

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram:**

- 1. Dr. Pramod Deo, Chairperson**
- 2. Sri R.Krishnamoorthy, Member**
- 3. Sri S.Jayaraman, Member**
- 4. Sri V.S.Verma, Member**

**Petition No.117/2006**

**In the matter of**

Approval of incentive based on availability of transmission system for the year 2005-06 for Northern Region.

**And in the matter of**

Power Grid Corporation of India Limited, Gurgaon  
Vs

**..Petitioner**

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited, Jaipur
2. Ajmer Vidyut Vitaran Nigam Ltd., Ajmer
3. Jaipur Vidyut Vitaran Nigam Ltd, Jaipur
4. Jodhpur Vidyut Vitaran Nigam Ltd, Jodhpur
5. Himachal Pradesh State Electricity Board, Shimla
6. Punjab State Electricity Board, Patiala
7. Haryana Vidyut Prasaran Nigam Ltd., Panchkula
8. Power Development Department, Govt. of J&K, Jammu
9. Uttar Pradesh Power Corporation Ltd, Lucknow
10. Delhi Transco Ltd, New Delhi
11. BSES Yamuna Power Ltd., Delhi
12. BSES Rajdhani Power Ltd., New Delhi
13. North Delhi Power Ltd., New Delhi
14. Chief Engineer, Chandigarh Administration, Chandigarh
15. Uttaranchal Power Corporation Ltd, Dehradun
16. Northern Railway, New Delhi

**....Respondents**

**The following were present:**

1. Shri U.K.Tyagi, PGCIL
2. Shri V.V.Sharma, PGCIL
3. Shri A.K.Nagpal, PGCIL
4. Ms. Sangeeta Edwards, PGCIL
5. Shri M.M.Mondal, PGCIL

**ORDER  
(DATE OF HEARING: 21.4.2009)**

The petitioner seeks approval for incentive for the year 2005-06 for its transmission system in Northern Region, in terms of the Central Electricity Regulatory Commission

(Terms & Conditions of Tariff) Regulations, 2004 (hereinafter referred to as “the regulations”).

2. Regulation 51 of the regulations provides that:

51. Target Availability for recovery of full transmission charges:

(1) AC System: 98%

(2) HVDC bio-pole links and HVDC back-to-back stations: 95%

3. Regulation 60 of the regulations, as amended, *inter alia*, provides that,-

(1) The transmission licensee shall be entitled to incentive @ 1% of equity for each percentage point of increase in annual availability beyond the target availability prescribed under regulation 51, in accordance with the following formula:

Incentive=Equity x [Annual availability achieved –Target availability]/100

(2) Incentive shall be shared by the long-term customers in the ratio of their average allotted transmission capacity for the year.

4. Member-Secretary, NRPC under his letter dated 31.5.2006 certified the availability of intra-regional AC system and HVDC transmission system as well as bilateral transmission assets in Northern Region during 2005-06. None of the respondents has raised any objection to the certificate issued by the Member-Secretary, NRPC. The necessary details of availability based on the Member-Secretary, NRPC`s letter dated 31.5.2006, are as under:

S.No.	Assets	Availability
1	<b>Intra-regional AC system</b> AC Transmission System of Northern Region (excluding bi-lateral elements with UP and Haryana)	99.59%
2.	<b>Intra-regional HVDC system</b> HVDC Rihand-Dadri System	93.88%
3.	<b>Inter-regional HVDC systems</b> HVDC back-to-back Sasaram (NR-ER) HVDC back-to-back Vindhyachal (NR-WR)	97.70% 98.48%

4.	<b>Inter-regional AC transmission lines</b> Sasaram-Allahabad (NR-ER) transmission line Biharshariff-Sasaram-Sarnath (NR-ER) transmission line	99.92% 99.92%
5.	<b>Bilateral Transmission System</b> Faridabad Transmission System-HVPNL UP Strengthening Scheme + Mau-Balia Transmission System-UPPCL	99.60% 99.97%

