


**Point of Connection Charges and Losses  
Computation  
April 2014 - June 2014 (Q1)**

**Meeting of the Validation Committee  
Date : 07<sup>th</sup> March 2014  
Venue: NRPC, New Delhi**



# Assumptions

- ❑ **Extant PoC Regulations adopted**
- ❑ **NEW and SR Grid Synchronization**
  - **Simulation to be carried out for entire country**
  - **Charges of HVDC links to be socialised**
- ❑ **Average generation and load scenario based on CEA data**

# Contents



- PoC Computation for Q1 Case (Apr'14-Jun'14)
  - ▣ Demand & Generation Projection
  - ▣ New Generation
  - ▣ Points for Discussion

# Demand Generation Projection



- Demand and Generation Projection
  - Based on Last 3 years data (April-June) from CEA website.
- New Generation
  - Expected DOCO by 31<sup>st</sup> March 2014
- Generation Projection
  - Increasing Trend : Last Year figures considered
  - In other cases : Average of last three years
  - Normative Auxiliary Consumption deducted
- Demand Projection
  - Based on FORECAST function of MS-Excel

# Load Generation Projection



<b>New Units</b>	<b>Plant Load Factor</b>
<b>Thermal Units with DOCO from 1<sup>st</sup> January to 31<sup>st</sup> March</b>	<b>70%</b>
<b>Hydro Units with DOCO from 1<sup>st</sup> January to 31<sup>st</sup> March</b>	<b>40%</b>
<b>Gas Units with DOCO from 1<sup>st</sup> January to 31<sup>st</sup> March</b>	<b>30%</b>

# Demand and Generation

	Q4 (Jan-Mar'14)		Q1 (Apr-Jun'14)	
	Demand (MW)	Generation (MW)	Demand (MW)	Generation (MW)
NR	31055	29946	36502	34217
ER	12046	16130	13507	16353
WR	36180	41735	37685	39884
NER	1235	1230	1304	1282
SR	28569	29992	29778	28896
NEW Grid	80516	89041		
All India	109085	119033	118776	120632

# Comparison of Demand for Q3\_2013-14

## Northern Region

State/Region/System	Projected Demand (MW)	Actual Demand (MW)
UP	9010	8776
Delhi	2615	2549
Haryana	4389	4405
Uttarakhand	1263	1257
Punjab	4007	4231
Rajasthan	7379	6847
Himachal Pradesh	1047	952
Jammu & Kashmir	1485	1491
Chandigarh	148	148

# Contd...

## Eastern Region

State/Region/System	Projected Demand (MW)	Actual Demand (MW)
West Bengal	4981	4284
Odisha	2700	2439
Bihar	1600	1726
Jharkhand	825	835
Sikkim	52	49
DVC	2000	1849

## Western Region

MP	8058	6470
Maharashtra	14000	14368
Chattisgarh	2312	2009
Gujarat	12814	9761
Goa	235	351
D&D	172	246
DNH	451	641



**Contd..**

**Southern Region**

**State/Region/System**

**Projected Demand  
(MW)**

**Actual Demand (MW)**

**Andhra Pradesh**

9882

9786

**Karnataka**

7088

6720

**Kerala**

2470

2432

**Tamil Nadu**

9373

9526

**Pondy**

250

251

**North Eastern Region**

**Arunachal Pradesh**

74

60

**Assam**

763

807

**Manipur**

75

61

**Meghalaya**

200

193

**Nagaland**

67

61

**Tripura**

139

140

**Mizoram**

51

53

# 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

# Data Collection for PoC Computation (Q1)

- Letter to DICs for Furnishing Technical & Commercial Data for Q1 (Apr'14-Jun'14) dated 09.01.2014
- Data Received from:
  - **MPPTCL**
  - **Essar Hazira**
  - **Haryana**
  - **Kerala**
  - **NAPS**
  - **DTL**
  - **TAPS**
  - **Tamil Nadu**
  - **NHPC**
  - **THDC India Ltd.**
  - **SJVN Ltd.**
  - **GETCO**
  - **Karnataka**
  - **APTRANSCO**
  - **DB Power**
  - **GRIDCO**
  - **Chattisgarh**

