Odisha Demand		
		Quarter 1 2016-17	Quarter 2 2016-17	Quarter 3 2016-17
1	400 kV Indravati-Indravati(PG)	34.4%	31.4%	35.7%
2	400 kV Regali-Keonjhar	15.2%	13.7%	18.2%
3	400 kV Keonjhar-Baripada	15.2%	13.7%	18.2%
4	400 kV Baripada-Khargpur	Natural ISTS		
5	220 kV Balimela-U.Sileru	Natural ISTS		
6	220 kV Jeypore-Jaynagar D/C	6.5%	5.3%	10.7%
7	220 kV Budhipadar-Korba D/C	Natural ISTS		
8	220 kV Tarkera-Bisra D/C	75.7%	71.1%	80.7%
9	220 kV Joda-Ramchandrapur	Natural ISTS		
10	220kV Joda-Jindal	0.2%	0.4%	0.5%
11	220 kV Jindal-Jamsedpur	Natural ISTS		
12	220 kV Rengali-Rengali(PG)	46.4%	38.8%	44.7%
13	220 kV Rengali PH- TSTPS	83.8%	79.9%	86.3%
14	220 kV TTPS-TSTPS	53.2%	44.5%	52.2%
15	220 kV TSTPS-Meramundali	42.2%	23.3%	33.1%
16	220 kV Baripada-Balasore	92.8%	91.3%	93.7%
17	132 kV Joda-Kendposi	Natural ISTS		
18	132 kV Baripada-Rairangpur	99.7%	99.8%	88.7%
19	132 kV Baripada-Baripada(PG)	99.4%	99.7%	99.5%

**Annexure - B14**

**Current Status of Letter of Credit (LC) amount against UI charges for ER constituents**

*Figures in Lacs of Rupees*

SI No	ER Constituents	No. of weeks in which Deviation Charge payable	No of times payment was delayed during 2015-16	Total Deviation charges payable to pool during 2015-16	Average weekly Deviation Charge liability	LC Amount	Due date of expiry	Remarks
		(A)	(B)	(C)	(D)	(E)	(F)	(G)
1	BSPHCL	42	42	9230.45609	177.50877	195.25965	Expired	Not Opened/Renewd (LC Expired of amount 529.52000 Lac on 03.01.17)
2	JUVNL	36	36	4060.64239	78.08928	85.89820	Not Opened	letter written
3	SIKKIM	5	5	75.76714	1.45706	1.60277	Expired	Not Opened/Renewd (LC Expired of amount 2.85136 Lac on 04.10.16)
4	MPL	7	2	34.59999	0.66538	0.73192	31.08.2017	Opened for 0.73192 Lacs
6	VEDANTA	48	15	7892.76469	151.78394	166.96233	31.05.2017	Opened for 166.96233 Lacs
7	APNRL	24	24	741.51734	14.25995	15.68594	20.04.2017	Opened for 15.63594 Lacs
8	CHUZACHEN	8	6	261.0675	5.02053	5.52258	Not Opened	Not Opened /Renewed
9	GMR	19	7	929.588	17.87669	19.66436	15.07.2017	Opened for 19.66436 Lacs
10	IND-BARATH	46	16	248.75964	4.78384	5.26222	Not Opened	Letter written

