

**PREPARATION OF PRELIMINARY FEASIBILITY REPORTS (PFRs)  
Under 50,000 MW Hydroelectric Initiative**

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## **PREPARATION OF PRELIMINARY FEASIBILITY REPORTS**

### **Under 50,000 MW Hydroelectric Initiative**

#### **1. INTRODUCTION**

- 1.1. Hon'ble Prime Minister of India launched a programme for preparation of Preliminary Feasibility Reports (PFRs) of Hydroelectric Schemes on 24.5.2003. The scheme was formulated by CEA and sanctioned by the Ministry of Power on 31<sup>st</sup> March, 2003 at a cost amounting to Rs. 24.95 crores. The work of preparation of PFRs of 162 schemes was awarded to seven CPSUs/State agencies as Consultants. All the PFRs have already been completed ahead of schedule. The schemes are located in 16 States.
- 1.2. PFRs prepared under the programme would serve useful purpose of fixing the inter-se priority for implementation of the schemes as also as a basis and reference for taking up on Survey & Investigations and preparation of DPRs of Hydroelectric Schemes. With a view to providing scheme specific information of 162 PFR schemes for quick reference as also for the purpose of further consideration for prioritization and implementation, the Executive Summary of 162 PFRs schemes has been prepared to provide information in respect of each scheme on the salient features, layout maps and other information generally required for appreciation of the magnitude of works involved, preliminary cost estimates and financial aspects.

#### **2. PREPARATION OF PFRs**

- 2.1. The scheme envisaged preparation of PFRs of Hydroelectric Schemes by the Consultants based on the input data on topography, hydrology, geology, and meteorology collected from the concerned Govt. of India organizations viz. Survey of India, Ministry of Water Resources CWC, Geological Survey of India and Indian Meteorological Department. The work inter-alia included utilization of Satellite Imageries as available from National Remote Sensing Agency for carrying out the studies and preparation of the PFRs.
- 2.2. Central Electricity Authority as a nodal agency for preparation of PFRs, coordinated amongst various associated Govt. of India departments/agencies and Consultants. CEA has also facilitated collection of data required by the Consultants and exercising quality control through vetting of the important studies leading to the selection of the project parameter. The conceptual planning of the project, general project planning including assessment of power benefits for selection of project parameters and evacuation of power from the PFR schemes were vetted in CEA during preparation stage. The Central Water Commission examined the water availability and

the project layout. CEA monitored the progress of studies and project preparation of PFRs to ensure their completion within the scheduled timeframe.

- 2.3. The project planning aspects of each scheme were examined in the CEA in the context of overall development of water resources of the river basin. The analysis of assessment of power benefits from the project was carried out for alternative options. The installed capacity has been proposed based on detailed analysis of benefits considering the water availability, load factor of operation, tribunal awards and other related aspects.
- 2.4. Initially, the Consultants faced difficulties and delays in obtaining the data for the studies mainly on account of procedures/approvals required for supply of the data by the concerned organizations to the Consultants which were sorted out by the efforts of CEA and seeking the intervention of the Ministry of Power. Some of the studies required use of digitized toposheets along with satellite imageries such as study of the environmental aspects
- 2.5. In spite of the initial difficulties/constraints and time taken for data collection, the work progressed very well as team work of CEA and other Central Government agencies and the Consultants as per schedule. The PFRs of all 162 hydroelectric schemes have since been prepared ahead of schedule.
- 2.6. The work of preparation of PFRs of 162 hydroelectric schemes was entrusted to seven consultants viz. National Hydro Power Corporation (NHPC), Water and Power Consultancy services (WAPCOS), Satluj Jal Vidyut Nigam Ltd. (SJVNL), North Eastern Electric Power Corporation (NEEPCO), Karnataka Power Corporation Ltd (KPCL), Himachal Pradesh State Electricity Board (HPSEB), Uttaranchal Jal Vidyut Nigam Ltd (UJVNL). The summary of the PFRs prepared by the Consultants is as under.

Sl No	Consultant	Number of Schemes	Installed Capacity (MW)
1	National Hydroelectric Power Corporation	43	19287
2	Himachal Pradesh State Electricity Board	13	2692
3	North Eastern Electric Power Corporation	18	4620
4	Water and Power Consultancy Services	71	17368
5	Uttaranchal Jal Vidyut Nigam Ltd.	10	1427
6	Satluj Jal Vidyut Nigam Ltd.	2	636
7	Karnataka Power Corporation Limited	5	1900
Total		162	47930

The details of PFRs prepared by each Consultant are given in Annex-I.

### 3. OVERVIEW OF PFR SCHEMES

3.1. **State wise Distribution of Schemes:** The 162 hydroelectric schemes for which PFRs have been prepared are located in 16 states as under.

Sl No	State	Number of Schemes	Installed Capacity(MW)
1	Andhra Pradesh	1	81
2	Arunachal Pradesh	42	27293
3	Chhattisgarh	5	848
4	Himachal Pradesh	15	3328
5	Jammu & Kashmir	13	2675
6	Karnataka	5	1900
7	Kerala	2	126
8	Madhya Pradesh	3	205
9	Maharashtra	9	411
10	Manipur	3	362
11	Meghalaya	11	931
12	Mizoram	3	1500
13	Nagaland	3	330
14	Orissa	4	1189
15	Sikkim	10	1469
16	Uttaranchal	33	5282
Total		162	47930

The State wise details of the schemes are given at Annex-II.

3.2. **Capacity Wise Distribution:** Among the PFRs of 162 schemes, the Etalin Hydroelectric Project scheme with an installation of 4000 MW is the largest. The scheme is located on the Dibang river in Arunachal. The capacity wise distribution of the 162 PFR schemes is given in the table below.

Sl No	Installed Capacity	Number of Schemes		Installed Capacity (MW)	
		Number	Percent of Total	Capacity (MW)	Percent of Total
1	Below 250.0 MW	109	67.3%	11411	23.8%
2	250.0 MW - 500.0 MW	30	18.5%	10502	21.9%
3	500.0 MW - 1000.0 MW	15	9.3%	9297	19.4%
4	1000.0 MW - 2000.0 MW	4	2.5%	4120	8.6%
5	Above 2000.0 MW	4	2.5%	12600	26.3%
Total		162	100.0%	47930	100.0%

The capacity wise classification of the PFR schemes is given in Annex-III.

- 3.3. **Tariff Wise Distribution:** The tariff wise distribution of the schemes is given in the table below.

Sl No	Tariff	PFR Schemes		Cumulative PFR Schemes	
		Nos. of Schemes	Installed Capacity (MW)	Nos. of Schemes	Installed Capacity (MW)
1	Below Rs.1.50	26	13603	26	13603
2	Rs.1.50 - Rs.2.00	26	13051	52	26654
3	Rs.2.00 - Rs.2.50	26	7366	78	34020
4	Rs.2.50 - Rs.3.00	16	2282	94	36302
5	Rs.3.00 - Rs.3.50	14	3001	108	39303
6	Rs.3.50 - Rs.4.00	10	2589	118	41892
7	Rs.4.00 - Rs.4.50	11	2013	129	43905
8	Rs.4.50 - Rs.5.00	7	1404	136	45309
9	Above Rs.5.00	26	2621	162	47930

The details of the schemes are given at Annex-IV.

- 3.4. **Low Tariff Schemes:** As per the results of the PFR studies 78 hydroelectric schemes with an installation of 34020 MW have tariff below Rs. 2.50 per unit. The PFRs prepared under the programme would serve useful purpose of fixing the inter-se priority for implementation of the schemes on the basis of tariff for taking up of the Survey & Investigation and Preparation of DPRs of hydroelectric schemes. State wise location of such schemes is given as under.

Sl No	State	Number of Schemes	Installed Capacity (MW)
1	Arunachal Pradesh	19	21800
2	Himachal Pradesh	11	2860
3	Jammu & Kashmir	5	1715
4	Karnataka	4	1600
5	Meghalaya	7	651
6	Sikkim	4	835
7	Uttaranchal	28	4559
Total		78	34020

The list of such schemes is given at Annex-V.

- 3.5. **Head Wise Distribution:** The operating head obtaining on the schemes varies from a minimum of 9.84 m at Ghargaon Hydroelectric Scheme (4x13 MW) in Maharashtra to a maximum of 1106.37 m Ringpi Hydroelectric Scheme (2x35 MW) in Sikkim. The distribution of

schemes in the above head range giving the number of schemes in each segment and corresponding number of generating units and aggregate installed capacity is given in the table below.

Sl No	Head Range	Number of Schemes	Number of Units	Installed Capacity (MW)
1	Below 100.0 m	44	154	7821
2	100.0 m - 200.0 m	44	150	18167
3	200.0 m - 300.0 m	27	85	9071
4	300.0 m - 400.0 m	18	63	7057
5	Above 400.0 m	29	73	5814
Total		162	525	47930

The list of schemes arranged in the order of operating head is enclosed as Annex - VI. The type and number of turbines, the selection of which is primarily is guided by the head obtaining at the station are given in the table below.

Type of Turbine/ Operating Head	Number of Units	Installed Capacity (MW)
<b><u>Kaplan</u></b>		
Upto 30 m	64	1601
31-100	6	210
Total (Kaplan)	70	1811
<b><u>Francis</u></b>		
31-100	86	6240
101-200	148	17937
201-300	85	9071
301-500	70	9444
Total (Francis)	389	42692
<b><u>Pelton</u></b>		
301-500	33	1383
Above 500	33	2044
Total(Pelton)	66	3427
<b>Total (All)</b>	<b>525</b>	<b>47930</b>

- 3.6. **Classification based on storage:** The distribution of the schemes based on the storage given as under:

<b>Type</b>	<b>Number of Schemes</b>	<b>Installed Capacity (MW)</b>
I. Run off river schemes	121	31626
II. Storage based Schemes	41	16304
Total	162	47930

The storage based schemes are those schemes which would provide seasonal storage to improve the firm power generation during the lean flow season. The total live storage at the storage based schemes is 38.7 billion cubic meters.