# YTC Data received from Transmission Licensees



- ▣ **Jaypee Powergrid Limited**
- ▣ **BDTCL**
- ▣ **POWERLINKS**
- ▣ **RPTL**

# Points for Discussion



- ❑ **Provisional Tariff for new assets**
- ❑ **Tariff for other assets**



**Thank You !!**

# Demand Projection – Northern Region



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Entity	Q4 (Jan-Mar'14) (MW)	Q1 (Apr-Jun'14) (MW)
Chandigarh	148	209
Delhi	2362	3458
Haryana	4049	5630
Himachal Pradesh	1022	1163
Jammu & Kashmir	1510	1344
Punjab	4643	6201
Rajasthan	7319	6642
Uttar Pradesh	8759	10437
Uttarakhand	1244	1417



# Demand Projection – Eastern Region

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Entity	Q4 (Jan-Mar'14) (MW)	Q1 (Apr-Jun'14) (MW)
Bihar	1573	1870
DVC	2030	2057
Jharkhand	877	856
Odisha	2700	3043
West Bengal	4825	5634
Sikkim	42	47

# Demand Projection – Western Region

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Entity	Q4 (Jan-Mar'14) (MW)	Q1 (Apr-Jun'14) MW)
Chhattisgarh	2478	2612
Gujarat	13639	12028
Madhya Pradesh	<b>8090</b>	5772
Maharashtra	13237	15488
Daman & Diu	244	253
Dadra Nagar Haveli	555	614
Goa	407	419
ESIL Hazira	515	500

# Demand Projection – North-Eastern Region

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Entity	Q4 (Jan-Mar'14) (MW)	Q1 (Apr-Jun'14) (MW)
Arunachal Pradesh	63	57
Assam	665	780
Manipur	58	56
Meghalaya	214	169
Mizoram	45	47
Nagaland	58	59
Tripura	133	136

# Demand Projection – Southern Region

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Entity	Q4 (Jan-Mar'14) (MW)	Q1 (Apr-Jun'14) (MW)
Andhra Pradesh	10064	10019
Karnataka	7189	7000
Kerala	2486	2442
Tamil Nadu	8559	10058
Pondicherry	272	296

# Generation Projection – Northern Region

S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 <sup>st</sup> Jul'13 – 15 <sup>th</sup> Feb'14 (B)	Expected Generation 16th Feb'14-31st Mar'14 (C)	TOTAL D=A+B+C	Comments/Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
1	UP	5219	<u>1320</u>	-	6539	-	-
2	Delhi	1135	-	-	1135	-	-
3	Haryana	2029	-	-	2029	-	-
4	Uttarakhand	603	<u>10</u>	-	612	-	-
5	Punjab	2311	-	<u>458</u>	2769	-	-
6	Rajasthan	3413	<u>1334</u>	<u>47</u>	4794	-	-
7	Himachal Pradesh	436	-	-	436	-	-
8	Jammu & Kashmir	538	-	-	538	-	-
9	BBMB	1332	-	-	1332	-	-

# Generation Projection – Northern Region ...(2)

S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 <sup>st</sup> Jul'13 – 15 <sup>th</sup> Feb'14 (B)	Expected Generation 16th Feb'14-31st Mar'14 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
12	Dadri Thermal	1458	-	-	1458	-	-
13	Rihand	2015	-	-	2015	-	-
14	Singrauli	1617	-	-	1617	-	-
15	Unchahar	830	-	-	830	-	-
16	Auraiya	333	-	-	333	-	-
17	Dadri CCPP	511	-	-	511	-	-
18	NAPS	269	-	-	269	-	-
19	Jhajjar	508	-	-	508	-	-
20	DHAULIGANGA	138	-	-	138	-	-
21	Tanakpur	48	-	-	48	-	-
22	Koteshwar	172	-	-	172	-	-
23	Tehri	352	-	-	352	-	-
24	Anta	245	-	-	245	-	-
25	RAAP A,B,C	849	-	-	849	-	-
26	AD Hydro	118	-	-	118	-	-
27	Everest	49	-	-	49	-	-

