



**Point of Connection Charges and Losses
Computation**

May 2015 – June 2015 (Q1)

Meeting of the Validation Committee


Date : 17th April, 2015

**Venue: NLDC Conference Room,
New Delhi**



Assumptions



- ❑ As per CERC (Sharing of Inter-State Transmission Charges and Losses) (Third Amendment) Regulations, 2015 .
 - ❑ Maximum/Peak generation (based on SEM data) and Maximum/Peak load (based on CEA data) considered.
- 

Contents



- PoC Computation for Q1 Case (May'15-June'15)
 - ▣ Demand & Generation Projection
 - ▣ New Generation

Demand Generation Projection



- Demand and Generation Projection
 - Based on Last 3 years data.
- Generation Projection
 - Average of monthly maximum injection in the last three years.
 - Based on actual metered data available with RLDCs.
 - Increasing Trend : Last Year Average figure considered
 - In other cases : Average of last three years
 - States' generation in case of non-submission of data by states?
- New Generation: DOCO by 31st March 2015

Demand Generation Projection



- Demand Projection
 - Projection based on last 3 year's average of monthly peak demand met figures.
 - Projected all India peak demand met calculated.
 - Based on FORECAST function of MS-Excel
 - Data taken from monthly power supply position published by CEA.
 - Normalization factor: $\frac{\text{Projected All India Peak Demand Met}}{\text{Sum of projected met for all states}}$

Load Generation Projection



New Units	Plant Load Factor
Thermal Units with DOCO from 1st Jan to 31st March	70%
Hydro Units with DOCO 1st Jan to 31st March	0%
Gas Units with DOCO 1st Jan to 31st March	30%

Demand and Generation

	Q1 (May-Jun'15) (Based on Peak/Maximum Figures)	
	Demand (MW)	Generation (MW)
NR	46759	
ER	16494	
WR	43408	
NER	2139	
SR	36084	
All India	144884	

Demand Projection



- Northern Region
- Eastern Region
- Western Region
- North-Eastern Region
- Southern Region

Generation Projection (Including New Generation)

- Northern Region
- Eastern Region
- Western Region
- North-Eastern Region
- Southern Region

YTC Data received from Transmission Licensees



- ❑ Aravali Power Company Pvt. Ltd.
- ❑ Essar Power Transmission Company Ltd.
- ❑ Jaypee Powergrid Limited
- ❑ Parbati Koldam Trans. Co. Ltd
- ❑ Jindal Power Ltd.
- ❑ Powerlinks Transmission Ltd.
- ❑ Torrent Power Grid Ltd.
- ❑ Reliance Power Transmission Ltd.
- ❑ North East Transmission Company Limited
- ❑ East North Inter-connection Ltd.
- ❑ Bhopal Dhule Transmission Company Ltd.
- ❑ Raichur Sholapur Transmission company Ltd.
- ❑ Adani Power Limited
- ❑ Jabalpur Transmission Company Ltd.

YTC Data not received from



- ▣ **Power Grid Corporation of India Limited.**

Points for Discussion



3rd Amendment to PoC regulations: Points that need more clarification

- Definition of Approved Injection.
- Amendment to Regulation 7 of the Principal regulations (Page No. 4). Normalization of forecast generation w.r.t forecast All India Peak Demand Met.
- Amendment to Regulation 11 of the Principal Regulations (page No. 10). Treatment of HVDC charges.
- Sl. No. 3 at Page No. 16. Average cost of transmission assets for each ISTS Licensee.