#### **4. CONCLUSION**

- 4.1. The results of the PFR Studies provide basis for prioritization of schemes for their selection for implementation. The low tariff schemes basis selection could be considered most appropriate. The schemes with tariff below Rs. 2.50 per unit could be considered for implementation at the first stage.
- 4.2. The description of the PFR schemes in the Executive Summary would provide useful information on salient features and the layout as also on cost estimates and tariff of the each PFR scheme. This would enable quick references to the information generally required for further consideration of the schemes. For detailed technical and financial references, the PFRs would need to be referred to. One set of each PFRs is available in CEA Library at Sewa Bhavan, R.K. Puram, New Delhi - 110066.

**PFRS under 50 000 MW Hydroelectric Initiative**  
**Consultant Wise List of PFRs Prepared**

<b>Sl No</b>	<b>Consultant/Scheme</b>	<b>State</b>	<b>Installed Capacity (MW)</b>
<b><u>National Hydroelectric Power Corporation (NHPC)</u></b>			
1	Agoline	Ar. Pradesh	375.00
2	Amulin	Ar.Pradesh	420.00
3	Ashupani	Ar.Pradesh	30.00
4	Attunli	Ar.Pradesh	500.00
5	Demwe	Ar.Pradesh	3000.00
6	Dengser	Ar.Pradesh	552.00
7	Duimukh	Ar.Pradesh	150.00
8	Elango	Ar.Pradesh	150.00
9	Emini	Ar.Pradesh	500.00
10	Emra-II	Ar.Pradesh	390.00
11	Etabue	Ar.Pradesh	165.00
12	Etalín	Ar.Pradesh	4000.00
13	Hirong	Ar. Pradesh	500.00
14	KurungI&II	Ar. Pradesh	330.00
15	Mihumdon	Ar.Pradesh	400.00
16	Mirak	Ar.Pradesh	141.00
17	Naba	Ar.Pradesh	1000.00
18	Nalo	Ar.Pradesh	360.00
19	Naying	Ar. Pradesh	1000.00
20	Niare	Ar.Pradesh	800.00
21	Oju-I	Ar.Pradesh	700.00
22	Oju-II	Ar.Pradesh	1000.00
23	Ringong	Ar.Pradesh	150.00
24	Simang	Ar.Pradesh	90.00
25	Tato-II	Ar. Pradesh	700.00
26	Dikchu	Sikkim	105.00
27	Lachen	Sikkim	210.00
28	Lingza	Sikkim	120.00
29	Panan	Sikkim	200.00
30	Rangyong	Sikkim	141.00
31	Ringpi	Sikkim	70.00
32	Rongni Storage	Sikkim	195.00
33	Rukel	Sikkim	33.00
34	Talem	Sikkim	75.00
35	Teesta-I	Sikkim	320.00
36	Dumkhar	J&K	45.00
37	Kanyunche	J&K	45.00
38	Karkit	J&K	30.00
39	Khalsi	J&K	60.00



<b>Sl No</b>	<b>Consultant/Scheme</b>	<b>State</b>	<b>Installed Capacity (MW)</b>
40	Takmaching	J&K	30.00
41	Basania	Madhya Pradesh	90.00
42	Bauras	Madhya Pradesh	55.00
43	Hoshangabad	Madhya Pradesh	60.00
Total (NHPC) - 43 Schemes			19287.00
<b><u>Himachal Pradesh State Electricity Board (HPSEB)</u></b>			
1	Bajoli Holi	HP	180.00
2	Bardang	HP	114.00
3	Chamba	HP	126.00
4	Chhatru	HP	108.00
5	Gharopa	HP	114.00
6	Gondhala	HP	144.00
7	Jangi Thopan	HP	480.00
8	Khoksar	HP	90.00
9	Luhri	HP	465.00
10	Thopan Powari	HP	480.00
11	Tidong-I	HP	60.00
12	Tidong-II	HP	70.00
13	Yangthang	HP	261.00
Total (HPSEB) - 13 Schemes			2692.00
<b><u>North Eastern Electric Power Corporation (NEEPCO)</u></b>			
1	Badao	Ar.Pradesh	120.00
2	Bhareli-I	Ar.Pradesh	1120.00
3	Bhareli-II	Ar.Pradesh	600.00
4	Chanda	Ar.Pradesh	110.00
5	Dibbin	Ar.Pradesh	100.00
6	Kameng Dam	Ar.Pradesh	600.00
7	Kapakleyak	Ar.Pradesh	160.00
8	Pakke	Ar.Pradesh	110.00
9	Papu	Ar.Pradesh	200.00
10	Phanchung	Ar.Pradesh	60.00
11	Sebu	Ar.Pradesh	80.00
12	Talong	Ar.Pradesh	300.00
13	Tarangwarang	Ar.Pradesh	30.00
14	Tenga	Ar.Pradesh	600.00
15	Utung	Ar.Pradesh	100.00
16	Dikhu	Nagaland	140.00
17	Tizu	Nagaland	150.00
18	Yangnyu	Nagaland	40.00
Total (NEEPCO) - 18 Schemes			4620.00
<b><u>Water and Power Consultancy Services (WAPCOS)</u></b>			
1	Pondugala	Andhra Pradesh	81.00
2	Badrinath	Uttaranchal	140.00
3	Bhaironghati	Uttaranchal	65.00
4	Bogudiyar - Sirkari Bhyal	Uttaranchal	170.00
5	Bokang Baling	Uttaranchal	330.00

<b>Sl No</b>	<b>Consultant/Scheme</b>	<b>State</b>	<b>Installed Capacity (MW)</b>
6	Chhunger - Chal	Uttaranchal	240.00
7	Deodi	Uttaranchal	60.00
8	Devsari	Uttaranchal	300.00
9	Gangotri	Uttaranchal	55.00
10	Garba Tawaghat	Uttaranchal	630.00
11	Gohana Tal	Uttaranchal	60.00
12	Harsil	Uttaranchal	210.00
13	Jadh Ganga	Uttaranchal	50.00
14	Jelam Tamak	Uttaranchal	60.00
15	Kalika Dantu	Uttaranchal	230.00
16	Karmoli	Uttaranchal	140.00
17	Khartoi Lumti Talli	Uttaranchal	55.00
18	Maleri Jelam	Uttaranchal	55.00
19	Mapang - Bogidiyar	Uttaranchal	200.00
20	Rishi Ganga - 1	Uttaranchal	70.00
21	Rishi Ganga - II	Uttaranchal	35.00
22	Rupsiabagar Khasiyabara	Uttaranchal	260.00
23	Sela Urthing	Uttaranchal	230.00
24	Sirkari Bhyol Rupsiabagar	Uttaranchal	210.00
25	Ghargaon	Maharashtra	52.00
26	Hiranyakeshi	Maharashtra	18.00
27	Kadvi	Maharashtra	22.00
28	Kasari	Maharashtra	25.00
29	Kumbhi	Maharashtra	17.00
30	Kunghara	Maharashtra	72.00
31	Pranhita	Maharashtra	48.00
32	Samda	Maharashtra	52.00
33	Wainganga	Maharashtra	105.00
34	Kotri	Chhattisgarh	150.00
35	Nugur-I	Chhattisgarh	170.00
36	Nugur-II	Chhattisgarh	210.00
37	Rehar-I	Chhattisgarh	171.00
38	Rehar-II	Chhattisgarh	147.00
39	Baljori	Orissa	178.00
40	Lower Kolab	Orissa	465.00
41	Naraj	Orissa	287.00
42	Tikarpara	Orissa	259.00
43	Karappara Kuriarkutty	Kerala	66.00
44	Perianjakully	Kerala	60.00
45	Barinium	J&K	240.00
46	Bichlari	J&K	35.00
47	Kawar	J&K	320.00
48	Kiru	J&K	430.00
49	Ratle	J&K	560.00
50	Shamnot	J&K	370.00
51	Shuas	J&K	230.00
52	Ujh	J&K	280.00
53	Mawblei	Meghalaya	140.00

<b>Sl No</b>	<b>Consultant/Scheme</b>	<b>State</b>	<b>Installed Capacity (MW)</b>
54	Mawhu	Meghalaya	120.00
55	Mawput	Meghalaya	21.00
56	Nongkolait	Meghalaya	120.00
57	Nongnam	Meghalaya	50.00
58	Rangmaw	Meghalaya	65.00
59	Selim	Meghalaya	170.00
60	Sushen	Meghalaya	65.00
61	Umduna	Meghalaya	57.00
62	Umjaut	Meghalaya	69.00
63	Umngi	Meghalaya	54.00
64	Boinu	Mizoram	640.00
65	Lungleng	Mizoram	815.00
66	Tlawng	Mizoram	45.00
67	Hutong	Ar. Pradesh	3000.00
68	Kalai	Ar. Pradesh	2600.00
69	Khongnum Chakka st.-II	Manipur	67.00
70	Nunglieban	Manipur	105.00
71	Pabaram	Manipur	190.00
Total (WAPCOS) - 71 Schemes			17368.00
<b><u>Uttaranchal Jal Vidyut Nigam Ltd. (UJVNL)</u></b>			
1	Arakot Tiuni	Uttaranchal	72.00
2	Bagoli Dam	Uttaranchal	72.00
3	Jakhol Sankri	Uttaranchal	33.00
4	Lata Tapovan	Uttaranchal	310.00
5	Naitwar-Mori	Uttaranchal	33.00
6	Nand Prayag	Uttaranchal	141.00
7	Ramganga	Uttaranchal	66.00
8	Taluka Sankri	Uttaranchal	140.00
9	Tamak Lata	Uttaranchal	280.00
10	Urthing Sobla	Uttaranchal	280.00
Total (UJVNL) - 10 Schemes			1427.00
<b><u>Satluj Jal Vidyut Nigam Ltd. (SJVNL)</u></b>			
1	Khab-I	Himachal Pradesh	450.00
2	Khab-II	Himachal Pradesh	186.00
Total (SJVNL) - 2 Schemes			636.00
<b><u>Karnataka Power Corporation Limited (KPCL)</u></b>			
1	Agnashini	Karnataka	600.00
2	Gangavali	Karnataka	400.00
3	Gundia	Karnataka	300.00
4	Kalinadi Stage-III	Karnataka	300.00
5	Tamankal	Karnataka	300.00
Total (KPCL) - 5 Schemes			1900.00
Total ( All Consultants ) - 162 Schemes			47930.00

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**Statewise List of Schemes**