# Generation Projection – Northern Region ...(3)

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S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 <sup>st</sup> Jul'13 – 15 <sup>th</sup> Feb'14 (B)	Expected Generation 16th Feb'14-31st Mar'14 (C)	TOTAL D=A+B+C	Comments/Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
28	Karcham Wangtoo	709	-	-	709	-	-
29	Bairasul	125	-	-	125	-	-
30	Chamera 1	408	-	-	408	-	-
31	Chamera 2	237	-	-	237	-	-
32	Chamera 3	154	-	-	154	-	-
33	Naptha Jhakri	1063	-	-	1063	-	-
34	Lanco Budhil	33	-	-	33	-	-
35	DULHASTI	326	-	-	326	-	-
36	Salal	498	-	-	498	-	-
37	Sewa-II	84	-	-	84	-	-
38	URI I HPS	468	-	-	468	-	-
39	URI II HPS	-	<u>71</u>	<u>24</u>	95	-	-
40	Sree Cement	220	-	-	220	-	-
41	Parbati III	-	<u>51</u>	<u>51</u>	103	-	-

# Generation Projection – Eastern Region...(1)

S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 <sup>st</sup> Jul'13 – 15 <sup>th</sup> Feb'14 (B)	Expected Generation 16th Feb'14-31st Mar'14 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
42	West Bengal	3810	<u>52</u>	-	3862	-	-
43	Odisha	1409	-	<u>225</u>	1634	Share from sterlite	<b>2354</b>
44	Bihar	18	-	-	18	-	-
45	Jharkhand	-	-	-	0	-	-
46	Sikkim	-	-	-	0	-	-
47	Chujachan	-	<u>22</u>	-	22	-	-
48	DVC	3047	<u>655</u>	-	3701	-	-
49	MPL	734	-	-	734	-	-
50	Sterlite	1220	-	-	1220	<b>500 is Odisha Share;</b>	<b>720</b>



# Generation Projection – Eastern Region...(2)

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S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 <sup>st</sup> Jul'13 – 15 <sup>th</sup> Feb'14 (B)	Expected Generation 16th Feb'14-31st Mar'14 (C)	TOTAL D=A+B+C	Comments/Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
51	Teesta	351	-	-	351	-	-
52	Kahalgaon	1470	-	-	1470	-	-
53	Farakka	1215	-	-	1215	-	-
54	Talcher	796	-	-	796	-	-
55	Rangeet	37	-	-	37	-	-
56	Corporate Power	-	-	-	0	-	-
57	Adhunik Power	-	<u>348</u>	-	348	-	-
58	Barh	-	-	<u>432</u>	432	-	-
59	Bhutan	513	-	-	513	-	-

# Generation Projection – Western Region...(1)

S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 <sup>st</sup> Jul'13 – 15 <sup>th</sup> Feb'14 (B)	Expected Generation 16th Feb'14- 31st Mar'14 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
60	MP	2641	<u>1037</u>	-	3678	-	-
61	Maharashtra	8423	<u>1622</u>		10045	-	-
62	Chattisgarh	1430	<u>671</u>	<u>393</u>	2493	-	-
63	Gujarat	7172	<u>327</u>	-	7499	-	-
64	Goa	30	-	-	0	-	-
65	D&D	-	-	-	0	-	-
66	DNH	-	-	-	0	-	-
67	Vindhyachal	3044	<u>327</u>		3371	-	-
68	Ratnagiri Dabhol	982	-	-	982	-	0
69	TAPS (1,2,3,4)	959	-	-	959	-	-
70	JINDAL	901	-	-	901	-	-
71	LANCO	329	-	-	329	-	-
72	NSPCL Bhilai	406	-	-	406	-	-
73	Korba	2007	-	-	2007	-	-
74	SIPAT	1896	-	-	1896	-	-

# Generation Projection – Western Region ... (2)

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S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 <sup>st</sup> Jul'13 – 15 <sup>th</sup> Feb'14 (B)	Expected Generation 16th Feb'14-31st Mar'14 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
75	CGPL	2625		-	2625	-	-
76	Mauda	-	<u>327</u>	-	327	-	-
77	Gandhar	396	-	-	396	-	-
78	Kawas	333	-	-	333	-	-
79	KAPS	388	-	-	388	-	-
80	Essar Mahan	-	<u>300</u>	-	300	-	-
81	BALCO	-	-	<u>193</u>	193	-	-
82	KSK Mahanadi	-	<u>393</u>	-	393	-	-
83	Vandana Vidyut	-	-	<u>87</u>	87	-	-
84	Sasan UMPP	-	<u>864</u>	-	864	-	-
85	Tamnar TPP	-	-	<u>393</u>	393	-	-