Points for Discussion



3rd Amendment to PoC regulations: Points that need more clarification

- Page No.19, Last Paragraph. Approved Injection/Approved Withdrawal vs LTA+MTOA.
- Page No. 15 under sub-head 'For Generation Data'. In case of non-submission of injection data by SLDC, difference between peak met and withdrawal from ISTS based on actual metered data to be considered **(for the time block corresponding to the block in which peak met occurred).**

Points for Discussion



Other Issues

- YTC submitted by BDTCL.
 - Some elements are pre-requisite for declaring CoD of some other elements.
 - For example, CoD of 765kV Bhopal-Indore is conditional upon CoD of 765kV Jabalpur-Bhopal line.
 - Still, BDTCL has been claiming transmission tariff of 765 kV Bhopal-Indore line.
- Telangana State

Suggested Timeline for PoC Computations:



- **Ensuing Quarter:** Application Period for which results are to be computed; For example: **July to September**
- **Present Quarter:** Three months period during which the results will be computed for ensuing quarter; For example: **April to June**

.....Continued

Following dates of Present Quarter are suggested for executing various processes related to PoC Computation:

- ❑ **By 10th of 1st month**-Last Day for submission of tariff petitions by transmission licensees
- ❑ **By 20th of 1st month**- Submission of Node wise data by States/DICs
- ❑ **By 30th of 1st month**-Preparation of Basic network using nodal generation and nodal demand submitted by states/DICs
- ❑ **By 10th of 2nd month**-Provisional tariff orders by CERC
- ❑ **By 10th of 2nd month**-Validation Committee Meeting
- ❑ **By 15th of 2nd month**-Submission of Final YTC data to the Implementing Agency by Transmission Licensees
- ❑ **By 10th of 3rd month**-Submission of Final Result to CERC by the Implementing agency
- ❑ **By 20th of 3rd month**-Final order on PoC Charges and Losses by Central Electricity Regulatory Commission



Thank You !!

Demand Projection – Northern Region

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Entity	Q1(May-Jun'15) (MW) (Based on Peak Met figures)
Chandigarh	
Delhi	
Haryana	
Himachal Pradesh	
Jammu & Kashmir	
Punjab	
Rajasthan	
Uttar Pradesh	
Uttarakhand	
Total	46759
Normalization Factor	0.95

Demand Projection – Eastern Region

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Entity	Q1(May-Jun'15) (MW) (Based on Peak Met figures)
Bihar	
DVC	
Jharkhand	
Odisha	
West Bengal	
Sikkim	
Total	

Demand Projection – Western Region

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Entity	Q1(May-Jun'15) (MW) (Based on Peak Met figures)
Chhattisgarh	
Gujarat	
Madhya Pradesh	
Maharashtra	
Daman & Diu	
Dadra Nagar Haveli	
Goa	
ESIL Hazira	500
Total	43408

Demand Projection – North-Eastern Region

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Entity	Q1(May-Jun'15) (MW) (Based on Peak met Figures)
Arunachal Pradesh	
Assam	
Manipur	
Meghalaya	
Mizoram	
Nagaland	
Tripura	
Total	

Demand Projection – Southern Region

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Entity	Q1(May-Jun'15) (MW) (Based on Peak met Figures)
Andhra Pradesh+Telangana	
Karnataka	
Kerala	
Tamil Nadu	
Pondicherry	
Total	36084

Generation Projection – Northern Region

S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 st July'14 – 31 st Dec'14 (B)	Generation CoD from 1 st Jan' 2015 to 31 st Mar '2015 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
1	UP		-	-		-	-
2	Delhi		<u>69</u>	-		-	-
3	Haryana		-	-		As per email From CE(Comml) dtd. 16.04.15	3309
4	Uttarakhand		<u>14</u>	-		-	-
5	Punjab		<u>890</u>	<u>432</u>		-	-
6	Rajasthan		<u>554</u>	<u>393</u>		-	-
7	Himachal Pradesh		-	-		-	-
8	Jammu & Kashmir		-	-		-	-
9	BBMB	2371	-	-	2371	-	-

Generation Projection – Northern Region ...(2)