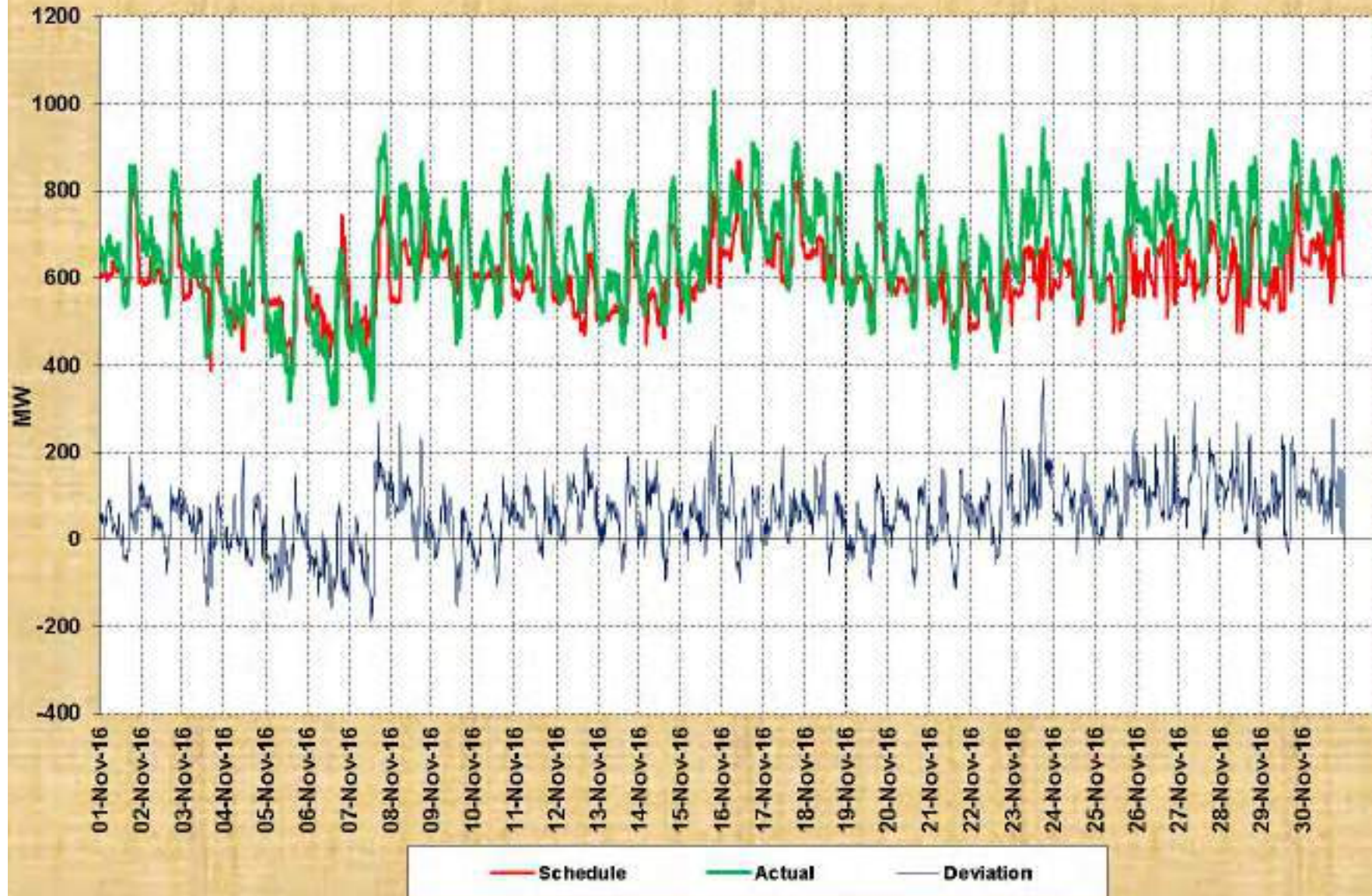
## List of Time Drifted SEMs in ER

SNO	LOC ID	Sub Station	METER S NO	FEEDER NAME	DCU TIME	METER TIME	TIME DIF(min)
1	BI-11	ARA(BSPTCL)	NP-6052-A	ARA END OF ARAH (PG)	23:53:55	00:04:11	11
2	BI-58	BANKA(BSPTCL)	NP-7833-A	132 KV BANKA(PG)	22:38:06	22:51:58	13
3	BI-59	BANKA(BSPTCL)	NP-7874-A	132 KV BANKA LINE	18:41:05	18:52:12	11
4	BH-22	BARH(NTPC)	NP-7482-A	400 KV BARH 200 MVA ICT 3	22:55:11	23:12:14	17
5	EM-59	BARIPADA(PG)	NP-5911-A	HV SIDE OF 220/132 KV ICT-1	09:02:45	09:13:24	11
6	EM-58	BARIPADA(PG)	NP-5913-A	BARIPADA END OF BALASORE (GRIDCO) -2	09:01:52	09:15:33	14
7	EM-89	BARIPADA(PG)	NP-5971-A	BARIPADA END OF MENDHASAL(GRIDCO)-2	09:09:05	09:22:55	13
8	EM-87	BARIPADA(PG)	NP-5974-A	BARIPADA END OF JAMSHEDPUR	09:10:51	09:24:56	14
9	EM-88	BARIPADA(PG)	NP-5975-A	BARIPADA END OF MENDHASAL(GRIDCO)-1	09:08:13	09:21:11	13
10	ES-45	BARIPADA(PG)	NP-8074-A	400 KV SIDE OF 500 MVA ICT-3	09:11:44	09:23:48	12
11	EP-88	BERHAMPORE(PG)	NP-7989-A	400 KV FARAKKA(NTPC) LINE(CHECK)	09:00:48	09:18:34	18
12	EP-94	BERHAMPORE(PG)	NP-7993-A	400 KV BHERMARABANGLADESH) LINE-1(CHECK)	09:03:49	09:20:14	17
13	EP-95	BERHAMPORE(PG)	NP-7994-A	400 KV BHERMARABANGLADESH) LINE-2(MAIN)	09:04:39	09:18:45	14
14	EP-93	BHERAMARA(BANGLADESH)	NP-7612-A	400 KV BHERMARABANGLADESH) LINE-1(MAIN)	09:03:04	09:22:02	19
15	EP-96	BHERAMARA(BANGLADESH)	NP-7613-A	400 KV BHERMARABANGLADESH) LINE-2(CHECK)	09:05:26	09:18:20	13
16	EM-07	Binaguri(PG)	NP-5086-A	BINAGURI END OF TALA (THP)-1	19:47:02	19:57:56	10
17	EM-09	Binaguri(PG)	NP-5088-A	BINAGURI END OF MALBASE(PG)	19:50:43	20:02:13	12
18	EM-12	Binaguri(PG)	NP-5091-A	BINAGURI END OF PURNEA-2	19:56:15	20:08:26	12
19	EM-13	Binaguri(PG)	NP-5092-A	BINAGURI END OF PURNEA-3	19:53:33	20:03:11	10
20	ER-19	Binaguri(PG)	NP-5882-A	BINAGURI END OF NEW JALPAIGURI (WBHAR)-I	20:00:39	20:14:24	14
21	ER-21	Binaguri(PG)	NP-5885-A	BINAGURI END OF BONGAIGAON (NER)-2	19:52:36	20:03:39	11
22	EM-68	Binaguri(PG)	NP-5887-A	BINAGURI END OF Rangpo-2	19:58:06	20:12:21	14
23	EM-10	Binaguri(PG)	NP-5888-A	BINAGURI END OF TALA (THP)-4	19:49:46	20:02:38	13
24	ER-87	Binaguri(PG)	NP-5890-A	LV SIDE OF BINAGURI 315 MVA ICT-2	20:03:27	20:13:02	10
25	EN-06	Binaguri(PG)	NP-7917-A	BINAGURI END ALIPURDUAR LINE - 1	19:59:51	20:16:21	17
26	EN-07	Binaguri(PG)	NP-7918-A	BINAGURI END BONGAIGAON LINE - 2	19:59:03	20:14:03	15
27	EP-49	BIRPARA(PG)	NP-5891-A	HV SIDE OF 220 ICT-2	23:28:02	23:55:00	27
28	ER-44	BIRPARA(PG)	NP-5892-A	BIRPARA END OF BIRPARA (WB)-1	23:13:57	23:48:42	35
29	ER-40	BIRPARA(PG)	NP-6464-A	BIRPARA END OF CHUKHA (CHPC) -2	23:19:06	23:08:00	-11
30	ER-41	BIRPARA(PG)	NP-6490-A	BIRPARA END OF MALBASE	23:22:43	23:12:46	-10
31	WB-02	BIRPARA(WBSETCL)	NP-5893-A	BIRPARA END OF BIRPARA (PG)-2	23:12:50	23:34:26	22
32	EP-33	BOLANGIR(PG)	NP-7536-A	400 KV SIDE BOLANGIR KV 315 MVA ICT-II	09:01:48	09:19:00	18
33	EP-31	BOLANGIR(PG)	NP-7537-A	BOLANGIR END OF JEYPORE-1	09:00:02	09:13:50	13
34	EP-32	BOLANGIR(PG)	NP-7538-A	BOLANGIR END OF JINDAL(JDL)	09:02:22	09:17:30	15
35	EP-99	BOLANGIR(PG)	NP-7560-A	400 KV BOLANGIR 315 MVA ICT 1	09:00:48	09:18:37	18
36	JS-05	CHANDIL(JUVNL)	NP-7434-A	CHANDIL END OF RANCHI (PG)	22:20:07	22:36:46	16
37	JS-08	CHANDIL(JUVNL)	NP-7435-A	CHANDIL END OF HATIA(JSEB)	22:17:43	22:32:35	15
38	JS-57	CHANDIL(JUVNL)	NP-7436-A	CHANDIL END OF SANTALDIH (WBHAR)	22:19:19	22:35:21	16
39	JS-56	CHANDIL(JUVNL)	NP-7461-A	CHANDIL END OF MANIQUE (DVC)	22:18:31	22:29:53	11
40	ER-60	DALKHOLA(PG)	NP-6477-A	220 KV DALKHOLA FDR1	09:05:12	08:51:04	-14
41	ER-61	DALKHOLA(PG)	NP-6479-A	220 KV DALKHOLA FDR2	09:04:08	08:47:14	-17
42	EM-96	DALKHOLA(PG)	NP-7969-A	220 DALKHOLA(WBSETCL) LINE-1	09:00:02	09:16:10	16
43	EP-55	Dalkhola(WB)	NP-5068-A	220 KV DALKHOLA (WB) LINE-2	09:00:55	09:23:05	23
44	BI-62	DEHRI(BSPTCL)	NP-6097-A	220 KV DEHRI (BSPHCL) - PUSAULI (PG)	09:00:02	09:10:16	10
45	BI-18	DEHRI(BSPTCL)	NP-7397-A	220 KV DEHRI (BSPHCL)-GAYA(PG) LINE-II	09:01:47	09:16:18	15
46	BI-17	DEHRI(BSPTCL)	NP-7449-A	220 KV DEHRI (BSPHCL)-GAYA(PG) LINE-I	09:01:00	09:15:30	14
47	BI-12	DUMRAON(BSPTCL)	NP-6067-A	132 KV DUMRAON (BSPHCL) - ARAH (PG)	23:10:26	23:20:21	10
48	ER-68	DURGAPUR(PG)	NP-5831-A	400 KV B NAGAR-1 LINE MAIN	09:16:51	09:29:10	13
49	EP-12	DURGAPUR(PG)	NP-6024-B	RF 1KT-2 LINE	09:31:11	09:47:28	16
50	EM-20	DURGAPUR(PG)	NP-7557-A	400 KV SDG LINE 2	09:11:20	09:29:02	18
51	EP-79	DURGAPUR(PG)	NP-7954-A	400 KV FARAKKA LINE 1	09:05:48	09:20:09	15
52	EP-80	DURGAPUR(PG)	NP-7975-A	400 KV FARAKKA 2	09:08:34	09:24:31	16
53	FK-05	FARAKKA(NTPC)	NP-7553-A	FARAKKA GT5	09:02:40	09:18:09	16
54	EP-87	FARAKKA(NTPC)	NP-7609-A	400 KV FARAKKA(NTPC) LINE(MAIN)	09:00:02	09:18:30	18
55	FK-03	FARAKKA(NTPC)	NP-7928-A	FARAKKA GT-3	09:13:42	09:28:38	15
56	FK-01	FARAKKA(NTPC)	NP-7960-A	FARAKKA (GT1)	09:14:29	09:29:23	15
57	FK-02	FARAKKA(NTPC)	NP-7986-A	FARAKKA GT-2	09:15:18	09:30:45	15
58	BI-23	FATUA(BSPTCL)	NP-7850-A	220 KV PATNA (PG)	23:52:11	00:03:30	11
59	EM-06	GANGTOK(PG)	NP-6025-A	66 KV SIDE OF GANGTOK 132/66 KV ICT-2	19:57:28	20:17:08	20
60	EM-02	GANGTOK(PG)	NP-6027-A	132 KV GANGTOK(PG) - RANGIT (NHPC)	19:53:46	20:04:40	11
61	EM-05	GANGTOK(PG)	NP-6028-A	132 KV SIDE OF GANGTOK 132/66 KV ICT-2	19:55:37	20:11:32	16
62	EM-03	GANGTOK(PG)	NP-6029-A	132 KV SIDE OF GANGTOK 132/66 KV ICT-1	19:54:43	20:04:05	10
63	EM-04	GANGTOK(PG)	NP-6030-A	66 KV SIDE OF GANGTOK 132/66 KV ICT-1	19:56:31	20:06:07	10
64	EP-16	GAYA(PG)	NP-6098-A	220 KV GAYA (PG)-DEHRI(BSPHCL) LINE-II	09:35:45	09:49:18	14
65	EP-28	GAYA(PG)	NP-7428-A	765 KV SIDE OF 765/400 KV GAYA ICT-1	21:43:26	21:53:21	10
66	EP-12	GAYA(PG)	NP-7453-A	400 KV SIDE GAYA 400/220 315 MVA ICT-2	09:21:49	09:32:36	11
67	EN-70	GAYA(PG)	NP-7473-A	GAYA- KODERMA LINE-1	09:13:36	09:23:32	10
68	ES-62	GAYA(PG)	NP-7827-A	220 KV GAYA (PG)-SONAGAR(BSPHCL) LINE-I	09:41:23	09:51:00	10
69	BI-52	HAJIPUR(BSPTCL)	NP-7851-A	220KV MUZAFFARPUR -1 (PG)	09:00:02	09:16:29	16
70	BI-53	HAJIPUR(BSPTCL)	NP-7852-A	220KV MUZAFFARPUR -2(PG)	09:00:49	09:14:46	14
71	JS-06	HATIA(JUVNL)	NP-6121-A	HATIA END OF CHANDIL (JSEB)	09:00:54	09:22:27	22
72	JS-07	HATIA(JUVNL)	NP-6122-A	HATIA END OF RANCHI (PG)	09:00:02	09:13:37	13
73	DV-57	JAMSHEDPUR(DVC)	NP-6010-B	JAMSHEDPUR END OF JODA(GRIDCO)	23:54:36	00:25:47	31
74	EP-89	JEERAT(WBSETCL)	NP-7610-A	400 KV JEERAT(WBSETCL) LINE(MAIN)	09:01:34	09:22:31	21
75	EP-90	JEERAT(WBSETCL)	NP-7611-A	400 KV JEERAT(WBSETCL) LINE(CHECK)	09:02:19	09:17:48	15
76	ER-75	JEYPORE(PG)	NP-5955-A	HV SIDE OF JEYPORE 315 MVA ICT -1	21:24:58	22:13:48	49
77	ER-77	JEYPORE(PG)	NP-5956-A	HV SIDE OF JEYPORE 315 MVA ICT -2	21:25:58	22:18:59	53
78	ER-34	JEYPORE(PG)	NP-5957-A	JEYPORE END OF JEYNAGAR (GRIDCO) -1	21:26:51	22:18:39	52
79	ER-35	JEYPORE(PG)	NP-5958-A	JEYPORE END OF JEYNAGAR (GRIDCO) -2	21:27:44	22:22:53	55
80	ER-36	JEYPORE(PG)	NP-5959-A	JEYPORE END OF INDRAVATI (PG)	21:28:37	22:15:05	47
81	ER-38	JEYPORE(PG)	NP-5960-A	JEYPORE END OF M MUNDALI (GRIDCO)	21:29:33	22:19:08	50
82	ER-84	JEYPORE(PG)	NP-5961-A	JEYPORE END OF GAJUWAKA (PG) -1	06:21:08	07:07:11	46
83	ER-85	JEYPORE(PG)	NP-5962-A	JEYPORE END OF GAJUWAKA (PG) -2	21:30:48	22:19:44	49
84	JD-02	JITPL	NP-7947-A	400 KV SIDE OF JINDAL GT-2	23:53:47	00:09:32	16
85	JD-01	JITPL	NP-7948-A	400 KV SIDE OF JINDAL GT-1	23:53:02	00:09:00	16
86	BI-09	KAHALGAON(BSPTCL)	NP-6071-A	KAHALGAON END OF LALMATIA LINE-I	22:05:39	22:22:46	17
87	BI-10	KAHALGAON(BSPTCL)	NP-6076-A	KAHALGAON END OF KHALGAON (NTPC)	22:06:39	22:19:52	13
88	WB-59	KALIMPONG(WBSETCL)	NP-5994-A	Melli Bazar 1	23:40:47	00:10:31	30
89	JS-52	KENDIPOSI(JUVNL)	NP-6117-A	KENDIPOSI END OF JODA (GRIDCO)	22:09:56	22:23:47	14
90	EP-64	KEONJHAR(PG)	NP-7546-A	HV SIDE OF 400/220 KV JEONJHAR ICT-1	09:05:33	09:20:24	15
91	EP-62	KEONJHAR(PG)	NP-7547-A	KEONJHAR END OF 400 KV BARIPADA(PG)	09:08:19	09:25:21	17
92	EP-63	KEONJHAR(PG)	NP-7548-A	KEONJHAR END OF 400 KV RENGALI(PG)	09:02:48	09:17:25	15
93	EP-65	KEONJHAR(PG)	NP-7549-A	HV SIDE OF 400/220 KV JEONJHAR ICT-2	09:00:02	09:12:42	12
94	BI-22	KHAGGAUL(BSPTCL)	NP-5833-A	KHAGGAUL END OF PATNA	22:25:18	22:38:27	13
95	WB-17	KHARAGPUR(WBSETCL)	NP-7563-A	400 KV BARIPADA(PG)	23:40:21	23:57:33	17
96	BI-21	Kishanganj(BSPTCL)	NP-6085-A	KISHANGANJ END OF DALKHOLA (WBHAR)	23:41:05	23:52:10	11
97	DV-61	KOLAGHAT(DVC)	NP-6558-B	KOLAGHAT END OF KOLAGHAT (WBHAR)	22:00:51	21:50:07	-10
98	WB-57	KURSEONG(WBSETCL)	NP-7541-A	132 KV RANGIT(NHPC)	23:42:17	23:55:27	13
99	JS-03	LALMATIA(JUVNL)	NP-6108-A	132 KV LALMATIA (JSEB) - KHALGAON (NTPC)	09:01:00	09:14:46	13
100	JS-04	LALMATIA(JUVNL)	NP-6109-A	220 KV LALMATIA (JSEB) - FARAKKA (NTPC)	09:01:53	09:13:54	12
101	JS-63	LALMATIA(JUVNL)	NP-6107-A	32 KV LALMATIA (JSEB) - KHALGAON (BSPHCL)	09:00:02	09:14:29	14
102	EM-97	MAITHON(PG)	NP-5206-A	MAITHON END OF MEJIA LINE-1	21:10:23	21:40:54	30
103	EM-98	MAITHON(PG)	NP-5225-A	MAITHON END OF MEJIA LINE-2	21:03:50	21:34:47	31
104	ER-12	MAITHON(PG)	NP-6451-A	MAITHON END OF KALYANESHWARI (DVC) -2	21:00:02	20:49:16	-11
105	ER-69	MAITHON(PG)	NP-6453-A	HV SIDE OF MAITHON 315 MVA ICT -1	09:04:31	08:51:40	-13
106	EM-82	MAITHON(PG)	NP-6509-A	MAITHON END OF KALYANESHWARI LINE-3	21:01:59	20:51:28	-10
107	EM-84	MAITHON(PG)	NP-6519-A	MAITHON END OF MAITHON RB (MPL)-1	21:09:29	20:58:35	-11
108	EM-81	MAITHON(PG)	NP-6529-A	MAITHON END OF KALYANESHWARI (DVC) -1	21:01:02	20:51:46	-10