# Generation Projection – North-Eastern Region

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S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 <sup>st</sup> Jul'13 – 15 <sup>th</sup> Feb'14 (B)	Expected Generation 16th Feb'14-31st Mar'14 (C)	TOTAL D=A+B+C (MW)	Comments/ Comments From DICs (if any)	Figure as per Comments (MW)
86	AGTPP, NEEPCO	73	-	-	73	-	-
87	Doyang, NEEPCO	15	-	-	15	-	-
88	Kopili, NEEPCO	64	-	-	64	-	-
89	Khandong, NEEPCO	34	-	-	34	-	-
90	Ranganadi, NEEPCO	125	-	-	125	-	-
91	Kathalguri	196	-	-	196	-	-
92	Loktak, NHPC	38	-	-	38	-	-
93	Palatana GBPP	-	<u>310</u>	-	310	-	-
94	Arunachal Pradesh	0	-	-	0	-	-
95	Assam	195	-	-	195	-	-
96	Manipur	0	-	-	0	-	-
97	Meghalaya	95	<u>46</u>	-	140	-	-
98	Nagaland	9	-	-	9	-	-
99	Tripura	79	-	-	79	-	-
100	Mizoram	3	-	-	3	-	-

# Generation Projection – Southern Region...(1)

S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 <sup>st</sup> Jul'13 – 15 <sup>th</sup> Feb'14 (B)	Expected Generation 16th Feb'14-31st Mar'14 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
101	Andhra Pradesh	6641	-	-	6641	-	-
102	Karnataka	4546 (excluding wind generation)	-	-	4546	-	6000
103	Kerala	910	-	-	910	-	-
104	Tamil Nadu	5860	<u>393</u>	<u>393</u>	6645	-	-
105	Pondy	29	-	-	0	-	-
106	Ramagundam	2231	-	-	2231	-	-
107	Simhadri	552	-	-	552	-	-
108	SEPL	218	-	<u>97</u>	314	-	-
109	Lanco Kondapalli	-	-	-	-	-	-

# Generation Projection – Southern Region...(2)

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S. No.	Entity	Projections based on 3 Years Data (A)	Generation addition during 1 <sup>st</sup> Jul'13 – 15 <sup>th</sup> Feb'14 (B)	Expected Generation 16th Feb'14-31st Mar'14 (C)	TOTAL D=A+B+C	Comments/ Comments From DICs (if any)	Figure as per Comments
		(MW)	(MW)	(MW)	(MW)		(MW)
109	Kaiga	690	-	-	690	-	-
110	NEYVELI ( EXT) TPS	360	-	-	360	-	-
111	NEYVELI TPS-II	1239	-	-	1239	-	-
112	NEYVELI TPS-II EXP	-	-	-	0	-	-
113	MAPS	223	-	-	223	-	-
114	Vallur	-	<u>327</u>	<u>327</u>	655	-	-
115	Meenakhshi	-	<u>193</u>	-	193	-	-
116	Kudankulam	-	-	<u>910</u>	910	-	650
117	Import from Talcher	1592	-	-	1592	-	-

# Expected Generation addition – Northern Region (1)

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Generation After 1 <sup>st</sup> July'13 till 15th February'14						Expected Generation Likely to be declared Commercial from 16th February'2014 to 31st Mach'2014				
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)
UP	Harduaganj	8	250	161	1320					
	Harduaganj	9	250	161						
	Paricha	5	250	161						
	Paricha	6	250	161						
	Rosa-II TPS	1	300	193						
	Rosa-II TPS	2	300	193						
	Bajaj		450	290						
Uttarakhand	Bhilangana	1	8	3	10					
	Bhilangana	2	8	3						
	Bhilangana	3	8	3						
Punjab						Rajpura TPP	1	700	458	458
Rajasthan	Rajwest	5	135	87	1334	Ramgarh GT	1	160	47	47
	Rajwest	6	135	87						
	Rajwest	7	135	87						
	Rajwest	8	135	87						
	Chhabra-II	1	250	161						
	Kawai	2	660	432						
	Kalisindh	1	600	393						