S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 st July'14 – 31 st Dec'14 (B)	Generation CoD from 1 st Jan' 2015 to 31 st Mar '2015 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
10	Dadri Thermal	1798	-	-	1798	-	-
11	Rihand	2888	-	-	2888	-	-
12	Singrauli	1950	-	-	1950	-	-
13	Unchahar	1016	-	-	1016	-	-
14	Auraiya	420	-	-	420	-	-
15	Dadri CCPP	570	-	-	570	-	-
16	NAPS	289	-	-	289	-	-
17	Jhajjar	1039	-	-	1039	-	-
18	DHAULIGANGA	263	-	-	263		
19	Tanakpur	90	-	-	90		
20	Koteshwar	374	-	-	374	-	-
21	Tehri	630	-	-	630	-	-
22	Anta	333	-	-	333	-	-
23	RAAP B,C	785	-	-	785	-	-
24	AD Hydro	223	-	-	223	-	-
25	Everest	106	-	-	106	-	-
26	Karcham Wangtoo	1223	-	-	1223	-	-

Generation Projection – Northern Region ...(3)

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S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 st July'14 – 31 st Dec'14 (B)	Generation CoD from 1 st Jan' 2015 to 31 st Mar '2015 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
27	Bairasul	185	-	-	185		
28	Chamera 1	567	-	-	567		
29	Chamera 2	311	-	-	311		
30	Chamera 3	199	-	-	199		
31	Naptha Jhakri	1623	-	-	1623	-	
32	Lanco Budhil	70	-	-	70	-	
33	DULHASTI	408	-	-	408		
34	Salal	686	-	-	686		
35	Sewa-II	130	-	-	130		
36	URI I HPS	488	-	-	488		
37	URI II HPS	249	-	-	249		
38	Sree Cement	287	-	-	287	-	-
39	Parbati III	355	-	-	355		
40	Rampur HEP	260	<u>54</u>	-	314	-	-

Generation Projection – Eastern Region...(1)

S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 st July'14 – 31 st Dec'14 (B)	Generation CoD from 1 st Jan' 2015 to 31 st Mar '2015 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
41	West Bengal		-	<u>196</u>		-	-
42	Odisha		-	-			
43	Bihar		-	-		-	-
44	Jharkhand		-	-		-	-
45	Sikkim		-	-		-	-
46	Chujachan	106	-	-	106	-	-
47	DVC	1402	-	-	1402		
48	Durgapur Steel		-	-		-	
49	Koderma TPP		-	-		-	
50	MPL	848	-	-	848	-	-
51	Sterlite	1147	-	-	1147	-	-

Generation Projection – Eastern Region...(2)

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S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 st July'14 – 31 st Dec'14 (B)	Generation CoD from 1 st Jan' 2015 to 31 st Mar '2015 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
52	Teesta	531	-	-	531		
53	Kahalgaon	2092	-	-	2092		
54	Farakka	1927	-	-	1927		
55	Talcher	960	-	-	960		
56	Rangeet	69	-	-	69		
57	Corporate Power	-	-	-	-		
58	Adhunik Power	-	-	-	-	-	-
59	Barh	284	-	-	284	-	-
60	Kamalanga TPP (GMR)	545	-	-	545	-	-
61	JITPL	561		<u>393</u>	953	-	-
62	Bhutan	1357	-	-	1357	-	-

Generation Projection – Western Region...(1)

S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 st July'14 – 31 st Dec'14 (B)	Generation CoD from 1 st Jan' 2015 to 31 st Mar '2015 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
63	MP		<u>556</u>	<u>393</u>			
64	Maharashtra		<u>1309</u>	<u>177</u>			
65	Chattisgarh		<u>327</u>	<u>16</u>			
66	Gujarat		<u>97</u>	-			
67	Goa		-	-			
68	D&D		-	-			
69	DNH		-	-			
70	Vindhyachal	3055	-	-	3055		
71	Ratnagiri Dabhol	767	-	-	767		
72	TAPS (1,2,3,4)	1051	-	-	1051	-	-
73	JINDAL	365	-	-	365	-As per data given by Jindal	-
74	LANCO	289	-	-	289	-	-
75	NSPCL Bhilai	483	-	-	483	-	-
76	Korba	2535	-	-	2535	-	-

Generation Projection – Western Region ... (2)