	Scheme	Consultant	Installed Capacity			Head (m)	Annual Energy (GWh)	Tariff (Rs/kWh)
			Nos of Units	Size(MW)	Total (MW)			
<b><u>Andhra Pradesh</u></b>								
1	Pondugala	WAPCOS	3	27	81	18.67	399.36	3.48
	Total (Andhra Pradesh ) - 1 Nos. schemes		3		81			
<b><u>Arunachal Pradesh</u></b>								
2	Agoline	NHPC	3	125	375	163.00	1267.38	3.51
3	Amulin	NHPC	3	140	420	132.00	1716.40	3.37
4	Ashupani	NHPC	2	15	30	395.00	126.45	8.75
5	Attunli	NHPC	4	125	500	264.00	2247.32	2.35
6	Badao	NEEPCO	4	30	120	154.50	441.00	2.32
7	Bhareli-I	NEEPCO	8	140	1120	97.00	4112.40	1.85
8	Bhareli-II	NEEPCO	5	120	600	51.00	2345.00	1.67
9	Chanda	NEEPCO	4	27.5	110	175.67	401.91	2.67
10	Demwe	NHPC	12	250	3000	138.00	10823.82	1.97
11	Dengser	NHPC	4	138	552	120.00	2666.71	3.26
12	Dibbin	NEEPCO	2	50	100	151.24	335.72	2.23
13	Duimukh	NHPC	3	50	150	65.00	551.48	8.50
14	Elango	NHPC	3	50	150	363.00	583.14	5.00
15	Emini	NHPC	4	125	500	125.00	1695.45	3.51
16	Emra-II	NHPC	3	130	390	278.00	1648.09	3.02
17	Etabue	NHPC	3	55	165	378.00	683.66	3.43
18	Etaln	NHPC	16	250	4000	385.00	16071.60	1.70
19	Hirong	NHPC	4	125	500	285.00	2535.80	1.62
20	Hutong	WAPCOS	12	250	3000	166.77	9901.00	1.28
21	Kalai	WAPCOS	10	260	2600	193.21	10608.64	1.01
22	Kameng Dam	NEEPCO	5	120	600	65.00	2345.55	2.29
23	Kapakleyak	NEEPCO	4	40	160	245.00	627.95	1.74
24	KurungI&II	NHPC	3	110	330	151.00	1435.40	4.04
25	Mihumdon	NHPC	4	100	400	286.00	1451.75	3.60
26	Mirak	NHPC	3	47	141	136.40	748.44	3.42
27	Naba	NHPC	4	250	1000	221.00	3995.25	2.14
28	Nalo	NHPC	4	90	360	221.00	1733.00	3.27
29	Naying	NHPC	4	250	1000	245.00	5077.15	1.18
30	Niare	NHPC	4	200	800	205.00	3356.62	2.02
31	Oju-I	NHPC	4	175	700	257.00	3291.58	2.08
32	Oju-II	NHPC	4	250	1000	322.00	4629.93	1.46
33	Pakke	NEEPCO	2	55	110	452.50	335.26	3.33
34	Papu	NEEPCO	2	100	200	238.00	505.00	2.94
35	Phanchung	NEEPCO	2	30	60	157.13	174.83	3.24
36	Ringong	NHPC	3	50	150	166.50	659.07	3.61
37	Sebu	NEEPCO	2	40	80	123.00	227.53	3.71
38	Simang	NHPC	3	30	90	125.00	417.82	5.43
39	Talong	NEEPCO	3	100	300	171.67	915.50	2.24
40	Tarangwarang	NEEPCO	2	15	30	185.55	93.81	2.88
41	Tato-II	NHPC	4	175	700	168.00	3465.90	1.48
42	Tenga	NEEPCO	4	150	600	875.00	1046.50	3.52
43	Utung	NEEPCO	3	33.3	100	291.00	359.13	3.10
	Total (Arunachal Pr. ) - 42 Nos. schemes		182		27293			

	Scheme	Consultant	Installed Capacity			Head (m)	Annual Energy (GWh)	Tariff (Rs/kWh)
			Nos of Units	Size(MW)	Total (MW)			
<b><u>Chhattisgarh</u></b>								
44	Kotri	WAPCOS	3	50	150	36.99	330.95	5.48
45	Nugur-I	WAPCOS	5	34	170	24.54	316.13	4.89
46	Nugur-II	WAPCOS	5	42	210	16.66	787.78	4.16
47	Rehar-I	WAPCOS	3	57	171	46.84	264.38	8.70
48	Rehar-II	WAPCOS	3	49	147	38.17	290.32	5.16
	Total (Chhattisgarh ) - 5 Nos. schemes		19		848			
<b><u>Himachal Pradesh</u></b>								
49	Bajoli Holi	HPSEB	3	60	180	278.00	762.98	2.03
50	Bardang	HPSEB	3	38	114	55.00	438.41	2.91
51	Chamba	HPSEB	3	42	126	110.00	646.82	1.48
52	Chhatru	HPSEB	3	36	108	160.00	455.72	2.89
53	Gharopa	HPSEB	3	38	114	169.00	534.25	2.09
54	Gondhala	HPSEB	3	48	144	134.00	586.08	1.92
55	Jangi Thopan	HPSEB	3	160	480	174.14	1779.45	2.00
56	Khab-I	SJVNL	3	150	450	170.00	1551.00	2.24
57	Khab-II	SJVNL	3	62	186	70.00	640.00	3.04
58	Khoksar	HPSEB	3	30	90	99.00	351.91	2.46
59	Luhri	HPSEB	3	155	465	88.00	1825.13	2.41
60	Thopan Powari	HPSEB	3	160	480	161.14	1786.26	1.81
61	Tidong-I	HPSEB	2	30	60	511.50	211.65	2.71
62	Tidong-II	HPSEB	2	35	70	575.00	256.18	2.02
63	Yangthang	HPSEB	3	87	261	186.45	938.02	2.08
	Total (Himachal Pr. ) - 15 Nos. schemes		43		3328			
<b><u>Jammu &amp; Kashmir</u></b>								
64	Barinium	WAPCOS	2	120	240	117.77	1170.34	2.54
65	Bichlari	WAPCOS	2	17.5	35	462.60	148.29	1.11
66	Dumkhar	NHPC	3	15	45	27.80	219.18	4.66
67	Kanyunche	NHPC	3	15	45	28.76	223.02	4.71
68	Karkit	NHPC	3	10	30	26.90	153.11	5.40
69	Kawar	WAPCOS	4	80	320	74.00	1426.56	1.09
70	Khalsi	NHPC	3	20	60	33.00	272.60	4.10
71	Kiru	WAPCOS	4	107.5	430	105.33	1935.77	0.77
72	Ratle	WAPCOS	4	140	560	92.33	2483.37	1.40
73	Shamnot	WAPCOS	4	92.5	370	56.33	1650.19	1.69
74	Shuas	WAPCOS	2	115	230	115.70	1117.87	2.94
75	Takmaching	NHPC	3	10	30	18.53	145.52	5.54
76	Ujh	WAPCOS	4	70	280	143.33	465.06	5.06
	Total (J & K ) - 13 Nos. schemes		41		2675			
<b><u>Karnataka</u></b>								
77	Agnashini	KPCL	4	150	600	427.00	1431.00	1.07
78	Gangavali	KPCL	2	200	400	378.30	759.00	1.46
79	Gundia	KPCL	2	150	300	600.00	616.00	1.41
80	Kalinadi Stage-III	KPCL	2	150	300	407.67	610.00	1.67
81	Tamankal	KPCL	2	150	300	87.29	401.00	3.32
	Total (Karnataka ) - 5 Nos. schemes		12		1900			
<b><u>Kerala</u></b>								
82	Karappara Kuriarkutty <sup>PH1</sup> <sup>PH2</sup>	WAPCOS	2	18	66	390.00	126.10	7.88
			2	15		307.00		
83	Perianjakully	WAPCOS	2	30	60	282.90	86.30	6.25
	Total (Kerala ) - 2 Nos. schemes		6		126			
<b><u>Madhya Pradesh</u></b>								
84	Basania	NHPC	3	30	90	38.00	240.00	17.23
85	Bauras	NHPC	3	18.33	55	17.50	248.43	3.96
86	Hoshangabad	NHPC	3	20	60	16.50	288.21	4.10
	Total (Madhya Pradesh ) - 3 Nos. schemes		9		205			