# Expected Generation addition – Northern Region...(2)

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Generation After 1 <sup>st</sup> July'13 till 15th February'14						Expected Generation Likely to be declared Commercial from 16th February'2014 to 31st Mach'2014				
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)
URI II HPS	Uri II	1	60	24	71	Uri II	4	60	24	24
	Uri II	2	60	24						
	Uri II	3	60	24						
Parbati III	Parbati III	1	130	51	51	Parbati III	2	130	51	51



# Expected Generation addition – Eastern Region

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Entity	Generation After 1 <sup>st</sup> July'13 till 15th February'14					Expected Generation Likely to be declared Commercial from 16th February'2014 to 31st Mach'2014				
	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	TLDP III	1	33	13	52					
	TLDP III	2	33	13						
	TLDP III	3	33	13						
	TLDP III	4	33	13						
Odisha	Kamalanga TPP (GMR	2	350	225	225					
Chujachan	Chujachan	1	55	11	22					
	Chujachan	2	55	11						
DVC	DSTPS	2	500	327	655					
	KTPS	1	500	327						
Adhunik Power	Adhunik Power	1	270	174	348					
	Adhunik Power	2	270	174						
Barh	Barh STPP	4	660	432	432					

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

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		Generation After 1 <sup>st</sup> July'13 till 15th February'14				Expected Generation Likely to be declared Commercial from 16th February'2014 to 31st Mach'2014				
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	JP Bina Power TP	1	250	161	1037					
	JP Bina Power TP	2	250	161						
	Satpura TPP Extn.	10	250	161						
	Satpura TPP Extn	11	250	161						
	Malwa	1	600	393						
Maharashtra	Vidarbha Power Ltd.	2	300	193	1622					
	Bela TPP	1	270	174						
	EMCO, Warora	1	300	193						
	Bhusawal II	2	500	327						
	India Bulls Amravati	1	270	174						
	Nasik(Sinner) (india-bulls)	1	270	174						
	EMCO Warora	2	300	193						
	Dhariwal TPP	1	300	193						

# Expected Generation addition – Western Region (2)

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Entity	Generation After 1 <sup>st</sup> July'13 till 15th February'14					Expected Generation Likely to be declared Commercial from 16th February'2014 to 31st Mach'2014				
	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	Swastik TPP	1	25	16	671	Baradarha TPP (DB Power Ltd.)	1	600	393	393
	Korba West Extn.	5	500	327						
	Marwa TPS	1	500	327						
Gujarat	UNO-Sugen	1	383	0	327	Pipavav	Block 1	351	0	0
	Ukai	6	500	327						
Vindhychal	Vindhychal St-IV Unit I	1	500	327	327					
Mauda	Mauda	1	500	327	327					
Essar Mahan	ESSAR Mahan	1	600	300	300					
BALCO						BALCO	2	300	193	193
KSK Mahanadi	KSK Mahanadi	3	600	393	393					
Vandana Vidyut	Vandana Vidyut TPP	1	135	87	87					
Sasan UMPP	Sasan UMPP	3	660	432	864					
	Sasan UMPP	4	660	432						
Tamnar TPP						Tamnar TPP	1	600	393	393

# Expected Generation addition – Southern Region

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Generation After 1 <sup>st</sup> July'13 till 15th February'14						Expected Generation Likely to be declared Commercial from 16th February'2014 to 31st Mach'2014				
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)
Tamil Nadu	Mettur Stg III	1	600	393	393	North Chennai Stg II	1	600	393	393
SEPL						SEPL	3	150	97	97
Vallur	Vallur TPP Ph1	1	500	327	655					
	Vallur TPP Ph1	2	500	327						
Meenakhshi	Meenakshi	1	150	97	193					
	Meenakshi	2	150	97						
Kudankulam						Kudankulam	1	1000	910	910

# Expected Generation addition –North Eastern Region

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Generation After 1 <sup>st</sup> July'13 till 15th February'14						Expected Generation Likely to be declared Commercial from 16th February'2014 to 31st Mach'2014				
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)
Palatana GBPP	Palatana GBPP	1	363	310	310					
Meghalaya	Leshka HPP	3	42	17	46					
	Meghalaya Power Limited	2	45	29						