5. The petitioner has claimed incentive as under:

(Rs. in lakh)			
S.No.	Assets	Pro rata equity	Incentive
1	<b>Intra-regional AC system</b> AC Transmission System of Northern Region	170509.20	2709.39
2.	<b>Intra-regional HVDC system</b> HVDC Rihand-Dadri Poles	34479.44	0.00
3.	<b>Inter-regional HVDC systems</b> HVDC back-to-back Sasaram (NR-ER) HVDC back-to-back Vindhyachal (NR-WR)	809.05 4156.44	144.64 21.84
4.	<b>Inter-regional AC transmission lines</b> Sarnath-Allahabad (NR-ER) transmission line Biharshariff-Sasaram-Sarnath (NR-ER) transmission line	135.72 1656.43	2.61 31.80
5.	<b>Bilateral Transmission System</b> Faridabad Transmission System-HVPNL UP Strengthening Scheme + Mau-Balia Transmission System-UPPCL	2725.99 832.07	43.62 16.39
	<b>Total</b>	<b>215304.33</b>	<b>2970.29</b>

6. In case of assets covered under Rihand transmission system (Petition No. 96/2004) and 400 kV D/C Raipur- Rourkela line ( Petition No. 64/2005), tariff for the period 2004-09 has been allowed for the combined transmission lines (AC portion) as well as HVDC System. As per the 2004 regulations, incentive is to be worked out separately for the transmission lines and HVDC System. The petitioner has segregated the equity on *pro rata*

basis on the basis of capital cost of HVAC and HVDC portions. As cost break-up has not been available, segregation as claimed by the petitioner in the present petition in case of the two assets, the segregation as mentioned in the present petition in case of Rihand-HVDC and Sasaram HVDC, has been considered.

7. In respect of the transmission assets whose equity has been revised as a result of judgment of the Appellate Tribunal for Electricity, the revised equity has been considered.

8. Incentive has been worked out considering the availability as certified by the Member-Secretary, NRPC in the light of above discussion. Based on the above, the petitioner shall be entitled to incentive as under:

(Rs. in lakh)			
S. No.	Assets	Equity (Rs. in lakh)	Incentive Amount (Rs. in lakh)
1	<b>Intra-regional AC system</b> AC Transmission System of Northern Region	178400.12	2708.34
2.	<b>Intra-regional HVDC system</b> HVDC Rihand-Dadri Poles	34479.44	0.00
3.	<b>Inter-regional HVDC systems</b> HVDC back-to-back Sasaram (NR-ER) HVDC Back-to-Back Vindhyachal (NR-WR)	809.05 4156.44	21.84 144.64
4.	<b>Inter-regional AC transmission lines</b> Sarnath-Allahabad (NR-ER) transmission line Biharshariff-Sasaram-Sarnath (NR-ER) transmission line	135.73 1656.43	2.61 31.80
5.	<b>Bilateral Transmission System</b> Faridabad Transmission System-HVPNL UP Strengthening Scheme + Mau-Balia Transmission System-UPPCL	2725.99 916.57	43.62 14.93
	<b>Total</b>	<b>223279.75</b>	<b>2967.78</b>

9. The details of calculations in support of the incentive allowed by us are given in the Annexure attached.

10. There are some differences between the incentive amount claimed by the petitioner and allowed by us. In case of Dhauliganga HEP-Bareilly transmission line (Petition No. 138/2006), ICT-II at Patiala and LILO of Nalagarh- Hissar at Patiala and Rihand-Allahabad-Mainpuri-Ballabgarh (Petition No. 2/2007), Meerut- Shatabdinagar transmission line (Petition No. 10/2007), assets covered in Tehri Transmission System ( Petition No. 146/2007) and Rihand Stage-II Transmission System ( Petition No. 68/2008), the petitioner has considered the entire equity corresponding to additional capital expenditure during 2005-06. However, for the purpose of determination of tariff, average equity corresponding to the additional capital expenditure has been taken. Therefore, for computation of incentive also, average equity has been considered.

11. The Commission in its order dated 6.7.2006, had provisionally allowed incentive of 80% of that claimed by the petitioner in this petition. The provisional incentive charged by the petitioner shall be adjusted against final incentive for the year 2004-05 approved by us in this order.

12. The incentive approved shall be shared by the respondents, the beneficiaries in the Northern Region, in proportion of the transmission charges for the year 2005-06 paid by them in the region.