	Scheme	Consultant	Installed Capacity			Head (m)	Annual Energy (GWh)	Tariff (Rs/kWh)
			Nos of Units	Size(MW)	Total (MW)			
<b><u>Maharashtra</u></b>								
87	Ghargaon	WAPCOS	4	13	52	9.84	74.47	15.50
88	Hiranyakeshi	WAPCOS	2	9	18	36.10	23.76	20.26
89	Kadvi	WAPCOS	2	11	22	36.30	29.59	34.03
90	Kasari	WAPCOS	2	12.5	25	40.67	33.32	18.16
91	Kumbhi	WAPCOS	2	8.5	17	37.48	22.93	35.19
92	Kunghara	WAPCOS	4	18	72	12.77	133.40	11.34
93	Pranhita	WAPCOS	2	24	48	25.30	135.96	10.32
94	Samda	WAPCOS	4	13	52	10.64	83.40	14.11
95	Wainganga	WAPCOS	5	21	105	19.74	246.15	3.86
Total (Maharashtra) - 9 Nos. schemes			27		411			
<b><u>Manipur</u></b>								
96	Khongnum Chakka st.-II	WAPCOS	2	33.5	67	281.25	192.84	4.59
97	Nunglieban	WAPCOS	2	52.5	105	82.42	268.93	5.16
98	Pabaram	WAPCOS	2	95	190	116.67	474.77	4.33
Total (Manipur) - 3 Nos. schemes			6		362			
<b><u>Meghalaya</u></b>								
99	Mawblei	WAPCOS	2	70	140	400.33	303.66	4.44
100	Mawhu	WAPCOS	3	40	120	438.15	482.96	1.40
101	Mawput	WAPCOS	3	7	21	93.42	83.95	4.07
102	Nongkolait	WAPCOS	2	60	120	463	332.87	1.97
103	Nongnam	WAPCOS	2	25	50	215.17	212.59	2.44
104	Rangmaw	WAPCOS	2	32.5	65	321.00	229.60	2.32
105	Selim	WAPCOS	2	85	170	433.67	534.68	2.02
106	Sushen	WAPCOS	2	32.5	65	114.58	220.6	3.85
107	Umduna	WAPCOS	3	19	57	253.17	231.24	1.68
108	Umjaut	WAPCOS	3	23	69	375.20	276.70	1.51
109	Umngi	WAPCOS	2	27	54	304.75	89.65	2.86
Total (Meghalaya) - 11 Nos. schemes			26		931			
<b><u>Mizoram</u></b>								
110	Boinu	WAPCOS	4	160	640	158.67	1118.93	4.83
111	Lungleng	WAPCOS	5	163	815	219.67	1169.06	4.17
112	Tlawng	WAPCOS	2	22.5	45	123.67	151.67	5.84
Total (Mizoram) - 3 Nos. schemes			11		1500			
<b><u>Nagaland</u></b>								
113	Dikhu	NEEPCO	4	35	140	79.44	513.41	2.80
114	Tizu	NEEPCO	3	50	150	64.19	568.41	2.56
115	Yangnyu	NEEPCO	2	20	40	115	176.45	4.48
Total (Nagaland) - 3 Nos. schemes			9		330			
<b><u>Orissa</u></b>								
116	Baljori	WAPCOS	2	89	178	165.75	479.8	5.90
117	Lower Kolab	WAPCOS	3	155	465	196.9	845.86	7.10
118	Naraj	WAPCOS	7	41	287	16.14	759.31	4.92
119	Tikarpara	WAPCOS	7	37	259	16.97	828.37	3.69
Total (Orissa) - 4 Nos. schemes			19		1189			
<b><u>Sikkim</u></b>								
120	Dikchu	NHPC	3	35	105	352	469	2.15
121	Lachen	NHPC	3	70	210	350	865.94	2.35
122	Lingza	NHPC	3	40	120	736	477.51	2.85
123	Panan	NHPC	4	50	200	312	762	2.15
124	Rangyong	NHPC	3	47	141	723.18	639.52	2.70
125	Ringpi	NHPC	2	35	70	1106.37	317.41	3.17
126	Rongni Storage	NHPC	3	65	195	442	510.35	8.60
127	Rukel	NHPC	3	11	33	537.1	149.41	5.48
128	Talem	NHPC	3	25	75	393.19	305.48	4.34
129	Teesta-I	NHPC	4	80	320	576.85	1298.12	1.80
Total (Sikkim) - 10 Nos. schemes			31		1469			

	Scheme	Consultant	Installed Capacity			Head (m)	Annual Energy (GWh)	Tariff (Rs/kWh)
			Nos of Units	Size(MW)	Total (MW)			
<b>Uttaranchal</b>								
130	Arakot Tiuni	UJVNL	3	24	72	250.2	382.9	1.00
131	Badrinath	WAPCOS	2	70	140	459.67	702.7	0.81
132	Bagoli Dam	UJVNL	3	24	72	139.5	340.7	4.10
133	Bhaironghati	WAPCOS	2	32.5	65	108.9	293.18	1.80
134	Bogudiyar - Sirkari Bhyal	WAPCOS	2	85	170	344.47	744	1.99
135	Bokang Baling	WAPCOS	3	110	330	455.2	1124.62	1.68
136	Chhunger - Chal	WAPCOS	2	120	240	292.83	853.28	1.13
137	Deodi	WAPCOS	2	30	60	560.3	296.76	1.37
138	Devsari	WAPCOS	3	100	300	227.5	878.5	2.77
139	Gangotri	WAPCOS	1	55	55	336.33	264.76	1.62
140	Garba Tawaghat	WAPCOS	3	210	630	470.97	2483.11	0.90
141	Gohana Tal	WAPCOS	2	30	60	584.52	269.35	1.64
142	Harsil	WAPCOS	3	70	210	281.33	920.57	1.10
143	Jadh Ganga	WAPCOS	2	25	50	142.6	220.88	2.19
144	Jakhol Sankri	UJVNL	3	11	33	364	144.24	1.71
145	Jelam Tamak	WAPCOS	2	30	60	195.58	268.12	1.71
146	Kalika Dantu	WAPCOS	2	115	230	99.75	1067.3	2.95
147	Karmoli	WAPCOS	2	70	140	419.67	621.31	1.30
148	Khartoi Lumti Talli	WAPCOS	2	27.5	55	56.6	241.51	3.00
149	Lata Tapovan	UJVNL	4	77.5	310	265	1123	2.21
150	Maleri Jelam	WAPCOS	2	27.5	55	200.33	243.07	1.80
151	Mapang - Bogudiyar	WAPCOS	2	100	200	465.07	882.04	1.30
152	Naitwar-Mori	UJVNL	3	11	33	76	151	1.85
153	Nand Prayag	UJVNL	3	47	141	72	794	2.05
154	Ramganga	UJVNL	3	22	66	100.1	327	3.25
155	Rishi Ganga - 1	WAPCOS	2	35	70	536.17	327.3	1.18
156	Rishi Ganga - II	WAPCOS	1	35	35	236.96	164.64	2.22
157	Rupsiabagar Khasiyabara	WAPCOS	2	130	260	449.47	1195.63	1.59
158	Sela Urthing	WAPCOS	2	115	230	255.5	816.73	1.40
159	Sirkari Bhyol Rupsiabagar	WAPCOS	3	70	210	388.97	967.97	1.55
160	Taluka Sankri	UJVNL	2	70	140	564.9	559.47	1.33
161	Tamak Lata	UJVNL	4	70	280	291.4	1040.7	2.30
162	Urthing Sobla	UJVNL	4	70	280	414.96	1360.2	1.49
	Total (Uttaranchal ) - 33 Nos. schemes		81		5282			
	Grand Total - 162 Nos. schemes		525		47930			

**PFRS under 50 000 MW Hydroelectric Initiative**  
**Installed Capacity wise Classification of Schemes**

Sl No	Scheme	State	Installed Capacity		Estimated Cost (Rs. Cr.)	Annual Energy (GWh)	Tariff (Rs./kWh)
			Units x Size(MW)	Total (MW)			
<b>INSTALLED CAPACITY: Below 250.0 MW</b>							
1	Kumbhi	Maharashtra	2 x 8.5	17	482.14	22.93	35.19
2	Hiranyakeshi	Maharashtra	2 x 9.0	18	289.03	23.76	20.26
3	Mawput	Meghalaya	3 x 7.0	21	199.51	83.95	4.07
4	Kadvi	Maharashtra	2 x 11.0	22	597.99	29.59	34.03
5	Kasari	Maharashtra	2 x 12.5	25	350.53	33.32	18.16
6	Takmaching	J&K	3 x 10.0	30	416.64	145.52	5.54
7	Karkit	J&K	3 x 10.0	30	426.92	153.11	5.40
8	Ashupani	Ar.Pradesh	2 x 15.0	30	570.78	126.45	8.75
9	Tarangwarang	Ar.Pradesh	2 x 15.0	30	134.54	93.81	2.88
10	Rukel	Sikkim	3 x 11.0	33	422.01	149.41	5.48
11	Jakhol Sankri	Uttaranchal	3 x 11.0	33	171	144.24	1.71
12	Naitwar-Mori	Uttaranchal	3 x 11.0	33	202.2	151	1.85
13	Rishi Ganga - II	Uttaranchal	1 x 35.0	35	212.98	164.64	2.22
14	Bichlari	J&K	2 x 17.5	35	94.4	148.29	1.11
15	Yangnyu	Nagaland	2 x 20.0	40	397.55	176.45	4.48
16	Dumkhar	J&K	3 x 15.0	45	527.45	219.18	4.66
17	Kanyunche	J&K	3 x 15.0	45	542.29	223.02	4.71
18	Tlawng	Mizoram	2 x 22.5	45	528.1	151.67	5.84
19	Pranhita	Maharashtra	2 x 24.0	48	845.09	135.96	10.32
20	Jadh Ganga	Uttaranchal	2 x 25.0	50	277.48	220.88	2.19
21	Nongnam	Meghalaya	2 x 25.0	50	272.07	212.59	2.44
22	Ghargaon	Maharashtra	4 x 13.0	52	690.14	74.47	15.50
23	Samda	Maharashtra	4 x 13.0	52	704.37	83.4	14.11
24	Umngi	Meghalaya	2 x 27.0	54	389.93	89.65	2.86
25	Bauras	Madhya Pradesh	3 x 18.3	55	498.17	248.43	3.96
26	Maleri Jelam	Uttaranchal	2 x 27.5	55	257.85	243.07	1.80
27	Gangotri	Uttaranchal	1 x 55.0	55	252.61	264.76	1.62
28	Khartoi Lumti Talli	Uttaranchal	2 x 27.5	55	433.12	241.51	3.00
29	Umduna	Meghalaya	3 x 19.0	57	226.68	231.24	1.68
30	Khalsi	J&K	3 x 20.0	60	577.28	272.6	4.10
31	Hoshangabad	Madhya Pradesh	3 x 20.0	60	598.15	288.21	4.10
32	Tidong-I	Himachal Pr.	2 x 30.0	60	299.12	211.65	2.71
33	Phanchung	Ar.Pradesh	2 x 30.0	60	282.43	174.83	3.24
34	Jelam Tamak	Uttaranchal	2 x 30.0	60	277.92	268.12	1.71
35	Deodi	Uttaranchal	2 x 30.0	60	242.34	296.76	1.37
36	Gohana Tal	Uttaranchal	2 x 30.0	60	270.38	269.35	1.64
37	Perianjakully	Kerala	2 x 30.0	60	328.5	86.3	6.25