109	EP-06	MAITHON(PG)	NP-7492-A	MAITHON END OF DURGAPUR(PG)-II	21:13:44	21:31:25	18
110	EP-05	MAITHON(PG)	NP-7534-A	MAITHON END OF DURGAPUR(PG)-I	21:12:56	21:28:42	16
111	EP-22	MAITHON(PG)	NP-7535-A	MAITHON END OF RTPS -2	21:15:20	21:32:44	17
112	EP-50	MAITHON(PG)	NP-7550-A	MAITHON END OF KODERMA LINE-I	21:16:08	21:32:29	16
113	EP-51	MAITHON(PG)	NP-7551-A	MAITHON END OF KODERMA LINE-II	21:16:56	21:32:26	16
114	EP-78	MAITHON(PG)	NP-7902-A	MAITHON END OF RANCHI LINE	21:14:32	21:29:03	15
115	EP-76	MAITHON(PG)	NP-7903-A	MAITHON END OF KAHALGAON LINE-1	21:12:08	21:27:42	15
116	EP-77	MAITHON(PG)	NP-7904-A	MAITHON END OF KAHALGAON LINE-2	21:11:20	21:26:49	15
117	ER-59	MALDA(PG)	NP-6478-A	132 KV MALDA WBSETCL2	09:00:02	08:44:37	-16
118	ER-58	MALDA(PG)	NP-7555-A	132 KV MALDA WBSETCL1	09:01:47	09:19:24	18
119	EP-91	MALDA(PG)	NP-7925-A	220 KV ICT3	09:06:04	09:21:52	15
120	EN-04	MALDA(PG)	NP-7926-A	220 KV ICT-5	09:03:21	09:19:12	16
121	ER-88	MALDA(PG)	NP-7927-A	400 KV PURNIA2	09:07:38	09:23:13	16
122	EP-92	MALDA(PG)	NP-7976-A	400 KV PURNIA1	09:06:51	09:21:47	15
123	EP-98	MALDA(PG)	NP-7977-A	132 KV ICT-1	09:01:01	09:14:28	13
124	EP-97	MALDA(PG)	NP-7978-A	132 KV ICT-2	09:02:34	09:17:40	15
125	DV-24	MEJIA(DVC)	NP-5226-A	MEJIA END OF MAITHON(PG)-1	09:01:42	09:23:30	22
126	DV-25	MEJIA(DVC)	NP-5227-A	MEJIA END OF MAITHON(PG)-2	09:03:28	09:20:51	17
127	DV-05	MEJIA(DVC)	NP-6508-A	MEJIA END OF JAMSHEDPUR (PG)	09:09:45	08:59:28	-10
128	DV-13	MEJIA(DVC)	NP-6532-A	HV SIDE OF MEJIA GT-2	09:04:21	08:53:42	-11
129	DV-12	MEJIA(DVC)	NP-6534-A	HV SIDE OF MEJIA GT-1	09:06:05	08:55:15	-11
130	DV-04	MEJIA(DVC)	NP-6557-A	MEJIA END OF DSTPS (DVC)	09:08:07	08:56:20	-12
131	DV-16	MEJIA(DVC)	NP-6776-A	MEJIA END OF DSTPP (DVC)	09:07:12	08:53:23	-14
132	DV-17	MEJIA(DVC)	NP-7493-A	MEJIA END OF JAMSHEDPUR (PG)	09:08:59	09:23:37	15
133	DV-26	MEJIA(DVC)	NP-7494-A	MEJIA END OF MAITHON(PG)-1	09:00:55	09:15:33	15
134	DV-27	MEJIA(DVC)	NP-7495-A	MEJIA END OF MAITHON(PG)-2	09:02:41	09:23:33	21
135	DV-14	MEJIA(DVC)	NP-7943-A	HV SIDE OF MEJIA STN TRANSF-1	09:00:02	09:16:13	16
136	SM-51	MELLI(SIKKIM)	NP-5849-A	66 KV Kalimpong	11:56:16	12:07:52	11
137	SM-04	MELLI(SIKKIM)	NP-5997-A	132 KV Rangit	09:00:02	09:12:34	12
138	MR-05	MPL	NP-7568-A	HV SIDE OF MAITHON RB GT-1	21:59:56	22:12:50	13
139	MR-08	MPL	NP-7897-A	HV SIDE OF MAITHON	22:31:43	22:41:40	10
140	MR-06	MPL	NP-7972-A	HV SIDE OF MAITHON RB GT-2	23:44:34	00:00:08	16
141	EP-56	MUZAFFARPUR(PG)	NP-5233-A	MUZAFFARPUR(PG)-HAJIPUR(BSPHCL) LINE-1	09:07:16	09:22:33	15
142	EP-57	MUZAFFARPUR(PG)	NP-5234-A	MUZAFFARPUR(PG)-HAJIPUR(BSPHCL) LINE-2	09:08:09	09:20:37	12
143	WB-04	NBU(WBSETCL)	NP-5953-A	NBU END OF SILIGURI(PG)-1	09:00:02	09:16:17	16
144	ES-34	PANDIABIL(PG)	NP-7554-A	400 KV PANDIABIL(PG)-MENDHASAL(GRIDCO)-2	07:02:35	07:19:05	17
145	EM-56	PATNA(PG)	NP-5271-A	220 KV SIDE OF PATNA ICT-1	23:38:17	23:49:19	11
146	EM-53	PATNA(PG)	NP-5273-A	400 KV PATNA (ER) - BALIA (NR)-2	09:31:35	09:42:34	11
147	EM-65	PATNA(PG)	NP-5832-A	220 KV PATNA(PG) - KHAGAU(BSPHCL)	23:49:49	00:00:26	11
148	EM-62	PATNA(PG)	NP-5839-A	400 KV SIDE OF PATNA ICT-2	09:17:10	09:27:43	10
149	EM-64	PATNA(PG)	NP-5865-A	220 KV PATNA - FATUA	23:32:29	23:44:36	12
150	EP-47	PATNA(PG)	NP-7838-A	220 KV PATNA(PG)-SIPARA(BSPHCL) LINE-II	09:14:25	09:26:48	12
151	EP-46	PATNA(PG)	NP-7864-A	220 KV PATNA(PG)-SIPARA(BSPHCL) LINE-I	23:55:20	00:09:44	14
152	JS-55	PATRATU(JUVNL)	NP-6003-B	PATRATU END OF PATRATU (DVC) TRANSFER BUS	09:01:50	09:16:51	15
153	JS-54	PATRATU(JUVNL)	NP-6004-B	PATRATU END OF PATRATU (DVC) -1	09:00:55	09:22:02	22
154	JS-40	PATRATU(JUVNL)	NP-6005-B	PATRATU END OF PATRATU (DVC) -2	09:00:02	09:19:40	19
155	BI-20	Purnea(BSPTCL)	NP-5236-A	PURNEA END OF PURNEA (PG)-3	23:40:11	23:55:06	15
156	BI-03	Purnea(BSPTCL)	NP-6088-A	PURNEA END OF PURNEA (PG) -1	23:37:32	23:47:23	10
157	BI-51	Purnea(BSPTCL)	NP-6090-A	PURNEA END OF PURNEA (PG) -3	23:38:26	23:49:16	11
158	ER-62	Purnea(PG)	NP-6081-A	PURNEA END OF PURNEA (BIHAR) -1	09:00:02	09:12:33	12
159	ER-48	Purnea(PG)	NP-6083-A	PURNEA END OF PURNEA (BIHAR) -3	09:01:59	09:16:00	15
160	ER-65	Purnea(PG)	NP-7419-A	PURNEA END OF DALKHOLA (PG) -2	09:04:37	09:22:24	18
161	ER-64	Purnea(PG)	NP-7420-A	PURNEA END OF DALKHOLA (PG) -1	09:03:50	09:21:12	18
162	EM-51	Purnea(PG)	NP-7421-A	PURNEA END OF MUZAFFARPUR -1	09:05:50	09:21:38	16
163	EM-52	Purnea(PG)	NP-7422-A	PURNEA END OF MUZAFFARPUR LINE-2	09:05:03	09:22:52	17
164	ER-32	Purnea(PG)	NP-7423-A	PURNEA END OF BINAGURI (PG) -2	09:02:28	09:20:58	18
165	ER-33	Purnea(PG)	NP-7424-A	PURNEA END OF BINAGURI (PG) -1	09:01:41	09:18:13	17
166	EP-83	Purnea(PG)	NP-7828-A	PURNEA END OF MADHEPURA(BSPHCL) LINE-1	09:00:55	09:12:19	12
167	EP-84	Purnea(PG)	NP-7829-A	PURNEA END OF MADHEPURA(BSPHCL) LINE-2	09:00:02	09:16:03	16
168	EP-86	Purnea(PG)	NP-7835-A	PURNEA END OF BIHARSHARIFF LINE-2	09:07:35	09:21:09	14
169	EM-41	RANCHI(PG)	NP-5871-A	400 KV RANCHI(PG)-RTPS(DVC)	09:07:59	09:19:29	12
170	EM-42	RANCHI(PG)	NP-5873-A	400 KV SIDE OF RANCHI ICT-2	09:07:03	09:17:20	10
171	EM-46	RANCHI(PG)	NP-5877-A	400 KV RANCHI-MAITHON	09:06:07	09:17:20	11
172	EN-08	RANCHI(PG)	NP-7402-A	400 KV RANCHI(PG)- RANCHI NEW(PG) LINE-3	09:17:33	09:36:25	19
173	EN-05	RANCHI(PG)	NP-7837-A	400 KV RANCHI(PG)- RANCHI NEW(PG) LINE-1	09:16:00	09:30:43	14
174	EN-09	RANCHI(PG)	NP-7873-A	400 KV RANCHI(PG)- RANCHI NEW(PG) LINE-4	09:18:17	09:33:30	15
175	EM-49	RANCHI(PG)	NP-7880-A	220 KV HATIA LINE 2	09:03:34	09:16:14	13
176	EN-96	RANCHI(PG)	NP-7881-A	220 KV HATIA LINE 1	09:02:47	09:16:52	14
177	EP-81	RENGALI(PG)	NP-7952-A	RENGALI END OF 400 KV TSTPP LINE-1	22:13:44	22:23:29	10
178	ER-72	ROURKELA(PG)	NP-5930-A	HV SIDE OF ROURKELA 315 MVA ICT -2	22:22:38	22:39:29	17
179	ER-26	ROURKELA(PG)	NP-5931-A	ROURKELA END OF JAMSHEDPUR (PG)-2	22:29:05	22:50:05	21
180	ER-24	ROURKELA(PG)	NP-5933-A	ROURKELA END OF TARKERA (GRIDCO)-2	22:24:36	22:38:38	14
181	ER-80	ROURKELA(PG)	NP-5943-A	ROURKELA END OF RAIGARH - I	22:21:39	22:31:07	10
182	EM-92	ROURKELA(PG)	NP-7965-A	ROURKELA END OF RAIGARH (WR)-2	22:25:34	22:38:30	13
183	WB-53	SANTALDIH(WBSETCL)	NP-7942-A	SANTALDIH END OF CHANDIL (JSEB)	23:53:41	00:10:15	17
184	EP-23	SASARAM(PG)	NP-7412-A	400 KV SASARAM(PG)-NABI NAGAR(BSPHCL)-II	09:07:55	09:23:52	16
185	EP-01	SASARAM(PG)	NP-7414-A	400 KV SASARAM (PG) EAST BUS-III	09:10:27	09:20:14	10
186	EP-02	SASARAM(PG)	NP-7468-A	400 KV SASARAM (PG) NORTH BUS-3 BALIA	08:57:39	09:14:08	17
187	BI-25	SIPARA(BSPTCL)	NP-7870-A	220 KV PATNA (PG) LINE-2	23:33:17	23:45:17	12
188	BI-24	SIPARA(BSPTCL)	NP-7872-A	220 KV PATNA (PG) LINE-1	23:31:15	23:46:27	15
189	BI-66	SONNAGAR(BSPTCL)	NP-6013-B	SONNAGAR END OF RIHAND(UPSEB)	22:17:13	22:37:00	20
190	BI-60	SONNAGAR(BSPTCL)	NP-6015-B	132 KV SONENAGAR (BSPHCL)- JAPLA (JSEB)	22:16:13	22:36:50	20
191	EM-19	SUBHASHGRAM(PG)	NP-5847-A	SUBHASHGRAM END OF SUBHASHGRAM-2 (WB)	09:03:41	09:14:18	11
192	EN-18	SUBHASHGRAM(PG)	NP-7566-A	315 MVA ICT 4 - 220 KV	09:10:10	09:26:31	16
193	EP-72	SUBHASHGRAM(PG)	NP-7935-A	SUBHASHGRAM END OF EMBYPASS(WB) LINE-1	09:06:16	09:16:50	10
194	EN-16	SUBHASHGRAM(PG)	NP-7938-A	400 KV HALDIA LINE 1	09:08:36	09:20:14	12
195	EP-58	SUBHASHGRAM(PG)	NP-7939-A	HV SIDE OF SUBHASHGRAM ICT-4	09:07:50	09:17:37	10
196	EN-28	SUBHASHGRAM(PG)	NP-7996-A	315 MVA ICT 3 - 220 KV	09:10:57	09:23:04	13
197	EP-68	SUNDERGARH(PG)	NP-7896-A	400 KV RAIGARH(WR) LINE-1	23:38:00	23:50:25	12
198	EP-69	SUNDERGARH(PG)	NP-7898-A	400 KV ROURKELA(PG) LINE-1	23:38:48	23:55:05	17
199	EP-67	SUNDERGARH(PG)	NP-7912-A	400 KV ROURKELA(PG) LINE-2	23:37:12	23:51:05	14
200	EP-66	SUNDERGARH(PG)	NP-7913-A	400 KV RAIGARH(WR) LINE-2	23:36:24	23:49:18	13
201	JS-62	TENUGHAT(JUVNL)	NP-8115-A	TENUGHAT END OF BIHARSHARIFF(BIHAR)	22:37:18	22:50:40	13
202	DV-35	TISCO(DVC)	NP-7406-A	400 KV BARIPADA (PG)	21:07:27	21:23:25	16
203	DV-34	TISCO(DVC)	NP-7408-A	400 KV JAMSHEDPUR (PG)	21:08:15	21:23:17	15
204	ST-06	VEDANTA(GRDICO)	NP-6527-A	ST-2	23:36:37	23:58:38	22
205	ST-02	VEDANTA(GRDICO)	NP-6528-A	GT-2	23:34:50	23:59:50	25
206	ST-01	VEDANTA(GRDICO)	NP-6540-A	GT-1	00:34:32	00:59:21	25
207	ST-05	VEDANTA(GRDICO)	NP-6543-A	ST-1	23:35:43	23:57:58	22
208	EM-93	VEDANTA(GRDICO)	NP-6545-A	STERLITE END OF RAIGARH (WR)-2	22:26:23	22:15:13	-11
209	ST-03	VEDANTA(GRDICO)	NP-6555-A	GT-3	23:37:30	00:02:54	25
210	ST-04	VEDANTA(GRDICO)	NP-6556-A	GT-4	23:38:23	23:58:40	20