S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 st July'14 – 31 st Dec'14 (B)	Generation CoD from 1 st Jan' 2015 to 31 st Mar '2015 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
77	SIPAT	2566	-	-	2566	-	-
78	CGPL	3086	-	-	3086	-	-
79	Mauda	690	<u>330</u>	-	1020	-	-
80	Gandhar	532	-	-	532	-	-
81	Kawas	541	-	-	541	-	-
82	KAPS	401	-	-	401	-	-
83	Essar Mahan	171	-	-	171	-	-
84	BALCO	92	-	-	92	-	-
85	KSK Mahanadi	299	<u>393</u>	-	692	-	-
86	Vandana Vidyut	-	<u>88</u>	<u>88</u>	177	-	-
87	Sasan UMPP	2491	<u>432</u>	-	2923	-	-
88	Tamnar TPP	465			465	-As per data given by lindal	-

Generation Projection – Western Region ... (3)

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S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 st July'14 – 31 st Dec'14 (B)	Generation CoD from 1 st Jan' 2015 to 31 st Mar '2015 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
89	DGEN	-	<u>524</u>		524	-	-
90	DB Power	-	<u>393</u>	-	393	-	-
91	Korba West	-	<u>393</u>	-	393	-	-
92	Dhariwal	-	-	-	-	-	-
93	Raikheda TPP (GMR)	-	-	<u>448</u>	448		
94	JP Nigrie	-	<u>432</u>	-	432	-	-

Generation Projection – North-Eastern Region

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S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 st July'14 – 31 st Dec'14 (B)	Generation CoD from 1 st Jan' 2015 to 31 st Mar '2015 (C)	TOTAL D=A+B+C (MW)	Comments/ Comments From DICs (if any)	Figure as per Comments (MW)
95	AGTPP, NEEPCO	79	-	-	79	-	-
96	Doyang, NEEPCO	47	-	-	47	-	-
97	Kopili, NEEPCO	187	-	-	187	-	-
98	Khandong, NEEPCO	36	-	-	36	-	-
99	Ranganadi, NEEPCO	414	-	-	414	-	-
100	Kathalguri	225	-	-	225	-	-
101	Loktak, NHPC	104	-	-	104	-	-
102	Palatana GBPP	346	-	-	346	-	-
103	Arunachal Pradesh	-	-	-	-	-	-
104	Assam	-	-	-	-	-	-
105	Manipur	-	-	-	-	-	-
106	Meghalaya	-	<u>20</u>	-	-	-	-
107	Nagaland	-	-	-	-	-	-
108	Tripura	-	-	-	-	-	-
109	Mizoram	-	-	-	-	-	-

Generation Projection – Southern Region...(1)

S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 st July'14 – 31 st Dec'14 (B)	Generation CoD from 1 st Jan' 2015 to 31 st Mar '2015 (C)	TOTAL D=A+B+C	Comments / Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
110	Andhra Pradesh		-	<u>524</u>		-	-
111	Karnataka		-	-		-	-
112	Kerala		-	-		-	-
113	Tamil Nadu		-	-		-	-
114	Pondy		-	-		-	-
115	Ramagundam	2492	-	-	2492	-	-
116	Simhadri	994	-	-	994	-	-
117	SEPL	347	-	-	347	-	-
118	Lanco Kondapalli	64	-	-	64	-	-

Generation Projection – Southern Region...(2)

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S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 st July'14 – 31 st Dec'14 (B)	Generation CoD from 1 st Jan' 2015 to 31 st Mar '2015 (C)	TOTAL D=A+B +C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
119	Kaiga	695	-	-	695	-	-
120	NEYVELI (EXT) TPS	561	-	-	561	-	-
121	NEYVELI TPS-II	749	-	-	749	-	-
122	NEYVELI TPS-II EXP	397	-	-	397	-	-
123	MAPS	249	-	-	249	-	-
124	Vallur	771	-	<u>327</u>	1098	-	-
125	Thermal Powertech	-	-	<u>432</u>	432		
126	Meenakhshi	227	-	-	227	-	-
127	Coastal Energen	-	<u>386</u>	-	386		
128	Kudankulam	893		-	893	-	-
129	Import from Talcher	1819	-	-	1819	-	-