Sl No	Scheme	State	Installed Capacity		Estimated Cost (Rs. Cr.)	Annual Energy (GWh)	Tariff (Rs./kWh)
			Units x Size(MW)	Total (MW)			
38	Bhaironghati	Uttaranchal	2 x 32.5	65	304.32	293.18	1.80
39	Rangmaw	Meghalaya	2 x 32.5	65	268.37	229.6	2.32
40	Sushen	Meghalaya	2 x 32.5	65	521.53	220.6	3.85
41	Karappara Kuriarkutty	Kerala	2x18+2x15	66	553.57	126.1	7.88
42	Ramganga	Uttaranchal	3 x 22.0	66	441.31	327	3.25
43	Khongnum Chakka st.-II	Manipur	2 x 33.5	67	525.06	192.84	4.59
44	Umjaut	Meghalaya	3 x 23.0	69	276.97	276.7	1.51
45	Ringpi	Sikkim	2 x 35.0	70	519.27	317.41	3.17
46	Tidong-II	Himachal Pr.	2 x 35.0	70	309.84	256.18	2.02
47	Rishi Ganga - 1	Uttaranchal	2 x 35.0	70	277.01	327.3	1.18
48	Kunghara	Maharashtra	4 x 18.0	72	843.65	133.4	11.34
49	Arakot Tiuni	Uttaranchal	3 x 24.0	72	310.51	382.9	1.00
50	Bagoli Dam	Uttaranchal	3 x 24.0	72	576.97	340.7	4.10
51	Talem	Sikkim	3 x 25.0	75	683.76	305.48	4.34
52	Sebu	Ar.Pradesh	2 x 40.0	80	371.4	227.53	3.71
53	Pondugala	Andhra Pradesh	3 x 27.0	81	834.89	399.36	3.48
54	Basania	Madhya Padesh	3 x 30.0	90	2135.06	240	17.23
55	Simang	Ar.Pradesh	3 x 30.0	90	1028.34	417.82	5.43
56	Khoksar	Himachal Pr.	3 x 30.0	90	373.66	351.91	2.46
57	Utung	Ar.Pradesh	3 x 33.3	100	488.1	359.13	3.10
58	Dibbin	Ar.Pradesh	2 x 50.0	100	371.52	335.72	2.23
59	Dikchu	Sikkim	3 x 35.0	105	518.5	469	2.15
60	Wainganga	Maharashtra	5 x 21.0	105	1321.77	246.146	3.86
61	Nunglieban	Manipur	2 x 52.5	105	841.99	268.93	5.16
62	Chhatru	Himachal Pr.	3 x 36.0	108	585.15	455.72	2.89
63	Pakke	Ar.Pradesh	2 x 55.0	110	480.45	335.26	3.33
64	Chanda	Ar.Pradesh	4 x 27.5	110	466.06	401.91	2.67
65	Bardang	Himachal Pr.	3 x 38.0	114	550.12	438.41	2.91
66	Gharopa	Himachal Pr.	3 x 38.0	114	493.59	534.25	2.09
67	Lingza	Sikkim	3 x 40.0	120	699.8	477.51	2.85
68	Badao	Ar.Pradesh	4 x 30.0	120	443.98	441	2.32
69	Mawhu	Meghalaya	3 x 40.0	120	434.24	482.96	1.40
70	Nongkolait	Meghalaya	2 x 60.0	120	392.8	332.87	1.97
71	Chamba	Himachal Pr.	3 x 42.0	126	420.9	646.82	1.48
72	Dikhu	Nagaland	4 x 35.0	140	723.63	513.41	2.80
73	Badrinath	Uttaranchal	2 x 70.0	140	357.33	702.7	0.81
74	Karmoli	Uttaranchal	2 x 70.0	140	465.6	621.31	1.30
75	Mawblei	Meghalaya	2 x 70.0	140	807.02	303.66	4.44
76	Taluka Sankri	Uttaranchal	2 x 70.0	140	378.14	559.47	1.33
77	Rangyong	Sikkim	3 x 47.0	141	890.82	639.52	2.70
78	Mirak	Ar.Pradesh	3 x 47.0	141	1320.75	748.44	3.42
79	Nand Prayag	Uttaranchal	3 x 47.0	141	670.04	794	2.05
80	Gondhala	Himachal Pr.	3 x 48.0	144	482.5	586.08	1.92
81	Rehar-II	Chattisgarh	3 x 49.0	147	924.89	290.32	5.16

Sl No	Scheme	State	Installed Capacity		Estimated Cost (Rs. Cr.)	Annual Energy (GWh)	Tariff (Rs./kWh)
			Units x Size(MW)	Total (MW)			
82	Duimukh	Ar.Pradesh	3 x 50.0	150	2420.46	551.48	8.50
83	Ringong	Ar.Pradesh	3 x 50.0	150	1211.06	659.07	3.61
84	Elango	Ar.Pradesh	3 x 50.0	150	1503.07	583.14	5.00
85	Tizu	Nagaland	3 x 50.0	150	731.7	568.41	2.56
86	Kotri	Chhattisgarh	3 x 50.0	150	1071.25	330.95	5.48
87	Kapakleyak	Ar.Pradesh	4 x 40.0	160	463.52	627.95	1.74
88	Etabue	Ar.Pradesh	3 x 55.0	165	1208.39	683.66	3.43
89	Bogudiyar - Sirkari Bhyal	Uttaranchal	2 x 85.0	170	859.27	744	1.99
90	Nugur-I	Chhattisgarh	5 x 34.0	170	952.52	316.13	4.89
91	Selim	Meghalaya	2 x 85.0	170	652.07	534.68	2.02
92	Rehar-I	Chhattisgarh	3 x 57.0	171	1441.55	264.38	8.70
93	Baljori	Orissa	2 x 89.0	178	1778.32	479.8	5.90
94	Bajoli Holi	Himachal Pr.	3 x 60.0	180	649.22	762.98	2.03
95	Khab-II	Himachal Pr.	3 x 62.0	186	990.52	640	3.04
96	Pabaram	Manipur	2 x 95.0	190	1256.74	474.77	4.33
97	Rongni Storage	Sikkim	3 x 65.0	195	2265.14	510.35	8.60
98	Panan	Sikkim	4 x 50.0	200	846.08	762	2.15
99	Papu	Ar.Pradesh	2 x 100.0	200	646.8	505	2.94
100	Mapang - Bogidiyar	Uttaranchal	2 x 100.0	200	667.19	882.04	1.30
101	Lachen	Sikkim	3 x 70.0	210	1046.93	865.94	2.35
102	Harsil	Uttaranchal	3 x 70.0	210	578.2	920.57	1.10
103	Sirkari Bhyol Rupsiabagar	Uttaranchal	3 x 70.0	210	899.63	967.97	1.55
104	Nugur-II	Chhattisgarh	5 x 42.0	210	1252.11	787.78	4.16
105	Kalika Dantu	Uttaranchal	2 x 115.0	230	1935.43	1067.3	2.95
106	Sela Urthing	Uttaranchal	2 x 115.0	230	696.73	816.73	1.40
107	Shuas	J&K	2 x 115.0	230	1872.57	1117.87	2.94
108	Chhunger - Chal	Uttaranchal	2 x 120.0	240	725.53	853.28	1.13
109	Barinium	J&K	2 x 120.0	240	1698.09	1170.34	2.54
	Total (Below 250.0 MW) - 109Nos.			11411			
<b>INSTALLED CAPACITY: 250.0 MW - 500.0 MW</b>							
110	Tikarpara	Orissa	7 x 37.0	259	1904.17	828.37	3.69
111	Rupsiabagar Khasiyabara	Uttaranchal	2 x 130.0	260	1101.55	1195.63	1.59
112	Yangthang	Himachal Pr.	3 x 87.0	261	1120.2	938.02	2.08
113	Ujh	J&K	4 x 70.0	280	1390.2	465.06	5.06
114	Urthing Sobla	Uttaranchal	4 x 70.0	280	888.45	1360.2	1.49
115	Tamak Lata	Uttaranchal	4 x 70.0	280	988.21	1040.7	2.30
116	Naraj	Orissa	7 x 41.0	287	2278.38	759.31	4.92
117	Talong	Ar.Pradesh	3 x 100.0	300	891.04	915.5	2.24
118	Devsari	Uttaranchal	3 x 100.0	300	1532.03	878.5	2.77
119	Kalinadi Stage-III	Karanataka	2 x 150.0	300	590.05	610	1.67
120	Tamankal	Karanataka	2 x 150.0	300	771.25	401	3.32
121	Gundia	Karanataka	2 x 150.0	300	531.68	616	1.41
122	Lata Tapovan	Uttaranchal	4 x 77.5	310	1021.3	1123	2.21
123	Teesta-I	Sikkim	4 x 80.0	320	1206.59	1298.12	1.80
124	Kawar	J&K	4 x 80.0	320	891.37	1426.56	1.09
125	KurungI&II	Ar. Pradesh	3 x 110.0	330	2985.04	1435.4	4.04
126	Bokang Baling	Uttaranchal	3 x 110.0	330	1120.75	1124.62	1.68