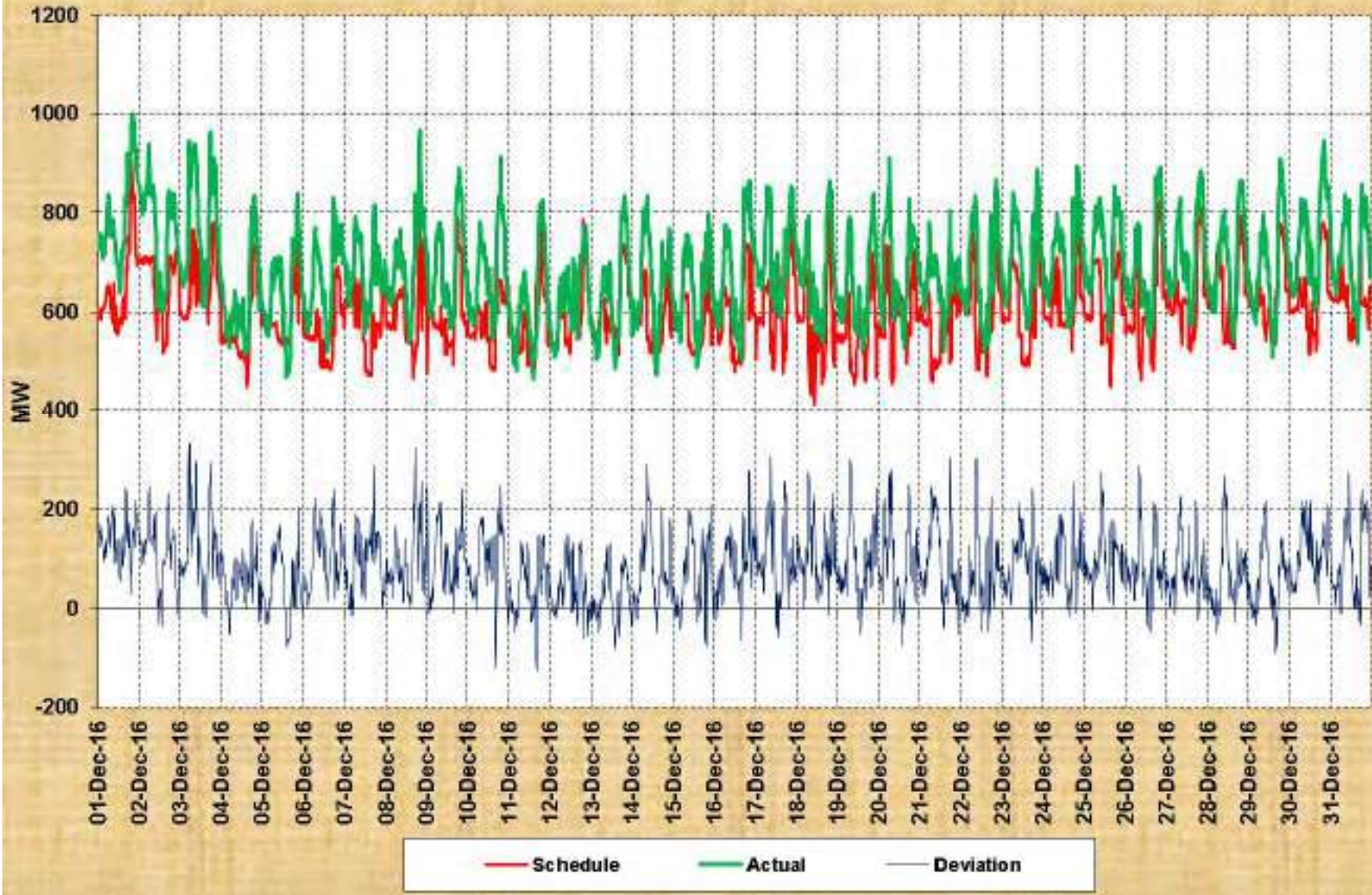
Jharkhand Sch vs Act drawal and Deviation curve from 01-11-16 to 00-01-00 (Actual Max=1028MW;  
Min=308MW; Min Freq.=49.63Hz)

NOV-16



Jharkhand Sch vs Act drawal and Deviation curve from 01-12-16 to 31-12-16 (Actual Max=999MW; Min=463MW; Min Freq.=49.77Hz)

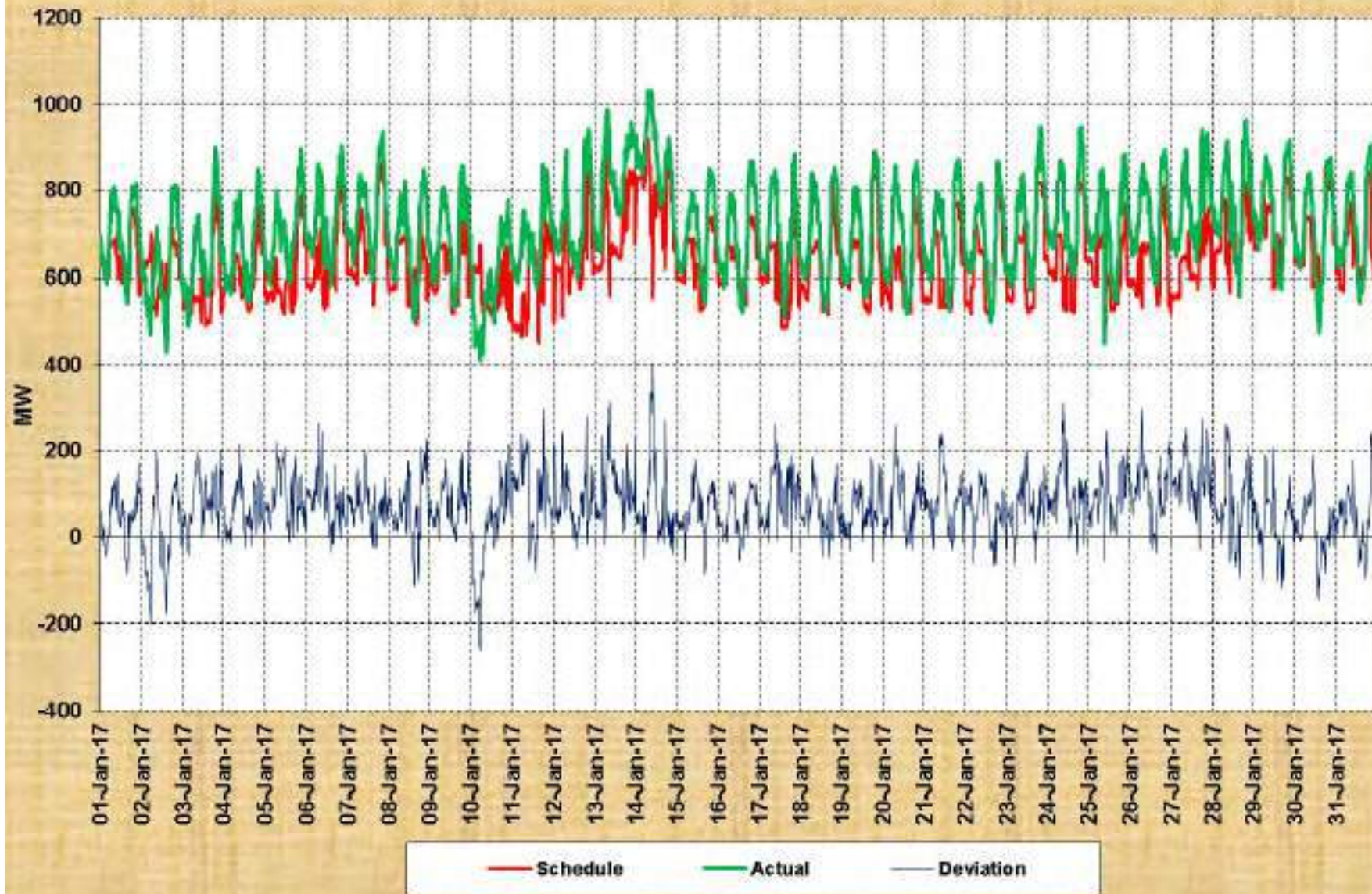
DEC-16





Jharkhand Sch vs Act drawal and Deviation curve from 01-01-17 to 31-01-17 (Actual Max=1032MW; Min=410MW; Min Freq.=49.81Hz)