13. This order disposes of Petition No.117/2006.

Sd/- <b>(V.S.VERMA)</b> MEMBER	sd/- <b>(S.JAYARAMAN)</b> MEMBER	sd/- <b>(R.KRISHNAMOORTHY)</b> MEMBER	sd/- <b>(DR. PRAMOD DEO)</b> CHAIRPERSON
New Delhi dated the 27 <sup>th</sup> July 2009			

# ANNEXURE

## Northern Region Transmission System

(Rs. in lakh)

Name of the Company:  
PGCIL  
Name of the Region: Northern  
Petition No.:117/2006- Incentive for the  
years 2005-06  
NR Transmission  
System

	Name of the Transmission System/Line (1)	Tariff order dated (2)	Petition No. (3)	D.O.C.O. (4)	Equity as per Tariff Order (5)	Period during the year (Year) (6)	Availability of the Transmission System Elements (7)	Availability eligible for incentive (8)	Incentive amount (7) = (5)*(6)*(8)
A	Intra Regional AC System								
	Target availability for incentive (AC System)								98.00%
1	ANTA	29. 2.2008	98/2004	Before 1. 4.1992	2879.66	1.00	99.59%	1.59%	45.79
2	AURAIYA	29. 2.08	105/2004	-do-	5081.43	1.00	99.59%	1.59%	80.79
3	SINGARAULI	22. 1.08	102/2004	-do-	11798.08	1.00	99.59%	1.59%	187.59
4	RIHAND	29. 2.08	96/2004	-do-	27891.22	1.00	99.59%	1.59%	443.47
5	BAIRASIUL	22. 1.08	101/2004	-do-	316.08	1.00	99.59%	1.59%	5.03
6	TANAKPUR	22. 1.08	108/2004	-do-	1044.50	1.00	99.59%	1.59%	16.61
7	MOGA-HISSAR, HISSAR-BHIWANI	22. 1.08	106/2004	1.12.94, 1.07.95	6275.00	1.00	99.59%	1.59%	99.77
8	BAWANA-BHIWANI, BAWANA-HISSAR (MBTL)	27. 3.06		1.02.98 1.09.97	1101.73	1.00	99.59%	1.59%	17.52
9	Chamera Hydro Electric Project Stage-I Transmission System	29. 2.08	109/2004	1.05.94	12046.63	1.00	99.59%	1.59%	191.54
10	SALAL -I	22. 1.08	110/2004	Before 1.04.1992	1528.50	1.00	99.59%	1.59%	24.30
11	Salal Stage-II Transmission System	22. 1.08	103/2004	Before 1.04.1995	5073.89	1.00	99.59%	1.59%	80.67
12	URI Hydro Electric Project Transmission System	23.11.05	100/2004	1.04.97	9266.00	1.00	99.59%	1.59%	147.33
13	CHAMERA-KISHANPUR	6. 9.05	99/2004	1.10.97	4834.00	1.00	99.59%	1.59%	76.86
14	ICT-I AT KISHANPUR S/S	9. 9.05	104/2004	1.10.97	2999.00	1.00	99.59%	1.59%	47.68
15	RAPP B-ANTA	19. 5.08	77/2004	1.08.2000	468.46	1.00	99.59%	1.59%	7.45
16	RAPP B-CHITTORGAR	13. 1.06		1.11.98	1215.05	1.00	99.59%	1.59%	19.32