Sl No	Scheme	State	Installed Capacity		Estimated Cost (Rs. Cr.)	Annual Energy (GWh)	Tariff (Rs./kWh)
			Units x Size(MW)	Total (MW)			
127	Nalo	Ar.Pradesh	4 x 90.0	360	2922.14	1733	3.27
128	Shamnot	J&K	4 x 92.5	370	1592.91	1650.19	1.69
129	Agoline	Ar. Pradesh	3 x 125.0	375	2293.62	1267.38	3.51
130	Emra-II	Ar.Pradesh	3 x 130.0	390	2564.5	1648.09	3.02
131	Mihumdon	Ar.Pradesh	4 x 100.0	400	2700.33	1451.75	3.60
132	Gangavali	Karanataka	2 x 200.0	400	709.68	759	1.46
133	Amulin	Ar.Pradesh	3 x 140.0	420	2979.45	1716.4	3.37
134	Kiru	J&K	4 x 107.5	430	857.58	1935.77	0.77
135	Khab-I	Himachal Pr.	3 x 150.0	450	1765.89	1551	2.24
136	Luhri	Himachal Pr.	3 x 155.0	465	2039.98	1825.13	2.41
137	Lower Kolab	Orissa	3 x 155.0	465	3695.95	845.86	7.10
138	Jangi Thopan	Himachal Pr.	3 x 160.0	480	1805.54	1779.45	2.00
139	Thopan Powari	Himachal Pr.	3 x 160.0	480	1796.98	1786.26	1.81
	Total (250.0 MW - 500.0 MW) - 30Nos.			10502			
<b>INSTALLED CAPACITY: 500.0 MW - 1000.0 MW</b>							
140	Emini	Ar.Pradesh	4 x 125.0	500	3067.2	1695.45	3.51
141	Hirong	Ar. Pradesh	4 x 125.0	500	2072.78	2535.8	1.62
142	Attunli	Ar.Pradesh	4 x 125.0	500	2725.26	2247.32	2.35
143	Dengser	Ar.Pradesh	4 x 138.0	552	3945.09	2666.71	3.26
144	Ratle	J&K	4 x 140.0	560	1987.92	2483.37	1.40
145	Kameng Dam	Ar.Pradesh	5 x 120.0	600	2264	2345.55	2.29
146	Bhareli-II	Ar.Pradesh	5 x 120.0	600	1698.35	2345	1.67
147	Tenga	Ar.Pradesh	4 x 150.0	600	1602.3	1046.5	3.52
148	Agnashini	Karanataka	4 x 150.0	600	910.71	1431	1.07
149	Garba Tawaghat	Uttaranchal	3 x 210.0	630	1447.77	2483.11	0.90
150	Boinu	Mizoram	4 x 160.0	640	3243.3	1118.93	4.83
151	Tato-II	Ar. Pradesh	4 x 175.0	700	2608.6	3465.9	1.48
152	Oju-I	Ar.Pradesh	4 x 175.0	700	3526.28	3291.58	2.08
153	Niare	Ar.Pradesh	4 x 200.0	800	3498.55	3356.62	2.02
154	Lungleng	Mizoram	5 x 163.0	815	2913.14	1169.06	4.17
	Total (500.0 MW - 1000.0 MW) - 15Nos.			9297			
<b>INSTALLED CAPACITY: 1000.0 MW - 2000.0 MW</b>							
155	Naying	Ar. Pradesh	4 x 250.0	1000	3016.96	5077.15	1.18
156	Naba	Ar.Pradesh	4 x 250.0	1000	4399.89	3995.25	2.14
157	Oju-II	Ar.Pradesh	4 x 250.0	1000	3492.99	4629.93	1.46
158	Bhareli-I	Ar.Pradesh	8 x 140.0	1120	3372.45	4112.4	1.85
	Total (1000.0 MW - 2000.0 MW) - 4Nos.			4120			
<b>INSTALLED CAPACITY: Above 2000.0 MW</b>							
159	Kalai	Ar. Pradesh	10 x 260.0	2600	6637.67	10608.6	1.01
160	Demwe	Ar.Pradesh	12 x 250.0	3000	9539.4	10823.8	1.97
161	Hutong	Ar. Pradesh	12 x 250.0	3000	7792.29	9901	1.28
162	Etalin	Ar.Pradesh	16 x 250.0	4000	14069.14	16071.6	1.70
	Total (Above 2000.0 MW) - 4Nos.			12600			
Total				47930			

**PFRS under 50 000 MW Hydroelectric Initiative**  
**Tariff wise Classification of Schemes**

	Scheme	State	Installed Capacity		Estimated Cost (Rs. Cr.)	Annual Energy (GWh)	Tariff (Rs/kWh)
			Units x Size(MW)	Total (MW)			
<b><u>Tariff : Below Rs.1.50</u></b>							
1	Kiru	J&K	4 x 107.50	430	857.58	1935.77	0.77
2	Badrinath	Uttaranchal	2 x 70.00	140	357.33	702.70	0.81
3	Garba Tawaghat	Uttaranchal	3 x 210.00	630	1447.77	2483.11	0.90
4	Arakot Tiuni	Uttaranchal	3 x 24.00	72	310.51	382.90	1.00
5	Kalai	Ar. Pradesh	10 x 260.00	2600	6637.67	10608.64	1.01
6	Agnashini	Karnataka	4 x 150.00	600	910.71	1431.00	1.07
7	Kawar	J&K	4 x 80.00	320	891.37	1426.56	1.09
8	Harsil	Uttaranchal	3 x 70.00	210	578.20	920.57	1.10
9	Bichlari	J&K	2 x 17.50	35	94.40	148.29	1.11
10	Chhunger - Chal	Uttaranchal	2 x 120.00	240	725.53	853.28	1.13
11	Naying	Ar. Pradesh	4 x 250.00	1000	3016.96	5077.15	1.18
12	Rishi Ganga - 1	Uttaranchal	2 x 35.00	70	277.01	327.30	1.18
13	Hutong	Ar. Pradesh	12 x 250.00	3000	7792.29	9901.00	1.28
14	Karmoli	Uttaranchal	2 x 70.00	140	465.60	621.31	1.30
15	Mapang - Bogidiyar	Uttaranchal	2 x 100.00	200	667.19	882.04	1.30
16	Taluka Sankri	Uttaranchal	2 x 70.00	140	378.14	559.47	1.33
17	Deodi	Uttaranchal	2 x 30.00	60	242.34	296.76	1.37
18	Sela Urthing	Uttaranchal	2 x 115.00	230	696.73	816.73	1.40
19	Ratle	J&K	4 x 140.00	560	1987.92	2483.37	1.40
20	Mawhu	Meghalaya	3 x 40.00	120	434.24	482.96	1.40
21	Gundia	Karnataka	2 x 150.00	300	531.68	616.00	1.41
22	Oju-II	Ar.Pradesh	4 x 250.00	1000	3492.99	4629.93	1.46
23	Gangavali	Karnataka	2 x 200.00	400	709.68	759.00	1.46
24	Tato-II	Ar. Pradesh	4 x 175.00	700	2608.60	3465.90	1.48
25	Chamba	Himachal Pr.	3 x 42.00	126	420.90	646.82	1.48
26	Urthing Sobla	Uttaranchal	4 x 70.00	280	888.45	1360.20	1.49
	Total (Below Rs.1.50) - 26Nos.			13603			
<b><u>Tariff : Rs.1.50 - Rs.2.00</u></b>							
27	Umjaut	Meghalaya	3 x 23.00	69	276.97	276.70	1.51
28	Sirkari Bhyol Rupsiabagar	Uttaranchal	3 x 70.00	210	899.63	967.97	1.55
29	Rupsiabagar Khasiyabara	Uttaranchal	2 x 130.00	260	1101.55	1195.63	1.59
30	Hirong	Ar. Pradesh	4 x 125.00	500	2072.78	2535.80	1.62
31	Gangotri	Uttaranchal	1 x 55.00	55	252.61	264.76	1.62
32	Gohana Tal	Uttaranchal	2 x 30.00	60	270.38	269.35	1.64
33	Bhareli-II	Ar.Pradesh	5 x 120.00	600	1698.35	2345.00	1.67
34	Kalinadi Stage-III	Karnataka	2 x 150.00	300	590.05	610.00	1.67
35	Bokang Baling	Uttaranchal	3 x 110.00	330	1120.75	1124.62	1.68
36	Umduna	Meghalaya	3 x 19.00	57	226.68	231.24	1.68
37	Shamnot	J&K	4 x 92.50	370	1592.91	1650.19	1.69
38	Etaln	Ar.Pradesh	16 x 250.00	4000	14069.14	16071.60	1.70
39	Jelam Tamak	Uttaranchal	2 x 30.00	60	277.92	268.12	1.71
40	Jakhol Sankri	Uttaranchal	3 x 11.00	33	171.00	144.24	1.71
41	Kapakleyak	Ar.Pradesh	4 x 40.00	160	463.52	627.95	1.74
42	Teesta-I	Sikkim	4 x 80.00	320	1206.59	1298.12	1.80
43	Bhaironghati	Uttaranchal	2 x 32.50	65	304.32	293.18	1.80
44	Maleri Jelam	Uttaranchal	2 x 27.50	55	257.85	243.07	1.80
45	Thopan Powari	Himachal Pr.	3 x 160.00	480	1796.98	1786.26	1.81
46	Bhareli-I	Ar.Pradesh	8 x 140.00	1120	3372.45	4112.40	1.85
47	Naitwar-Mori	Uttaranchal	3 x 11.00	33	202.20	151.00	1.85