JAN-17



Reporting Format to the PSDF Project Monitoring Group	
1. Name of the Scheme	
1.1 Name of the substation and its location	
1.2 Executing Agency	
1.3 State/Region	
2. Date of Sanction order	
2.1 Date of Agreement of Entry with State Govt./NLDL	
2.2 Total Approved Cost of the Scheme	
2.3 Approved Grant by Monitoring Committee (Rs. In Lakhs)	
2.4 Date of Requisition by the Entry	
2.4.a) date and Reference of LOA	
2.4.b) Amount of LOA	
2.5 Date of Disbursement and amount	
2.5.1: 1st installment	
2.5.2: 2nd installment	
2.5.3: 3rd installment	
2.6 Date of Scheduled completion of Work	
2.7 Date of handing over of Site to entity (In case of turnkey projects)	

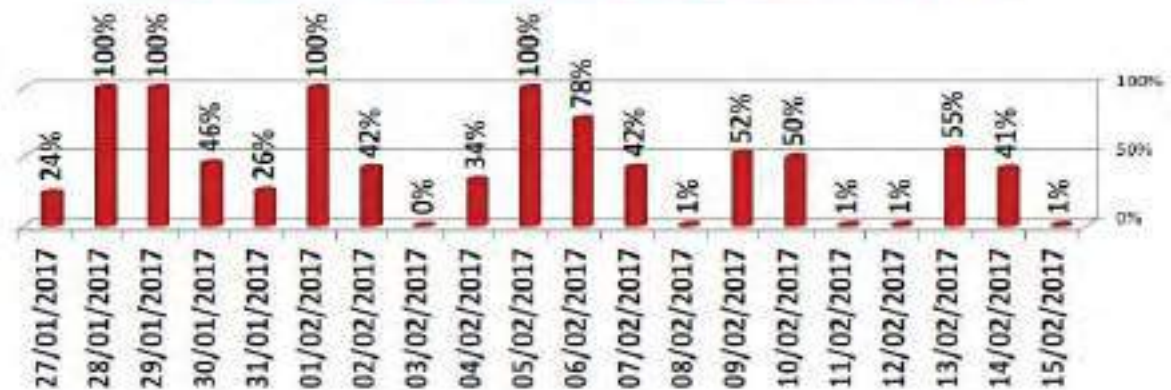
Report for the Month of MM / YY							
No.	Supply Description	Qty. AS PER LOA	Quantity Received during Month	CUMMULATIVE PROGRESS Till date		BALANCE	Remarks
				Sch.	Act.		
1	Item Details						
1.1							
1.2							
....							
	Erection Description	works as per LOA	Progress During Month	CUMMULATIVE PROGRESS Till date		Balance	
2	work details						
2.1							
2.2							
....							
3	Others						

Signature with seal of the Nadal Officer

## Chronic issue with real time data availability in eastern region:-

- Frequent Failure of Purnea New real time data.

Percentage Non-Availability of real time data from Purnea 400 kV to ERLDC.



- Another **31 days gone** but **JITPL** and **Lalmatia** data yet be restored by JITPL and NTPC respectively.
- No redundant Communication channel in eastern region for real time telemetry over IEC 101, IEC 104 as well as over ICCP protocol

## No VOICE over VOIP

- IPP : JITPL, GMR, IBEUL, TEESTA #3.
- POWERGRID : Bolangir , Indravati , Jeypore , Keonjhar, Purnea 400 kV, Purnea 220 , Baharampur 400kV , Rourkella , Lakhisarai, Rengali, Keonjhor, Jeypore, Dalkhola (PG), Birpara, Kishanganj, Indravati (PG), Bolangir ,Pandiabili.
- NTPC : Nabinagar.

# Building more confidence of Grid operator on SCADA data.

## ➤ Meeramundali MVAr data:

	Duburi New 1	Duburi New 2	Mendhasal	Angul 1	Angul 2	GMR	Talcher STPS	ICT 2	JSPL 1	JSPL 2	Sterlite 1	Sterlite 2	Residue
Site	-96	-98	19	100	126	14	18	85	-23	-25	-52	-52	16
OPTCL	-96	-92	57	182	126	25	20	85	-25	-30	5	-2	255
ERLDC	-96	-92	57	182	126	25	20	85	-25	-30	5	-2	255

## ➤ Data validation is required to be done on periodic basi.

## Non availability of Unit side data

- IBEUL (Unit 1 , Unit 2)
- Farakka Unit #6, Unit #5 (erroneous data).
- Sagardighi Unit #3.
- Teesta V HPS unit data.
- Rangit HPS Unit Data.

# OLTC

1. NEW SASARAM @ 1500 MVA 765/400 kV ICT 1
2. ANGUL @ 1500 MVA 765/400 kV ICT 1
3. ANGUL @ 1500 MVA 765/400 kV ICT 3
4. ANGUL @ 1500 MVA 765/400 kV ICT 4
5. JHARSUGUDA @ 1500 MVA 765/400 kV ICT 1
6. JHARSUGUDA @ 1500 MVA 765/400 kV ICT 2
7. BOLANGIR @ 315 MVA 400/220 kV ICT 1
8. BIHARSHARIF @ 315 MVA 400/220 kV ICT 1
9. BIHARSHARIF @ 315 MVA 400/220 kV ICT 3
10. INDRAVATI (2ND ICT) @ 315 MVA 400/220 kV ICT 1
11. INDRAVATI (2ND ICT) @ 315 MVA 400/220 kV ICT 2
12. KEONJHAR @ 315 MVA 400/220 kV ICT 1
13. KEONJHAR @ 315 MVA 400/220 kV ICT 2
14. MALDA @ 315 MVA 400/220 kV ICT 1
15. MUZAFFARPUR @ 315 MVA 400/220 kV ICT 3
16. RANCHI @ 315 MVA 400/220 kV ICT 1

# OLTC

19. RANCHI @ 315 MVA 400/220 kV ICT 2
20. RENGALI @ 315 MVA 400/220 kV ICT 2
21. ROURKELA @ 315 MVA 400/220 kV ICT 3
22. CHAIBASA @ 315 MVA 400/220 kV ICT 1
23. CHAIBASA @ 315 MVA 400/220 kV ICT 2
24. CHAIBASA @ 315 MVA 400/220 kV ICT 3
25. SUBHASGRAM (ICT I, II & V) @ 315 MVA 400/220 kV ICT3
26. KISHANGUNJ @ 500 MVA 400/220 kV ICT 2
27. KISHANGUNJ @ 500 MVA 400/220 kV ICT 3
28. BARH @ 200 MVA 400/132 kV ICT 1
29. BARH @ 200 MVA 400/132 kV ICT 2
30. LAKHISARAI @ 200 MVA 400/132 kV ICT 3
31. ARRAH @ 100 MVA 220/132 kV ICT 1
32. ARRAH @ 100 MVA 220/132 kV ICT 2
33. PURNEA @ 160 MVA 220/132 kV ICT 1
34. PURNEA @ 160 MVA 220/132 kV ICT 2

# NTPC

- Lalmatia: ( No data since Jan 2016).
- Farakka NTPC:
  - Unit #5 MW and MVAR data not matching with site data (As per inputs from NTPC, This will be done during overhauling of Unit#5)
  - Unit # 6 LV side not available.
- Nabinagar NTPC :
  - Alternet Data channel not provided.
  - Unit HV side data.
  - **No VOIP.**

# POWERGRID

- Data Intermittent /not available:
  - Purnea 400kV (Frequent Failure of RTU)
  - Ranchi 400kV, Baripada, Gaya, Angul, Chaibasa
- VOIP for following station not yet provided:
  - Bolangir , Indravati , Jeypore , Keonjhar

## WBSETCL

### ➤ Following station data not available:

- TLDP 4.
  - Gokarna 400kV (400/220 kV ICT was first charged on 15th Sept'16),
  - Dharampur 220,
  - Krishnanagar 220,
  - Hura 220,
  - Foundry Park 220.
  - Dalkhola
  - Bantala
  - Lakshmikantapur
  - New Town
- Sagardighi :
- Unit 3 LV side (Unit) data not available.
- **Kolaghat TPS :** Kharagpur #1 MW/MVAR flow not available.

## BSPHCL

### ➤ Data Intermittent /not available:

- Dumraon, Sonenagar, Khagaul ,Darbhanga, Dehri , sultangaunj , Lakhisarai, Karmanasa, Kahalgaon, Jamaui , Banka, Gopalganj, Kisanganj, Arrah ,Rajgir,Sipara ,Hajipur(New), Pusauli, Valmikinagar, Koshi

## JSUNL

- Data Intermittent / not available:
  - Hatia New 220,
  - Dumka 220.
  - Patratu(Intermittent)
  - DEOGHAR
  - DUMKA
  - GARHW
  - GOELKERA
  - JAMTARA
  - JAPLA
  - KENDOPOSI

## DVC

- Data Not provided:
  - Giridhi 220,
- Durgapur TPS (DSTPS): Highly intermittent.



## Annexure - C10.1

## SUMMARY OF DEVIATION CHARGE RECEIPT AND PAYMENT STATUS

BILL from 28.03.16 to 15.01.17 (upto Week - 42 of 2016 - 17)

Last Payment Disbursement Date -06.02.17

Figures in Rs. Lakhs

CONSTITUENTS	Receivable	Received	Payable	Paid	Outstanding
WR	18945.83570	15811.18729	19599.07787	18811.73327	2347.30381
SR	1945.76835	2007.72646	23225.74713	21150.55211	-2137.15314
NER	63096.40148	65502.27270	8914.27578	4893.70576	-6426.44124
NR	5857.93007	1034.56935	55033.92138	53647.63389	3437.07323
BSPHCL	7561.70870	5169.10465	985.21941	0.00000	1407.38464
JSEB	8010.47974	3396.15457	452.33933	0.00000	4161.98584
DVC	1154.07523	1178.91245	2024.12651	2025.94398	-23.01975
GRIDCO	1875.01522	1879.33318	1756.60024	1707.72168	-53.19652
WBSETCL	7637.54908	7509.02958	293.29540	562.41588	397.63998
SIKKIM	43.59053	0.00000	1181.43602	1127.85538	-9.99011
NTPC	9187.65294	9131.16590	0.00000	3.67096	60.15800
NHPC	0.00000	0.00000	1744.87050	1731.78504	-13.08546
MPL	44.45104	44.45104	776.45449	761.95433	-14.50016
STERLITE	5050.74588	5050.74578	0.16892	0.16882	0.00000
APNRL	417.02909	219.63563	239.15938	0.00000	-41.76592
CHUZACHEN (GATI)	24.03633	24.03633	496.40362	495.88149	-0.52213
NVVN (IND-BNG)	360.13993	357.99741	94.81568	95.81574	3.14258
JITPL	1089.74945	1090.24160	1068.93820	1038.44005	-30.99030
GMR	333.01621	321.59716	1202.70596	1202.70596	11.41905
IND BARATH	89.32950	76.47458	443.91325	432.14046	1.08213
TPTCL(DAGACHU)	1217.59576	1203.83791	69.71771	78.03065	22.07079
JLHEP (DANS ENERGY)	331.01994	306.08875	151.80440	133.30605	6.43284
BRBCL(NABINAGAR)	194.44901	218.24747	1000.92121	610.76237	-413.95730
NVVN (IND-NEPAL)	404.60514	410.16777	59.23818	79.55593	14.75512
HVDC SASARAM	1.60348	1.60348	20.72042	19.65339	-1.06703
KBUNL	29.18928	25.15868	0.00000	0.00000	4.03060
TEESTA-III(TUL)	0.00000	0.00000	0.00000	0.00000	0.00000
Pool Balance	0.00000	0.00000	-190.83260	0.00000	190.83260
Addl Deviation charge	9261.11594	14611.28008	0.00000	0.00000	-5350.16414
IRE	0.00000	0.00000	441.60109	0.00000	-441.60109
VAE	0.00000	0.00000	4554.93355	0.00000	-4554.93355
<b>TOTAL</b>	<b>134902.96708</b>	<b>121969.73972</b>	<b>125641.57303</b>	<b>110611.43319</b>	