	H								
17	RAPP-UDAIPUR	19. 5.08		1.01.2000	405.40	1.00	99.59%	1.59%	6.45
18	ADDL.TRANSFORMER RIHAND DADRI	7. 9.05	107/2004	1.10.2000	1840.94	1.00	99.59%	1.59%	29.27
19	UNCHAHAH-KANPUR-I	19. 5.08	82/2004 (IA 30/2005)	1.06.99	251.52	1.00	99.59%	1.59%	4.00
20	UNCHAHAH-KANPUR-II			1.01.2000	85.62	1.00	99.59%	1.59%	1.36
21	PANKI-MAINPURI			1.12.2000	147.73	1.00	99.59%	1.59%	2.35
22	SERIES CAPACITORS PAMPORE	4. 1.06	68/2004	1.06.99	183.05	1.00	99.59%	1.59%	2.91
23	KISHENPUR MOGA CKT-I	19. 5.08	84/2004	1.05.2000	5037.55	1.00	99.59%	1.59%	80.10
24	KISHENPUR MOGA CKT-II			1.02.01	7997.35	1.00	99.59%	1.59%	127.16
25	ICT-III AT MOGA & BUS REACTOR AT KISHENPUR			1.03.2000	180.79	1.00	99.59%	1.59%	2.87
26	Transformer at MALERKOTLA	22. 9.06	131/2005	1.04.96	459.12	1.00	99.59%	1.59%	7.30
27	BAWANA-BHIWANI,BAWANA-HISSAR,NJTL	22. 9.06		1.02.98	891.60	1.00	99.59%	1.59%	14.18
28	HISSAR-JAIPUR,NJTL	22. 9.06		1.08.97	2800.42	1.00	99.59%	1.59%	44.53
29	ABDULLAPUR-BAWANA,NALAGARH-HISSAR	19. 5.08		1. 1.2000	7199.36	1.00	99.59%	1.59%	114.47
30	ICT-I AT JAIPUR	22. 9.06		1.10.2000	471.50	1.00	99.59%	1.59%	7.50
31	2 NOS.LILO BAYS WITH ICT-I AT JAIPUR	22. 9.06		1.12.2000	40.41	1.00	99.59%	1.59%	0.64
32	ICT-II AT JAIPUR	22.09.06		1. 3.01	119.33	1.00	99.59%	1.59%	1.90
33	LILO OF CMTL & ICT-I AT JALANDHAR	19.05.08		1. 1.01	1410.51	1.00	99.59%	1.59%	22.43
34	ICT-II AT JALANDHAR	22. 9.06		1. 1.01	324.25	1.00	99.59%	1.59%	5.16
35	JALANDHAR-DASUYA	19. 5.08		1. 1.01	339.43	1.00	99.59%	1.59%	5.40
36	ICT-I AT NALAGARH	19. 5.08		1. 9.2000	228.88	1.00	99.59%	1.59%	3.64
37	ICT-II AT NALAGARH	19. 5.08		1.03.2000	139.91	1.00	99.59%	1.59%	2.22
38	BUS REACTOR AT NALAGARH	19. 5.08		1.04.2000	69.17	1.00	99.59%	1.59%	1.10
39	JALANDHAR-HAMIRPUR	30. 4.08	35/2005	1.09.2001	428.01	1.00	99.59%	1.59%	6.81
40	SINGARAULI-KANPUR LINE-	30. 4.08	72/2005	1.01.2003	161.71	1.00	99.59%	1.59%	2.57

	I								
41	SINGRAULI - KANPUR LINE- II			-do-	706.34	1.00	99.59%	1.59%	11.23
42	ICT -I AT ALLAHABAD			1.02.2003	499.39	1.00	99.59%	1.59%	7.94
43	ICT -II AT ALLAHABAD			1.01.2003	455.72	1.00	99.59%	1.59%	7.25
44	ICT -IV AT BALLABHGAR H	28. 4.06	70/2005	1.07.2002	175.63	1.00	99.59%	1.59%	2.79
45	FACT, BALLABHGAR H	9. 5.06	60/2005	-do-	372.75	1.00	99.59%	1.59%	5.93
46	SPECIAL ENERGY METERS	12. 3.07	2/2006 (IA 7/2007)	1.05.2002	433.95	1.00	99.59%	1.59%	6.90
47	Bhiwadi s/s with LILO of Ballabhgarh- Jaipur line	26. 4.06	49/2005 (IA 28/2005)	1.03.2003	1944.68	1.00	99.59%	1.59%	30.92
48	Meerut- Mandola-I	6. 2.07	141/2005 (IA 74/2006)	1.10.2003	666.53	1.00	99.59%	1.59%	10.60
49	Meerut- Mandola-II			1.04.2003	549.32	1.00	99.59%	1.59%	8.73
50	ICT -II at Meerut			1.04.2003	267.73	1.00	99.59%	1.59%	4.26
51	ICT -III at Meerut			1.07.2003	444.76	1.00	99.59%	1.59%	7.07
52	Panki- Naubasta Trans. Line	22. 1.07	102/2005 (IA 1/2007)	1.10.2003	628.59	1.00	99.59%	1.59%	9.99
53	Series Compensation on Panki- Muradnagar	25. 1.07	118/2005 (IA 3/2007)	1.02.2004	368.71	1.00	99.59%	1.59%	5.86
54	LILO Chamera- I --Kishanpur	24.10.06	9/2006	1. 8.2003	1193.57	1.00	99.59%	1.59%	18.98
55	Nathpajhakri- Nallagarh	19. 5.08	131/2005	1. 4.2003	8353.29	1.00	99.59%	1.59%	132.82
56	Nathpajhakri- Abdullapur			1. 4.2003	7213.06	1.00	99.59%	1.59%	114.69
57	Agra- Agra	22. 1.07	117/2005 (IA 2/2007)	1. 7.2003	609.82	1.00	99.59%	1.59%	9.70
58	Dhauliganga- Bareilly TL	21. 3.07	138/2006	1.08.2005	4200.53	0.67	99.59%	1.59%	44.53
59	Patiala- Malerkotla T/L, ICT- I at Patiala & LILO at Kaithal	27. 9.07	02/2007	1.10.2005	3178.12	0.50	99.59%	1.59%	25.27
60	ICT I&II at Kaithal	3. 2.09	68/2008	1.11.2005	932.77	0.42	99.59%	1.59%	6.18
61	ICT-II at Patiala & LILO of Nalagarh- Hissar at Patiala	27. 9.07	02/2007	1.12.2005	893.13	0.33	99.59%	1.59%	4.73
62	ICT I&II at Mainpuri	3. 2.09	68/2008	1.01.2006	1048.99	0.25	99.59%	1.59%	4.17
63	Rihand- Allahabad- Mainpuri- Ballabhgarh	27. 9.07	02/2007	1.06.2005	17566.77	0.83	99.59%	1.59%	232.76
64	ICT-I at Meerut S/S under Tehri transmission system	21. 8.08	146/2007	1.08.2005	663.18	0.67	99.59%	1.59%	7.03
	<b>SUB TOTAL (A)</b>				<b>178400.12</b>				<b>2708.34</b>
<b>B</b>	<b>Inter Regional AC</b>								