	Scheme	State	Installed Capacity		Estimated Cost (Rs. Cr.)	Annual Energy (GWh)	Tariff (Rs/kWh)
			Units x Size(MW)	Total (MW)			
48	Gondhala	Himachal Pr.	3 x 48.00	144	482.50	586.08	1.92
49	Demwe	Ar.Pradesh	12 x 250.00	3000	9539.40	10823.82	1.97
50	Nongkolait	Meghalaya	2 x 60.00	120	392.80	332.87	1.97
51	Bogudiyar - Sirkari Bhyal	Uttaranchal	2 x 85.00	170	859.27	744.00	1.99
52	Jangi Thopan	Himachal Pr.	3 x 160.00	480	1805.54	1779.45	2.00
	Total (Rs.1.50 - Rs.2.00) - 26Nos.			13051			
	<b>Tariff : Rs.2.00 - Rs.2.50</b>						
53	Niare	Ar.Pradesh	4 x 200.00	800	3498.55	3356.62	2.02
54	Tidong-II	Himachal Pr.	2 x 35.00	70	309.84	256.18	2.02
55	Selim	Meghalaya	2 x 85.00	170	652.07	534.68	2.02
56	Bajoli Holi	Himachal Pr.	3 x 60.00	180	649.22	762.98	2.03
57	Nand Prayag	Uttaranchal	3 x 47.00	141	670.04	794.00	2.05
58	Oju-I	Ar.Pradesh	4 x 175.00	700	3526.28	3291.58	2.08
59	Yangthang	Himachal Pr.	3 x 87.00	261	1120.20	938.02	2.08
60	Gharopa	Himachal Pr.	3 x 38.00	114	493.59	534.25	2.09
61	Naba	Ar.Pradesh	4 x 250.00	1000	4399.89	3995.25	2.14
62	Dikchu	Sikkim	3 x 35.00	105	518.50	469.00	2.15
63	Panan	Sikkim	4 x 50.00	200	846.08	762.00	2.15
64	Jadh Ganga	Uttaranchal	2 x 25.00	50	277.48	220.88	2.19
65	Lata Tapovan	Uttaranchal	4 x 77.50	310	1021.30	1123.00	2.21
66	Rishi Ganga - II	Uttaranchal	1 x 35.00	35	212.98	164.64	2.22
67	Dibbin	Ar.Pradesh	2 x 50.00	100	371.52	335.72	2.23
68	Talong	Ar.Pradesh	3 x 100.00	300	891.04	915.50	2.24
69	Khab-I	Himachal Pr.	3 x 150.00	450	1765.89	1551.00	2.24
70	Kameng Dam	Ar.Pradesh	5 x 120.00	600	2264.00	2345.55	2.29
71	Tamak Lata	Uttaranchal	4 x 70.00	280	988.21	1040.70	2.30
72	Badao	Ar.Pradesh	4 x 30.00	120	443.98	441.00	2.32
73	Rangmaw	Meghalaya	2 x 32.50	65	268.37	229.60	2.32
74	Lachen	Sikkim	3 x 70.00	210	1046.93	865.94	2.35
75	Attunli	Ar.Pradesh	4 x 125.00	500	2725.26	2247.32	2.35
76	Luhri	Himachal Pr.	3 x 155.00	465	2039.98	1825.13	2.41
77	Nongnam	Meghalaya	2 x 25.00	50	272.07	212.59	2.44
78	Khoksar	Himachal Pr.	3 x 30.00	90	373.66	351.91	2.46
	Total (Rs.2.00 - Rs.2.50) - 26Nos.			7366			
	<b>Tariff : Rs.2.50 - Rs.3.00</b>						
79	Barinium	J&K	2 x 120.00	240	1698.09	1170.34	2.54
80	Tizu	Nagaland	3 x 50.00	150	731.70	568.41	2.56
81	Chanda	Ar.Pradesh	4 x 27.50	110	466.06	401.91	2.67
82	Rangyong	Sikkim	3 x 47.00	141	890.82	639.52	2.70
83	Tidong-I	Himachal Pr.	2 x 30.00	60	299.12	211.65	2.71
84	Devsari	Uttaranchal	3 x 100.00	300	1532.03	878.50	2.77
85	Dikhu	Nagaland	4 x 35.00	140	723.63	513.41	2.80
86	Lingza	Sikkim	3 x 40.00	120	699.80	477.51	2.85
87	Umngi	Meghalaya	2 x 27.00	54	389.93	89.65	2.86
88	Tarangwarang	Ar.Pradesh	2 x 15.00	30	134.54	93.81	2.88
89	Chhatru	Himachal Pr.	3 x 36.00	108	585.15	455.72	2.89
90	Bardang	Himachal Pr.	3 x 38.00	114	550.12	438.41	2.91
91	Papu	Ar.Pradesh	2 x 100.00	200	646.80	505.00	2.94
92	Shuas	J&K	2 x 115.00	230	1872.57	1117.87	2.94
93	Kalika Dantu	Uttaranchal	2 x 115.00	230	1935.43	1067.30	2.95
94	Khartoi Lumti Talli	Uttaranchal	2 x 27.50	55	433.12	241.51	3.00
	Total (Rs.2.50 - Rs.3.00) - 16Nos.			2282			
	<b>Tariff : Rs.3.00 - Rs.3.50</b>						
95	Emra-II	Ar.Pradesh	3 x 130.00	390	2564.50	1648.09	3.02

	Scheme	State	Installed Capacity		Estimated Cost (Rs. Cr.)	Annual Energy (GWh)	Tariff (Rs/kWh)
			Units x Size(MW)	Total (MW)			
96	Khab-II	Himachal Pr.	3 x 62.00	186	990.52	640.00	3.04
97	Utung	Ar.Pradesh	3 x 33.30	100	488.10	359.13	3.10
98	Ringpi	Sikkim	2 x 35.00	70	519.27	317.41	3.17
99	Phanchung	Ar.Pradesh	2 x 30.00	60	282.43	174.83	3.24
100	Ramganga	Uttaranchal	3 x 22.00	66	441.31	327.00	3.25
101	Dengser	Ar.Pradesh	4 x 138.00	552	3945.09	2666.71	3.26
102	Nalo	Ar.Pradesh	4 x 90.00	360	2922.14	1733.00	3.27
103	Tamankal	Karnataka	2 x 150.00	300	771.25	401.00	3.32
104	Pakke	Ar.Pradesh	2 x 55.00	110	480.45	335.26	3.33
105	Amulin	Ar.Pradesh	3 x 140.00	420	2979.45	1716.40	3.37
106	Mirak	Ar.Pradesh	3 x 47.00	141	1320.75	748.44	3.42
107	Etabue	Ar.Pradesh	3 x 55.00	165	1208.39	683.66	3.43
108	Pondugala	Andhra Pr.	3 x 27.00	81	834.89	399.36	3.48
	Total (Rs.3.00 - Rs.3.50) - 14Nos.			3001			
	<b><u>Tariff : Rs.3.50 - Rs.4.00</u></b>						
109	Emini	Ar.Pradesh	4 x 125.00	500	3067.20	1695.45	3.51
110	Agoline	Ar. Pradesh	3 x 125.00	375	2293.62	1267.38	3.51
111	Tenga	Ar.Pradesh	4 x 150.00	600	1602.30	1046.50	3.52
112	Mihumdon	Ar.Pradesh	4 x 100.00	400	2700.33	1451.75	3.60
113	Ringong	Ar.Pradesh	3 x 50.00	150	1211.06	659.07	3.61
114	Tikarpara	Orissa	7 x 37.00	259	1904.17	828.37	3.69
115	Sebu	Ar.Pradesh	2 x 40.00	80	371.40	227.53	3.71
116	Sushen	Meghalaya	2 x 32.50	65	521.53	220.60	3.85
117	Wainganga	Maharashtra	5 x 21.00	105	1321.77	246.15	3.86
118	Bauras	Madhya Pr.	3 x 18.33	55	498.17	248.43	3.96
	Total (Rs.3.50 - Rs.4.00) - 10Nos.			2589			
	<b><u>Tariff : Rs.4.00 - Rs.4.50</u></b>						
119	KurungI&II	Ar. Pradesh	3 x 110.00	330	2985.04	1435.40	4.04
120	Mawput	Meghalaya	3 x 7.00	21	199.51	83.95	4.07
121	Khalsi	J&K	3 x 20.00	60	577.28	272.60	4.10
122	Hoshangabad	Madhya Pr.	3 x 20.00	60	598.15	288.21	4.10
123	Bagoli Dam	Uttaranchal	3 x 24.00	72	576.97	340.70	4.10
124	Nugur-II	Chhattisgarh	5 x 42.00	210	1252.11	787.78	4.16
125	Lungleng	Mizoram	5 x 163.00	815	2913.14	1169.06	4.17
126	Pabaram	Manipur	2 x 95.00	190	1256.74	474.77	4.33
127	Talem	Sikkim	3 x 25.00	75	683.76	305.48	4.34
128	Mawblei	Meghalaya	2 x 70.00	140	807.02	303.66	4.44
129	Yangnyu	Nagaland	2 x 20.00	40	397.55	176.45	4.48
	Total (Rs.4.00 - Rs.4.50) - 11Nos.			2013			
	<b><u>Tariff : Rs.4.50 - Rs.5.00</u></b>						
130	Khongnum Chakka st.-II	Manipur	2 x 33.50	67	525.06	192.84	4.59
131	Dumkhar	J&K	3 x 15.00	45	527.45	219.18	4.66
132	Kanyunche	J&K	3 x 15.00	45	542.29	223.02	4.71
133	Boinu	Mizoram	4 x 160.00	640	3243.30	1118.93	4.83
134	Nugur-I	Chhattisgarh	5 x 34.00	170	952.52	316.13	4.89
135	Naraj	Orissa	7 x 41.00	287	2278.38	759.31	4.92
136	Elango	Ar.Pradesh	3 x 50.00	150	1503.07	583.14	5.00
	Total (Rs.4.50 - Rs.5.00) - 7Nos.			1404			
	<b><u>Tariff : Above Rs.5.00</u></b>						
137	Ujh	J&K	4 x 70.00	280	1390.20	465.06	5.06
138	Rehar-II	Chattisgarh	3 x 49.00	147	924.89	290.32	5.16
139	Nunglieban	Manipur	2 x 52.50	105	841.99	268.93	5.16
140	Karkit	J&K	3 x 10.00	30	426.92	153.11	5.40
141	Simang	Ar.Pradesh	3 x 30.00	90	1028.34	417.82	5.43

	Scheme	State	Installed Capacity		Estimated Cost (Rs. Cr.)	Annual Energy (GWh)	Tariff (Rs/kWh)
			Units x Size(MW)	Total (MW)			
142	Rukel	Sikkim	3 x 11.00	33	422.01	149.41	5.48
143	Kotri	Chhattisgarh	3 x 50.00	150	1071.25	330.95	5.48
144	Takmaching	J&K	3 x 10.00	30	416.64	145.52	5.54
145	Tlawng	Mizoram	2 x 22.50	45	528.10	151.67	5.84
146	Baljori	Orissa	2 x 89.00	178	1778.32	479.80	5.90
147	Perianjakully	Kerala	2 x 30.00	60	328.50	86.30	6.25
148	Lower Kolab	Orissa	3 x 155.00	465	3695.95	845.86	7.10
149	Karappara Kuriarkutty	Kerala	4 x 16.50	66	553.57	126.10	7.88
150	Duimukh	Ar.Pradesh	3 x 50.00	150	2420.46	551.48	8.50
151	Rongni Storage	Sikkim	3 x 65.00	195	2265.14	510.35	8.60
152	Rehar-I	Chhattisgarh	3 x 57.00	171	1441.55	264.38	8.70
153	Ashupani	Ar.Pradesh	2 x 15.00	30	570.78	126.45	8.75
154	Pranhita	Maharashtra	2 x 24.00	48	845.09	135.96	10.32
155	Kunghara	Maharashtra	4 x 18.00	72	843.65	133.40	11.34
156	Samda	Maharashtra	4 x 13.00	52	704.37	83.40	14.11
157	Ghargaon	Maharashtra	4 x 13.00	52	690.14	74.47	15.50
158	Basania	Madhya Pr.	3 x 30.00	90	2135.06	240.00	17.23
159	Kasari	Maharashtra	2 x 12.50	25	350.53	33.32	18.16
160	Hiranyakeshi	Maharashtra	2 x 9.00	18	289.03	23.76	20.26
161	Kadvi	Maharashtra	2 x 11.00	22	597.99	29.59	34.03
162	Kumbhi	Maharashtra	2 x 8.50	17	482.14	22.93	35.19
	Total (Above Rs.5.00 ) - 26Nos.				2621		
	Total				47930		