	<b>% Realization</b>	<b>90.41</b>	<b>As on</b>	<b>07.02.17</b>
Receivable:	Receivable by ER POOL		Payable	Payable by ER POOL
Received	Received by ER POOL		Paid	Paid by ER POOL
"- ve" Payable by ER pool		"+ ve" Receivable by ER pool		

**Annexure - C10.2****STATUS OF REACTIVE CHARGES**

RECEIVABLE IN ER POOL AS PER PUBLISHED A/C UPTO 15.01.17 (2016 -17)  
AS ON 07.02.2017

<b>CONSTITUENT</b>	<b>AMOUNT RECEIVABLE IN THE POOL (Rs.)</b>	<b>AMOUNT RECEIVED IN THE POOL (Rs.)</b>	<b>OUTSTANDING (Rs.)</b>
<b>BSPHCL</b>	<b>93587</b>	<b>0</b>	<b>93587</b>
<b>JSEB</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>DVC</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>GRIDCO</b>	<b>39469035</b>	<b>35786551</b>	<b>3682484</b>
<b>WBSETCL</b>	<b>195794216</b>	<b>163498985</b>	<b>32295231</b>
<b>SIKKIM</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TOTAL</b>	<b>235356838</b>	<b>199285536</b>	<b>36071302</b>

Note: (+ve) means payable by utility & (-ve) means receivable by utility

## Annexure - C10.3

**SUMMARY OF RRAS CHARGE RECEIPT AND PAYMENT STATUS****BILL from 18.04.16 to 15.01.17 (upto Week - 42 of 2016 - 17)****Last Payment Disbursement Date -07.02.17**

Figures in Rs. Lakhs

<b>CONSTITUENTS</b>	<b>Receivable</b>	<b>Received</b>	<b>Payable</b>	<b>Paid</b>	<b>Outstanding</b>
FSTPP STG-I	220.51369	220.51369	3446.68584	3446.09651	-0.58933
FSTPP STG-II	45.46118	44.71118	599.64887	599.64887	0.75000
KhSTPP STG-I	173.72258	171.01295	1604.50088	1604.41716	2.62591
KhSTPP STG-II	77.11902	77.11902	5204.16558	5203.76097	-0.40460
TSTPP STG-I	121.13318	121.13318	377.24070	375.87592	-1.36478
BARH STG-I	0.00000	0.00000	0.00000	0.00000	0.00000
BARH STG-II	270.57348	270.39444	3263.68011	3263.23386	0.73279
<b>NTPC TOTAL</b>	<b>908.52312</b>	<b>905.63444</b>	<b>14495.92197</b>	<b>14493.03325</b>	<b>-0.00004</b>
RANGIT	0.00000	0.00000	0.00000	0.00000	0.00000
TEESTA-V	0.00000	0.00000	0.00000	0.00000	0.00000
<b>NHPC TOTAL</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>
<b>TOTAL</b>	<b>908.52312</b>	<b>905.63444</b>	<b>14495.92197</b>	<b>14493.03325</b>	<b>-0.00004</b>

**Annexure - C10.4**

**SUMMARY OF CONGESTION CHARGE RECEIPT AND PAYMENT STATUS**

**Bill upto 07.01.2013**

**Last Payment Disbursement Date - 13.05.2013**

Figures in Rs. Lakhs

CONSTITUENTS	Receivable	Received	Payable	Paid	Outstanding
BSEB	0.67823	0.67823	0.39118	0.39118	0.00000
JSEB	16.37889	16.37889	2.61323	2.61323	0.00000
DVC	0.00000	0.00000	6.24040	6.24040	0.00000
GRIDCO	5.34488	5.34488	0.00000	0.00000	0.00000
WBSETCL	0.00000	7.42249	4.32834	11.75083	0.00000
SIKKIM	0.65609	6.20909	0.00000	5.55300	0.00000
NTPC	6.93152	6.93152	7.42249	7.42249	0.00000
NHPC	0.70445	0.70445	0.05875	0.05875	0.00000
MPL	4.81694	4.81694	0.85169	0.85169	0.00000
STERLITE	7.70504	7.70504	0.00000	0.00000	0.00000
Pool Balance	0.00000	0.00000	21.30996	21.30996	0.00000
<b>TOTAL</b>	<b>43.21604</b>	<b>56.19153</b>	<b>43.21604</b>	<b>56.19153</b>	<b>0.00000</b>

**% Realization**

**As on 31.05.2015**

Receivable: Receivable by ER POOL      Payable      Payable by ER POOL  
 Received      Received by ER POOL      Paid      Paid by ER POOL  
 "- ve" Payable by ER pool      "+ ve" Receivable by ER pool

<b>DETAILS OF DISBURSEMENT TO POWER SYSTEM DEVELOPMENT FUND</b>
---

SI No	Nature of Amount	Amount transferred to PSDF (Rs in Lac)	Date of Disbursement	Cheque No	Remarks
1	Opening Balance (upto 31.12.15)	83873.87922			
2	Addl. Dev	18.40442	01.01.16		Addl Dev Charge 15-16
3	Addl. Dev	16.46976	05.01.16		Addl Dev Charge 15-16
4	Addl. Dev	33.27577	07.01.16		Addl Dev Charge 15-16
5	Addl. Dev	19.11532	11.01.16		Addl Dev Charge 15-16
6	Addl. Dev	90.94357	14.01.16		Addl Dev Charge 15-16
7	Addl. Dev	19.04467	18.01.16		Addl Dev Charge 15-16
8	Addl. Dev	50.72543	20.01.16		Addl Dev Charge 15-16
9	Addl. Dev	11.10228	22.01.16		Addl Dev Charge 15-16
10	Addl. Dev	45.43206	27.01.16		Addl Dev Charge 15-16
11	Addl. Dev	96.62204	29.01.16		Addl Dev Charge 15-16
12	Reactive Charge	450.00000	02.02.16		Reactive Energy Charge_15-16
13	Addl. Dev	69.01901	04.02.16		Addl Dev Charge 15-16
14	Addl. Dev	45.99429	11.02.16		Addl Dev Charge 15-16
15	Addl. Dev	50.44878	15.02.16		Addl Dev Charge 15-16
16	Addl. Dev	371.30972	17.02.16		Addl Dev Charge 15-16
17	Addl. Dev	91.04585	22.02.16		Addl Dev Charge 15-16
18	Addl. Dev	121.28575	24.02.16		Addl Dev Charge 15-16
19	Addl. Dev	40.83267	29.02.16		Addl Dev Charge 15-16
20	Addl. Dev	61.45400	02.03.16		Addl Dev Charge 15-16
21	Addl. Dev	16.51444	04.03.16		Addl Dev Charge 15-16
22	Addl. Dev	142.93695	09.03.16		Addl Dev Charge 15-16
23	Addl. Dev	55.54777	15.03.16		Addl Dev Charge 15-16
24	Addl. Dev	85.71223	17.03.16		Addl Dev Charge 15-16
25	Addl. Dev	58.13810	21.03.16		Addl Dev Charge 15-16
26	Addl. Dev	253.40681	23.03.16		Addl Dev Charge 15-16
27	Addl. Dev	25.92020	28.03.16		Addl Dev Charge 15-16
28	Reactive Charges	250.00000	28.03.16		Reactive Charges_15-16
29	Addl. Dev	83.33978	01.04.16		Addl Dev Charge 15-16
30	Addl. Dev	43.77416	05.04.16		Addl Dev Charge 15-16
31	Addl. Dev	31.83984	07.04.16		Addl Dev Charge 15-16
32	Addl. Dev	52.08622	11.04.16		Addl Dev Charge 15-16
33	Addl. Dev	107.23773	13.04.16		Addl Dev Charge 15-16
34	Addl. Dev	220.15330	19.04.16		Addl Dev Charge 15-16
35	Addl. Dev	76.84824	21.04.16		Addl Dev Charge 15-16
36	Addl. Dev	20.84026	26.04.16		DSM Interest 2014-15(Paid by APNRL)
37	Addl. Dev	10.01920	26.04.16		Addl Dev Charge 16-17
43	Addl. Dev	432.25696	28.04.16		Addl Dev Charge 16-17
44	Addl. Dev	117.08707	02.05.16		Addl Dev Charge 16-17
45	Addl. Dev	41.65418	04.05.16		Addl Dev Charge 16-17
46	Addl. Dev	114.33049	06.05.16		Addl Dev Charge 15-16 & 16-17
47	Deviation Interest	38.50018	06.05.16		Deviation Interest
48	Addl. Dev	35.54178	10.05.16		Addl Dev Charge 16-17
49	Addl. Dev	448.87953	31.05.16		Addl Dev Charge 16-17
50	Addl. Dev	170.51274	29.06.16		Addl Dev Charge 16-17
51	Reactive Charges	530.57497	28.09.16		Reactive Charges_15-16
274	Reactive Charges	1000.00000	26.12.16		Reactive Charges_16-17
	<b>Total</b>	<b>90040.05774</b>			

## Annexure-C11.1

## Status of Reconciliation of Deviation Pool Account

	2015-16				2016-17		
Name of The Utility	Q1 (01.07.15)	Q2(05.10.15)	Q3(05.01.16)	Q4(05.04.16)	Q1 (04.07.16)	Q2 (03.10.16)	Q3 (04.01.17)
<b>Inter Regional</b>							
WR	YES	NO	YES	YES	YES	YES	YES
SR	YES	YES	YES	YES	YES	YES	NO
NER	NO	NO	YES	YES	YES	YES	YES
NR	NO	NO	NO	NO	NO	NO	NO
<b>Intra Regional</b>							
BSPHCL	YES	YES	YES	YES	YES	YES	YES
JUVNL	NO	NO	NO	NO	NO	NO	NO
DVC	YES	YES	YES	YES	YES	YES	NO
GRIDCO	YES	YES	YES	YES	YES	YES	YES
WBSETCL	YES	YES	YES	YES	YES	YES	YES
SIKKIM	YES	YES	YES	YES	NO	NO	NO
NTPC	YES	YES	YES	YES	YES	YES	YES
NHPC	YES	YES	YES	YES	YES	YES	YES
MPL	YES	YES	YES	YES	YES	YES	YES
VEDANTA	YES	YES	YES	YES	NO	NO	NO
APNRL	YES	YES	YES	YES	YES	YES	NO
CHUZACHEN(GATI)	YES	YES	YES	YES	NO	NO	NO
NVVN(Ind-Bng)	YES	YES	YES	YES	YES	YES	YES
NVVN(Ind-Nep)	N/A	N/A	N/A	N/A	YES	YES	YES
GMR	YES	YES	YES	YES	YES	YES	NO
JITPL	YES	YES	YES	YES	YES	YES	YES
INBEUL	NO	NO	NO	NO	NO	NO	NO
TPTCL (DAGACHU)	YES	YES	YES	YES	YES	YES	YES
JLHEP(DANS ENERGY)	N/A	N/A	YES	YES	NO	NO	NO
POWERGRID	N/A	N/A	N/A	N/A	N/A	N/A	YES

Note:

- (1)The dates in the bracket indicates the date of sending the Reconciliation statements by ERLDC to utilities.
- (2) YES Indicates that signed reconciliation statement received by ERLDC
- (3) NO Indicates that signed reconciliation statement is not received by ERLDC