	Elements								
1	Sarnath- Allahabad AC Portion (50%)	9. 5.06	64/2005	1.12.2002	135.73	1.00	99.92%	1.92%	2.61
2	400 kV Biharshariff- Sasaram- Sarnath Line & Bay (50%)	28. 4.08	51/2005	1.07.2001	1656.43	1.00	99.92%	1.92%	31.80
	<b>SUB TOTAL (B)</b>				<b>1792.15</b>				<b>34.41</b>
<b>C</b>	<b>Bi- lateral Transmission System</b>								
1	FARIDABAD- SAMAYAPUR	27. 1.06	97/2004	1.06.1999	1554.33	1.00	99.60%	1.60%	24.87
2	FARIDABAD-PALLA	19. 5.08		1.02.2000	1171.66	1.00	99.60%	1.60%	18.75
3	ALLAHABAD-REWA ROAD CKT-I	9. 5.06	133/2005 (IA 8/2007)	1.01.2003	26.07	1.00	99.97%	1.97%	0.51
4	Allahabad- Rewa Road Ckt-II	9. 3.07		1.08.2003	14.89	1.00	99.97%	1.97%	0.29
5	LILO of Modipuram- Simbholi	9. 3.07		1.07.2003	85.08	1.00	99.97%	1.97%	1.68
6	Modipuram- Nara	9. 3.07		1.04.2003	30.38	1.00	99.97%	1.97%	0.60
7	Mau- Balia	9. 1.07	45/2006	1.05.2003	203.07	1.00	99.97%	1.97%	4.00
8	Allahabad- Phulpur	28.10.06	130/2005	1.06.2004	444.41	0.83	99.97%	1.97%	7.30
9	Meerut- Shatabdinagar TL	17. 7.07	10/2007	1.01.2006	112.67	0.25	99.97%	1.97%	0.55
	<b>SUB TOTAL (C )</b>				<b>3642.56</b>				<b>58.55</b>
<b>D</b>	<b>Intra- Regional HVDC System</b>								
	Target availability for incentive (HVDC System)								<b>95.00%</b>
1	Rihand HVDC	29.02.08	96/2004	Before 1.04.1992	34479.44	1.00	93.88%	0.00%	0.00
	<b>SUB TOTAL (D)</b>				<b>34479.44</b>				<b>0.00</b>
<b>E</b>	<b>Inter- Regional HVDC System</b>								
1	Vindhyachal HVDC (50%)	14.02.08	113/2004	Before 1.04.1992	4156.44	1.00	98.48%	3.48%	144.64
2	Sasaram HVDC Portion (50%)	09.05.06	64/2005	1.12.2002	809.05	1.00	97.70%	2.70%	21.84
	<b>SUB TOTAL (E)</b>				<b>4965.49</b>				<b>166.49</b>
	<b>TOTAL INCENTIVE (A to E)</b>				<b>223279.75</b>				<b>2967.23</b>