Expected Generation addition – Northern Region (1)

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Generation After 1 st July '14 till 31 st Dec'14						Generation declared Commercial from 1 st Jan' 2015 to 31 st Mar '2015				
Entity	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total
			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)
Delhi	Pragati CCGT-III	2	250	69	69					
Uttarakhand	Bhilangana	1	8	5	14					
	Bhilangana	2	8	5						
	Bhilangana	3	8	5						
Punjab	Rajpura TPP	2	700	458	890	Talwandi Saboo	2	660	432	432
	Talwandi Saboo	1	660	432						
Rajasthan	Chhabra-II	4	250	161	554	Kalisindh	2	600	393	393
	Kalisindh	1	600	393						

Expected Generation addition – Eastern Region

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	Generation After 1 st July '14 till 31 st Dec'14					Generation declared Commercial from 1 st Jan' 2015 to 31 st Mar '2015				
Entity	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total
			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)
West Bengal						Haldia TPP	1	300	196	196
JITPL						JITPL	2	600	393	393

Expected Generation addition – Western Region...(1)

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		Generation After 1 st July '14 till 31 st Dec'14				Generation declared Commercial from 1 st Jan' 2015 to 31 st Mar '2015				
Entity	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total
			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)
MP	Satpura TPP Extn	11	250	164	556	Malwa	2	600	393	393
	Malwa	1	600	393						
Maharashtra	Vidarbha Power Ltd.	2	300	196	1309	Amravati (Indiabulls)	3	270	177	177
	Bela TPP	1	270	177						
	Bhusawal II	2	500	327						
	Nasik(Sinner) (india-bulls)	1	270	177						
	Tirora TPP Ph-II	2	660	432						

Expected Generation addition – Western Region (2)

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Generation After 1 st July '14 till 31 st Dec'14						Generation declared Commercial from 1 st Jan' 2015 to 31 st Mar '2015				
Entity	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total
			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)
Chhattisgarh	Marwa TPS	1	500	327	327	Swastik TPP	1	25	16	16
Gujarat	Pipavav	Block 1	351	97	97					
Mauda	Mauda	2	500	330	330					
KSK Mahanadi	KSK Mahanadi	2	600	393	393					
Vandana Vidyut	Vandana Vidyut TPP	1	135	88	88	Vandana Vidyut TPP	2	135	88	88

Expected Generation addition – Western Region (3)

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Generation After 1 st July '14 till 31 st Dec'14						Generation declared Commercial from 1 st Jan' 2015 to 31 st Mar '2015				
Entity	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total
			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)
Sasan UMPP	Sasan UMPP	3	660	432	432					
Tamnar TPP	Tamnar TPP	1	600	393	786	Tamnar TPP	3	600	393	393
	Tamnar TPP	2	600	393						
DGEN	DGEN	1	400	262	524					
	DGEN	2	400	262						
DB Power Ltd.	DB Power Ltd	1	600	393	393					
Korba West	Korba West	1	600	393	393					
Raikedha TPP	Raikedha TPP	1	685	448	448					
JP Nigrie	JP Nigrie	1	660	432	432					

Expected Generation addition – Southern Region

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	Generation After 1 st July '14 till 31 st Dec'14					Generation declared Commercial from 1 st Jan' 2015 to 31 st Mar '2015				
Entity	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total
			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)
Andhra Pradesh						SDTPS	1	800	524	524
Thermal Power Tech	Thermal Power Tech	1	660	432	432					
Vallur						Vallur TPP II	3	500	327	327
Coastal Energen	Coastal Energen	1	600	386	386					

Expected Generation addition –North Eastern Region

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	Generation After 1 st July '14 till 31 st Dec'14					Generation declared Commercial from 1 st Jan' 2015 to 31 st Mar '2015				
Entity	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total	Bus Name	Unit No.	Installed Capacity	Gen. considered	Total
			(MW)	(MW)	(MW)			(MW)	(MW)	(MW)
Meghalaya	Meghalaya Power Limited	2	45	20	20					