## Annexure- C16

## 3rd Phase : 33 Locations

			S.No	ERLDC_ID	OLD MTR	NEW MTR	LOCATION	S.No	ERLDC_ID	OLD MTR	NEW MTR	LOCATION
1	BALIMELA(BLM)	GRIDCO	1	AP-03	NP-7438-A	NP-8642-A	APNRL	109	EN-51		NP-7887-A	LAKHISARAI(PG)
2	BANGRIPOSHI(BGR)	GRIDCO	2	AP-02	NP-7462-A	NP-8643-A	APNRL	110	EN-52		NP-7430-A	LAKHISARAI(PG)
3	BANKA(BNK)	PG	3	EN-93		NP-8742-A	ARA(PG)	111	EN-89		NP-7887-A	LAKHISARAI(PG)
4	CHAIBASA(CHB)	PG	4	EN-94		NP-8743-A	ARA(PG)	112	EN-90		NP-7430-A	LAKHISARAI(PG)
5	CHAIBASA(CHA)	JUVNL	5	ES-02		NP-8860-A	ARA(PG)	113	EN-51		NP-7888-A	LAKHISARAI(PG)
6	DUMKA(DUM)	JUVNL	6	ES-22		NP-8790-A	BOLANGIR(PG)	114	EN-52		NP-7431-A	LAKHISARAI(PG)
7	DARBHANGA(DBG)	DMTCL	7	ES-23		NP-8789-A	BOLANGIR(PG)	115	OR-23		NP-7915-A	DUBURI(GRIDCO)
8	GYALSHING(GSH)	SIKKIM	8	EP-99		NP-7560-A	BOLANGIR(PG)	116	JS-09		NP-8695-A	DUMKA(JUVNL)
9	HALDIA(HAL)	WBSETCL	9	ES-27		NP-8775-A	MALDA(PG)	117	JS-10		NP-8774-A	DUMKA(JUVNL)
10	IND-BARATH (IBR)	IPPR	10	ES-28		NP-8776-A	MALDA(PG)	118	SM-07		NP-8730-A	GYALSHING(SIKKIM)
11	JAMUI(JMU)	BIHAR	11	EN-87		NP-8727-A	MAITHON(PG)	119	WB-60		LT-0307-A	HALDIA CESC(WB)
12	JLHEP(DANS ENERGY)	IPPR	12	EN-88		NP-8739-A	MAITHON(PG)	120	WB-61		LT-0311-A	HALDIA CESC(WB)
13	KISANGANJ (KSN)	PG	13	ES-42		NP-7401-A	MAITHON(PG)	121	OR-15		NP-7991-A	BALIMELA(GRIDCO)
14	KATAPALLI(KTP)	GRIDCO	14	ES-01		NP-8874-A	MUZAFFARPUR(PG)	122	OR-16		NP-7992-A	BALIMELA(GRIDCO)
15	KUDRA(KUD)	BIHAR	15	ES-07		NP-8871-A	MUZAFFARPUR(PG)	123	OR-62		NP-5907-A	BANGRIPOSHI(GRIDCO)
16	KISANGANJ (KIS)	BSPTCL	16	ES-08		NP-8873-A	MUZAFFARPUR(PG)	124	NB-01		NP-8700-A	NABINAGAR
17	LAKHISARAI(LKS)	PG	17	ES-09		NP-8872-A	MUZAFFARPUR(PG)	125	NB-02		NP-8701-A	NABINAGAR
18	LAKHISARAI(LKK)	BIHAR	18	ES-43		NP-6077-A	MUZAFFARPUR(PG)	126	NB-05		NP-8662-A	NABINAGAR
19	NABINAGAR(NBN)	NTPC	19	ES-44		NP-6078-A	MUZAFFARPUR(PG)	127	NB-07		NP-8892-A	NABINAGAR
20	NEW DUBRI (DBR)	GRIDCO	20	OR-20	NP-5983-A	NP-7498-A	MENDHASAL(GRIDCO)	128	NB-11		NP-8891-A	NABINAGAR
21	NEW PUSAULI (NPS)	BIHAR	21	BI-72		NP-8748-A	BANKA(BSPTCL)	129	BI-56		NP-7690-A	NALANDA(BSPTCL)
22	NALANDA(NLN)	BIHAR	22	ES-40		NP-8692-A	PUSAULI(PG)	130	OR-22		NP-7916-A	NEW DUBURI(GRIDCO)
23	NEW MELLI (NML)	PG	23	ES-41		NP-8693-A	PUSAULI(PG)	131	EN-85		NP-8647-A	NEW MELLI(PG)
24	PANDIABILPNB)	PG	24	EN-83		NP-8673-A	BANKA(PG)	132	EN-86		NP-8640-A	NEW MELLI(PG)
25	RANCHI NEW(RNC)	PG	25	EN-84		NP-8675-A	BANKA(PG)	133	ES-51		NR-4621-A	NEW MELLI(PG)
26	SADIEPALI(SDP)	GRIDCO	26	ES-03		NP-8694-A	BANKA(PG)	134	ES-52		NR-4620-A	NEW MELLI(PG)
27	RANGPO(RGP)	PG	27	ES-04		NP-8696-A	BANKA(PG)	135	BI-27		NP-8698-A	JAMUI(BSPHCL)
28	SAGBARI(SGB)	SIKKIM	28	BH-22		NP-7482-A	BARH(NTPC)	136	BI-26		NP-8669-A	JAMUI(BSPHCL)
29	TEEST-II(TST)	TUL	29	ES-45		NP-8074-A	BARIPADA(PG)	137	BI-27		NP-8668-A	JAMUI(BSPHCL)
30	TALCHER SOLAR (TLS)	NTPC	30	EN-68		NP-8721-A	BERHAMPURE(PG)	138	JL-01		NP-8737-A	JORETHANG(JLHEP)
31	DIKCHU(DIC)	DICKCHU	31	EN-69		NP-8726-A	BERHAMPURE(PG)	139	JL-02		NP-8766-A	JORETHANG(JLHEP)
32	SONNAGAR NEW(SONN)	BSPTCL	32	ES-10		NP-8655-A	PATNA(PG)	140	JL-03		NP-8762-A	JORETHANG(JLHEP)
33	ALIPURDUAR	PG	33	RG-12		NP-8734-A	RANGIT(NHPC)	141	JL-04		NP-8763-A	JORETHANG(JLHEP)
34	MTPS KANTI(NTPC)	NTPC	34	RG-13		NP-8733-A	RANGIT(NHPC)	142	JL-05		NP-8764-A	JORETHANG(JLHEP)
35	KEONJHAR(KEO)	GRIDCO	35	RG-14		NP-8732-A	RANGIT(NHPC)	143	JL-06		NP-8765-A	JORETHANG(JLHEP)
36	ATRI(ATR)	GRIDCO	36	RG-15		NP-8736-A	RANGIT(NHPC)	144	OR-17		NP-7561-A	KATAPALI(GRIDCO)
37	PURI(PUR)	GRIDCO	37	RG-16		NP-8735-A	RANGIT(NHPC)	145	BI-32		NP-8664-A	PUSAULI NEW(BSPHCL)
			38	OR-55	NP-0624-B	NP-5938-A	JODA(GRIDCO)	146	BI-33		NP-8665-A	PUSAULI NEW(BSPHCL)
			39	EN-29		NP-7950-A	ANGUL(PG)	147	EN-10		NP-7847-A	RANCHI NEW(PG)
			40	EN-30		NP-7558-A	ANGUL(PG)	148	EN-11		NP-7876-A	RANCHI NEW(PG)
			41	EN-31		NP-7987-A	ANGUL(PG)	149	EN-12		NP-7849-A	RANCHI NEW(PG)
			42	EN-32		NP-7988-A	ANGUL(PG)	150	EN-13		NP-7866-A	RANCHI NEW(PG)
			43	EN-43		NP-7629-A	ANGUL(PG)	151	EN-14		NP-7865-A	RANCHI NEW(PG)
			44	EN-44		NP-7949-A	ANGUL(PG)	152	EN-19		NP-7875-A	RANCHI NEW(PG)
			45	EN-32	NP-7988-A	NP-7908-A	ANGUL(PG)	153	EN-91		NP-8755-A	RANCHI NEW(PG)
			46	EN-63		NP-8780-A	ANGUL(PG)	154	EN-92		NP-8754-A	RANCHI NEW(PG)
			47	EN-64		NP-8781-A	ANGUL(PG)	155	EN-99		NP-8753-A	RANCHI NEW(PG)
			48	EN-65		NP-8785-A	ANGUL(PG)	156	ES-46		NP-7013-A	KISHANAGNJ(PG)
			49	EN-66		NP-8786-A	ANGUL(PG)	157	ES-47		NR-4614-A	KISHANAGNJ(PG)
			50	EN-77		NP-8778-A	ANGUL(PG)	158	ES-48		NR-4444-A	KISHANAGNJ(PG)
			51	EN-78		NP-8779-A	ANGUL(PG)	159	ES-49		NR-4436-A	KISHANAGNJ(PG)
			52	EN-82		NP-8777-A	ANGUL(PG)	160	ES-50		NR-4440-A	KISHANAGNJ(PG)
			53	ES-06		NP-8788-A	ANGUL(PG)	161	ES-11		NP-8887-A	KISHANGANJ(PG)
			54	ES-05	NP-8787-A	NP-7995-A	ANGUL(PG)	162	ES-12		NP-8885-A	KISHANGANJ(PG)
			55	ES-58		NP-8077-A	ANGUL(PG)	163	ES-13		NP-8856-A	KISHANGANJ(PG)
			56	ES-59		NP-8076-A	ANGUL(PG)	164	ES-14		NP-8886-A	KISHANGANJ(PG)
			57	EM-49		NP-7880-A	CHANDIL(JUVNL)	165	ES-15		NP-8858-A	KISHANGANJ(PG)
			58	EP-18	NP-7471-A	NP-8660-A	GAYA(PG)	166	ES-16		NP-8889-A	KISHANGANJ(PG)
			59	ES-26		NP-8659-A	GAYA(PG)	167	ES-17		NP-8859-A	KISHANGANJ(PG)
			60	EP-19	NP-7470-A	NP-8658-A	GAYA(PG)	168	ES-18		NP-8855-A	KISHANGANJ(PG)



61	WB-30		NP-7403-A	KHARAGPUR(WB)	169	ES-19		NP-8880-A	KISHANGANJ(PG)
62	BS-38		NR-4442-A	KISHANAGNJ(BSPTCL)	170	ES-20		NP-8888-A	KISHANGANJ(PG)
63	BS-39		NR-4445-A	KISHANAGNJ(BSPTCL)	171	ES-21		NP-8857-A	KISHANGANJ(PG)
64	BI-28		NP-8653-A	SULTANGANJ(BSPHCL)	172	EN-22		NP-7933-A	RANGPO(PG)
65	BI-29		NP-8672-A	SULTANGANJ(BSPHCL)	173	EN-23		NP-7955-A	RANGPO(PG)
66	BI-61	NP-6019-B	NP-7400-A	SULTANGANJ(BSPHCL)	174	EN-24		NP-7956-A	RANGPO(PG)
67	EN-40		NP-7906-A	SUNDERGARH(PG)	175	EN-25		NP-7957-A	RANGPO(PG)
68	EN-41		NP-7634-A	SUNDERGARH(PG)	176	EN-33		NP-7922-A	RANGPO(PG)
69	EN-42		NP-7638-A	SUNDERGARH(PG)	177	EN-34		NP-7923-A	RANGPO(PG)
70	EN-57		NP-7907-A	SUNDERGARH(PG)	178	EN-35		NP-7924-A	RANGPO(PG)
71	EN-79		NP-7636-A	SUNDERGARH(PG)	179	EN-36		NP-7623-A	RANGPO(PG)
72	EN-95		NP-7635-A	SUNDERGARH(PG)	180	EN-39		NP-7622-A	RANGPO(PG)
73	WB-23		LT-0194-A	SAGARDIGHI(WBSETCL)	181	EN-38		NP-7621-A	RANGPO(PG)
74	WB-24		LT-0191-A	SAGARDIGHI(WBSETCL)	182	EN-54		NP-7619-A	RANGPO(PG)
75	WB-25		NP-8724-A	SAGARDIGHI(WBSETCL)	183	EN-55		NP-7620-A	RANGPO(PG)
76	WB-26		NP-8725-A	SAGARDIGHI(WBSETCL)	184	EN-59		NP-8710-A	RANGPO(PG)
77	WB-27		NP-8723-A	SAGARDIGHI(WBSETCL)	185	EN-60		NP-8711-A	RANGPO(PG)
78	WB-28		NP-8722-A	SAGARDIGHI(WBSETCL)	186	EN-80		NP-8714-A	RANGPO(PG)
79	BI-07	NP-6074-A	NP-7825-A	SABOUR(BSPHCL)	187	EN-81		NP-8715-A	RANGPO(PG)
80	BI-73		NP-8749-A	SABOUR(BSPHCL)	188			NP-7940-A	RANGPO(PG)
81	ES-31		NP-7442-A	PANDIABILI(PG)	189			NP-7941-A	RANGPO(PG)
82	ES-32		NP-7427-A	PANDIABILI(PG)	190	ES-24		NP-8712-A	RANGPO(PG)
83	ES-33		NP-7454-A	PANDIABILI(PG)	191	ES-25		NP-8713-A	RANGPO(PG)
84	ES-34		NP-7554-A	PANDIABILI(PG)	192	OR-18		NP-7944-A	SADEIPALI(GRIDCCO)
85	ES-35		NP-7438-A	PANDIABILI(PG)	193	JS-11		NP-8865-A	CHAIBASA(JUVNL)
86	ES-36		NP-7407-A	PANDIABILI(PG)	194	JS-12		NP-8866-A	CHAIBASA(JUVNL)
87	ES-37		NP-7462-A	PANDIABILI(PG)	195	JS-13		NP-8867-A	CHAIBASA(JUVNL)
88	JS-50		NP-8644-A	KENDIPOSI(JUVNL)	196	SM-05		NP-8797-A	SAGBARI(SIKKIM)
89	WB-29		NP-7381-A	KHARAGPUR(WB)	197	SM-06		NP-8798-A	SAGBARI(SIKKIM)
90	BI-50		NP-7869-A	KUDRA(BSPHCL)	198	BI-42		NP-7380-A	SONNAGAR NEW(BSPTCL)
91	BI-26		NP-8697-A	LAKHISARAI(BSPHCL)	199	BI-43		NP-7450-A	SONNAGAR NEW(BSPTCL)
92	BI-30		NP-8670-A	LAKHISARAI(BSPTCL)	200	IB-01		NP-8792-A	IBEUL
93	BI-31		NP-8671-A	LAKHISARAI(BSPTCL)	201	IB-02		NP-8793-A	IBEUL
94	EN-46		NP-7432-A	LAKHISARAI(PG)	202	IB-03		NP-8795-A	IBEUL
95	EN-27		NP-7433-A	LAKHISARAI(PG)	203	IB-04		NP-8794-A	IBEUL
96	EN-37		NP-7889-A	LAKHISARAI(PG)	204	IB-05		NP-8783-A	IBEUL
97	EN-26		NP-7885-A	LAKHISARAI(PG)	205	IB-06		NP-8782-A	IBEUL
98	EN-47		NP-7886-A	LAKHISARAI(PG)	206	IB-07		NP-8784-A	IBEUL
99	EN-50		NP-7429-A	LAKHISARAI(PG)	207	IB-08		NP-8796-A	IBEUL
100	EN-51		NP-7888-A	LAKHISARAI(PG)	208	TL-32		NP-7961-A	TALCHER SOLAR(NTPC)
101	EN-58		NP-8678-A	CHAIBASA(PG)	209	TL-33		NP-7626-A	TALCHER SOLAR(NTPC)
102	EN-67		NP-8637-A	CHAIBASA(PG)	210	TL-34		NP-7962-A	TALCHER SOLAR(NTPC)
103	EN-97		NP-8868-A	CHAIBASA(PG)	211	TL-35		NP-7628-A	TALCHER SOLAR(NTPC)
104	EN-98		NP-8869-A	CHAIBASA(PG)	212	TL-37		NP-7627-A	TALCHER SOLAR(NTPC)
105	ES-29		NP-7471-A	CHAIBASA(PG)	213	TL-38		NP-5968-A	TALCHER SOLAR(NTPC)
106	ES-30		NP-7467-A	CHAIBASA(PG)	214	TL-31		NP-7909-A	TALCHER SOLAR(NTPC)
107	DM-01		NP-8656-A	DARBHANGA(DMTCL)	215	TL-30		NP-5979-A	TALCHER SOLAR(NTPC)
108	DM-02		NP-8719-A	DARBHANGA(DMTCL)	216	TL-37	NP-7627-A	NP-7946-A	TALCHER SOLAR(NTPC)
					217	TL-40	NP-7618-A	NP-7945-A	TALCHER SOLAR(NTPC)
					218	TL-39	NP-7614-A	NP-7631-A	TALCHER SOLAR(NTPC)
					219	TL-41	NP-7615-A	NP-7633-A	TALCHER SOLAR(NTPC)
					220	TL-36	NP-7632-A	NP-7630-A	TALCHER SOLAR(NTPC)
					221			LT-0135-A	MTPS KANTI(NTPC)
					222			LT-0192-A	MTPS KANTI(NTPC)
					223			LT-0129-A	MTPS KANTI(NTPC)
					224			LT-0133-A	MTPS KANTI(NTPC)
					225			LT-0093-A	MTPS KANTI(NTPC)
					226			LT-0127-A	MTPS KANTI(NTPC)
					227			LT-0126-A	MTPS KANTI(NTPC)
					228			TP-0006-A	MTPS KANTI(NTPC)
					229			LT-0132-A	MTPS KANTI(NTPC)
					230			LT-0130-A	MTPS KANTI(NTPC)
					231			LT-0092-A	MTPS KANTI(NTPC)
					232			LT-0128-A	MTPS KANTI(NTPC)
					233			LT-0125-A	MTPS KANTI(NTPC)
					234			LT-0140-A	MTPS KANTI(NTPC)
					235			LT-0131-A	MTPS KANTI(NTPC)
					236			TP-0008-A	MTPS KANTI(NTPC)

237			LT-0246-A	MTPS KANTI(NTPC)
238			LT-0219-A	MTPS KANTI(NTPC)
239			LT-0214-A	MTPS KANTI(NTPC)
240			LT-0242-A	MTPS KANTI(NTPC)
241			LT-0187-A	MTPS KANTI(NTPC)
242			LT-0215-A	MTPS KANTI(NTPC)
243	ES-54		NR-4451-A	ALIPURDUAR(PG)
244	ES-55		NR-4452-A	ALIPURDUAR(PG)
245	ES-56		NR-4457-A	ALIPURDUAR(PG)
246	ES-57		NR-4458-A	ALIPURDUAR(PG)

## Annexure- C18



### TATA CONSULTANCY SERVICES

List of all Energy Meters installed at various Sub Stations which has defective RS-485 communication port

Date : 19-Jan-2017

SL No	Utility	Sub Station	Meter SL No.
1.	BSEB	Biharsharif	NP-5842-A
2.	JSEB	Ramchandrapur	NP-5119-A
3.	NTPC	Kahalgaon	NP-5855-A
4.	NTPC	Talcher	NP-5081-A
5.	PG	Rourkela	NP-5932-A
6.	JPPR	MPL	NP-6549-A
7.	GRIDCO	Mendhasal	NP-5980-A
8.	WBSEB	Sagardihi	NP-5072-A NP-6119-A
9.	PG	Jeypore	NP-5961-A
10.	PG	Gaya	NP-7469-A NP-7428-A
11.	WBSEB	Kharagpur	NP-7381-A NP-7403-A
12.	DVC	DSTPP	NP-6525-A

## Annexure- C21

Date of Commercial Operation(DOCO) of the Asstes

						Annexure-XII
A	Eastern Region Strengthening Schemes-XII	DOCO	Approved Cost	Standing Committee Reference	RPC Meeting Reference	Sharing of Charges
01	4 nos of 220kV GIS line bays at Kishanganj (GIS) Substation	20/10/16	Rs.522.29 Cr.( including IDC of Rs.33.24 Cr.).	2nd 2013 SCM meeting of ER on 27.08.13.	25th ERPC Meeting on 21.09.13	As per New Sharing methodology of PoC
02	Modification of 132kV Bus arrangement at 220/132kV Siliguri Substation with GIS bays	30/11/16				
B	Eastern Region Strengthening Schemes-IX	DOCO	Approved Cost	Standing Committee Reference	RPC Meeting Reference	Sharing of Charges
01	1 no of 1x125 MVAR Bus Reactor(1st) and associated bay equipment at 400kV Durgapur S/S	23/10/16	Rs.196.58 Cr.( including IDC of Rs.10.65 Cr.).	SCM meeting of ER on 05.01.13.	22nd ERPC Meeting on 25.08.12 & 24th ERPC meeting on 27.04.13	As per New Sharing methodology of PoC
02	1 no of 1x125 MVAR Bus Reactor(2nd) and associated bay equipment at 400kV Durgapur S/S	30/12/16				
C	Transmission system for transfer of Power from generation projects in Sikkim to NR/WR(Part A)	DOCO	Approved Cost	Standing Committee Reference	RPC Meeting Reference	Sharing of Charges
01	400kV 125 MVAR Bus Reactor - II with associated bays at Kishanganj (GIS) substation	09/12/16	Rs.250.03 Cr.( including IDC of Rs.19.03 Cr.).	27th SCM meeting of NR on 30.05.09 , 29th SCM of WR on 10.09.09 & SCM of ER on 20.09.10.	15th & 16th ERPC Meeting on 28.09.10 & 18.12.10 respectively	As per New Sharing methodology of PoC
D	Eastern Region Strengthening Schemes-VII	DOCO	Approved Cost	Standing Committee Reference	RPC Meeting Reference	Sharing of Charges
01	2nos of 400kV line bays along with 2x50 MVAR (Fixed) line reactors at 765/400kV Ranchi Substation under substation extension	17/10/16	Rs.71.35 Cr.( including IDC of Rs.3.96 Cr.).	SCM meeting of ER on 08.02.12	21st ERPC Meeting at Kolkata on 21.04.14	As per New Sharing methodology of PoC
02	1x63 MVAR (Fixed) line reactor at Chaibasa under substation extension	27/10/16				
03	2 nos 400kV line bays at Kharagpur of West Bengal	14/11/16				
E	Transmission system for transfer of Power from generation projects in Sikkim to NR/WR(Part B)	DOCO	Approved Cost	Standing Committee Reference	RPC Meeting Reference	Sharing of Charges
01	LILO of one ckt of 400kV D/C Teesta III-Kishanganj line(LILO) at Rangpo and associated bays at Rangpo	26/11/16	Rs.1585.12 Cr.( including IDC of Rs.101.83 Cr.).	27th SCM meeting of NR on 30.05.09 & 29th SCM of WR on 16.09.09.	16th ERPC Meeting on 18.12.10	As per New Sharing methodology of PoC
F	Eastern Region Strengthening Schemes-V	DOCO	Approved Cost	Standing Committee Reference	RPC Meeting Reference	Sharing of Charges
01	2 nos of 400kV line bays for termination of LILO of 2nd circuit of Jamshedpur-Rourkela 400kV line at Chaibasa Substation	22/11/16	Rs.71.35 Cr.( including IDC of Rs.3.96 Cr.).	SCM meeting of ER on 08.02.12	21st ERPC Meeting at Kolkata on 21.04.14	As per New Sharing methodology of PoC
G	Eastern Region Strengthening Schemes-III	DOCO	Approved Cost	Standing Committee Reference	RPC Meeting Reference	Sharing of Charges
01	LILO of 400kV D/C Baripada-Mendhasal line and associated bays at Pandiabili GIS	31/07/16	Rs. 1512.08 Cr. (including IDC of Rs. 96.92 Cr.).	08/11/2008 at Bhubaneswar	Special(9th ) ERPC meeting on 30/12/2008 & 10th ERPC meeting on 11/04/2009 at Port Blair	As per New Sharing methodology of PoC
02	1 no 500 MVA, 3 phase 400/220kV , Transformer and associated bays at Pandiabili GIS	31/07/16				
03	1 no 80 MVAR , 400kV Bus Reactor and associated bays at Pandiabili GIS	31/07/16				
04	02 nos 63 MVAR , 400kV Switchable Line Reactor both shifted from Mendhasal(as Fixed Line Reactor) with associated bays at Pandiabili GIS	31/07/16				
05	6 nos 220kV line bays at Pandiabili GIS	31/07/16				