## PFRS under 50 000 MW Hydroelectric Initiative

## Low Tariff PFR Schemes

Tariff: Below Rs.2.50

	Scheme	Installed Capacity		Estimated Cost (Rs. Cr.)	Annual Energy (GWh)	Tariff (Rs/kWh)
		Units x Size(MW)	Total (MW)			
<b><u>Arunachal Pradesh</u></b>						
1	Kalai	10 x 260.00	2600	6637.67	10608.64	1.01
2	Naying	4 x 250.00	1000	3016.96	5077.15	1.18
3	Hutong	12 x 250.00	3000	7792.29	9901.00	1.28
4	Oju-II	4 x 250.00	1000	3492.99	4629.93	1.46
5	Tato-II	4 x 175.00	700	2608.60	3465.90	1.48
6	Hirong	4 x 125.00	500	2072.78	2535.80	1.62
7	Bhareli-II	5 x 120.00	600	1698.35	2345.00	1.67
8	Etalin	16 x 250.00	4000	14069.14	16071.60	1.70
9	Kapakleyak	4 x 40.00	160	463.52	627.95	1.74
10	Bhareli-I	8 x 140.00	1120	3372.45	4112.40	1.85
11	Demwe	12 x 250.00	3000	9539.40	10823.82	1.97
12	Niare	4 x 200.00	800	3498.55	3356.62	2.02
13	Oju-I	4 x 175.00	700	3526.28	3291.58	2.08
14	Naba	4 x 250.00	1000	4399.89	3995.25	2.14
15	Dibbin	2 x 50.00	100	371.52	335.72	2.23
16	Talong	3 x 100.00	300	891.04	915.50	2.24
17	Kameng Dam	5 x 120.00	600	2264.00	2345.55	2.29
18	Badao	4 x 30.00	120	443.98	441.00	2.32
19	Attunli	4 x 125.00	500	2725.26	2247.32	2.35
<b>Total (19 Schemes)</b>			<b>21800</b>			
<b><u>Himachal Pradesh</u></b>						
20	Chamba	3 x 42.00	126	420.90	646.82	1.48
21	Thopan Powari	3 x 160.00	480	1796.98	1786.26	1.81
22	Gondhala	3 x 48.00	144	482.50	570.19	1.92
23	Jangi Thopan	3 x 160.00	480	1805.54	1779.45	2.00
24	Tidong-II	2 x 35.00	70	309.84	256.18	2.02
25	Bajoli Holi	3 x 60.00	180	649.22	762.98	2.03
26	Yangthang	3 x 87.00	261	1120.20	938.02	2.08
27	Gharopa	3 x 38.00	114	493.59	534.25	2.09
28	Khab-I	3 x 150.00	450	1765.89	1551.00	2.24
29	Luhri	3 x 155.00	465	2039.98	1825.13	2.41
30	Khoksar	3 x 30.00	90	373.66	351.91	2.46
<b>Total (11 Schemes)</b>			<b>2860</b>			
<b><u>Jammu &amp; Kashmir</u></b>						
31	Kiru	4 x 107.50	430	857.58	1935.77	0.77
32	Kawar	4 x 80.00	320	891.37	1426.56	1.09
33	Bichlari	2 x 17.50	35	94.40	148.29	1.11
34	Ratle	4 x 140.00	560	1987.92	2483.37	1.40
35	Shamnot	4 x 92.50	370	1592.91	1650.19	1.69
<b>Total (5 Schemes)</b>			<b>1715</b>			
<b><u>Karnataka</u></b>						
36	Agnashini	4 x 150.00	600	910.71	1431.00	1.07
37	Gundia	2 x 150.00	300	531.68	616.00	1.41
38	Gangavali	2 x 200.00	400	709.68	759.00	1.46
39	Kalinadi Stage-III	2 x 150.00	300	590.05	610.00	1.67
<b>Total (4 Schemes)</b>			<b>1600</b>			
<b><u>Meghalaya</u></b>						
40	Mawhu	3 x 40.00	120	434.24	482.96	1.40
41	Umjaut @	3 x 23.00	69	276.97	276.70	1.51
42	Umduna	3 x 19.00	57	226.68	231.24	1.68
43	Nongkolait	2 x 60.00	120	392.80	332.87	1.97
44	Selim	2 x 85.00	170	652.07	534.68	2.02
45	Rangmaw	2 x 32.50	65	268.37	229.60	2.32
46	Nongnam	2 x 25.00	50	272.07	212.59	2.44
<b>Total (7 Schemes)</b>			<b>651</b>			



	Scheme	Installed Capacity		Estimated Cost (Rs. Cr.)	Annual Energy (GWh)	Tariff (Rs./kWh)
		Units x Size(MW)	Total (MW)			
<b>Sikkim</b>						
47	Teesta-I	4 x 80.00	320	1206.59	1298.12	1.80
48	Dikchu	3 x 35.00	105	518.50	469.00	2.15
49	Panan	4 x 50.00	200	846.08	762.00	2.15
50	Lachen	3 x 70.00	210	1046.93	865.94	2.35
<b>Total (4 Schemes)</b>			<b>835</b>			
<b>Uttaranchal</b>						
51	Badrinath	2 x 70.00	140	357.33	702.70	0.81
52	Garba Tawaghat @@	3 x 210.00	630	1447.77	2483.11	0.90
53	Arakot Tiuni	3 x 24.00	72	310.51	382.90	1.00
54	Harsil	3 x 70.00	210	578.20	920.57	1.10
55	Chhunger - Chal	2 x 120.00	240	725.53	853.28	1.13
56	Rishi Ganga - 1 \$	2 x 35.00	70	277.01	327.30	1.18
57	Karmoli	2 x 70.00	140	465.60	621.00	1.30
58	Mapang - Bogidiyar	2 x 100.00	200	667.19	882.04	1.30
59	Taluka Sankri	2 x 70.00	140	378.14	559.47	1.33
60	Deodi	2 x 30.00	60	242.34	296.76	1.37
61	Sela Urthing	2 x 115.00	230	696.73	816.73	1.40
62	Urthing Sobla @\$	4 x 70.00	280	888.45	1360.20	1.49
63	Sirkari Bhyol Rupsiabagar	3 x 70.00	210	899.63	967.97	1.55
64	Rupsiabagar Khasiyabara	2 x 130.00	260	1101.55	1195.63	1.59
65	Gangotri	1 x 55.00	55	252.61	264.76	1.62
66	Gohana Tal	2 x 30.00	60	270.38	269.35	1.64
67	Bokang Baling	3 x 110.00	330	1120.75	1124.62	1.68
68	Jelam Tamak	2 x 30.00	60	277.92	268.12	1.71
69	Jakhol Sankri	3 x 11.00	33	171.00	144.24	1.71
70	Bhaironghati	2 x 32.50	65	304.32	293.18	1.80
71	Maleri Jelam	2 x 27.50	55	257.85	243.07	1.80
72	Naitwar-Mori	3 x 11.00	33	202.20	151.00	1.85
73	Bogudiyar - Sirkari Bhyal	2 x 85.00	170	859.27	744.00	1.99
74	Nand Prayag	3 x 47.00	141	670.04	794.00	2.05
75	Jadh Ganga	2 x 25.00	50	277.48	220.88	2.19
76	Lata Tapovan	4 x 77.50	310	1021.30	1123.00	2.21
77	Rishi Ganga - II \$	1 x 35.00	35	212.98	164.64	2.22
78	Tamak Lata	4 x 70.00	280	988.21	1040.70	2.30
<b>Total (28 Schemes)</b>			<b>4559</b>			
<b>Total (Below Rs.2.50) - 78Nos.</b>			<b>34020</b>			

Note: 5 hydroelectric Schemes with total installation of 1084 MW can not be taken up for S&I and preparation of

- @ Associated with water supply scheme
- @@ Scheme involves inter-national aspects
- \$ Environmental aspects
- @ \$ allotted to IPP by State Government

**Schemes for S&I and preparation of DPRs**

**Number of Schemes 73**  
**Aggregate Installed Capacity(MW) 34020**

**PFRS under 50 000 MW Hydroelectric Initiative**  
**Operating Head wise Classification of Schemes**

Sl No	Scheme	State	Installed Capacity			Head (m)	Annual Energy (GWh)	Tariff (Rs/kWh)
			Nos of Units	Size(MW)	Total (MW)			
<b>Head : Below 100.0 m</b>								
1	Ghargaon	Maharashtra	4	13	52	9.84	74.47	15.50
2	Samda	Maharashtra	4	13	52	10.64	83.40	14.11
3	Kunghara	Maharashtra	4	18	72	12.77	133.40	11.34
4	Naraj	Orissa	7	41	287	16.14	759.31	4.92
5	Hoshangabad	Madhya Prade	3	20	60	16.50	288.21	4.10
6	Nugur-II	Chhattisgarh	5	42	210	16.66	787.78	4.16
7	Tikarpara	Orissa	7	37	259	16.97	828.37	3.69
8	Bauras	Madhya Prade	3	18.33	55	17.50	248.43	3.96
9	Takmaching	J&K	3	10	30	18.53	145.52	5.54
10	Pondugala	Andhra Prades	3	27	81	18.67	399.36	3.48
11	Wainganga	Maharashtra	5	21	105	19.74	246.15	3.86
12	Nugur-I	Chhattisgarh	5	34	170	24.54	316.13	4.89
13	Pranhita	Maharashtra	2	24	48	25.30	135.96	10.32
14	Karkit	J&K	3	10	30	26.90	153.11	5.40
15	Dumkhar	J&K	3	15	45	27.80	219.18	4.66
16	Kanyunche	J&K	3	15	45	28.76	223.02	4.71
17	Khalsi	J&K	3	20	60	33.00	272.60	4.10
18	Hiranyakeshi	Maharashtra	2	9	18	36.10	23.76	20.26
19	Kadvi	Maharashtra	2	11	22	36.30	29.59	34.03
20	Kotri	Chhattisgarh	3	50	150	36.99	330.95	5.48
21	Kumbhi	Maharashtra	2	8.5	17	37.48	22.93	35.19
22	Basania	Madhya Pades	3	30	90	38.00	240.00	17.23
23	Rehar-II	Chattisgarh	3	49	147	38.17	290.32	5.16
24	Kasari	Maharashtra	2	12.5	25	40.67	33.32	18.16
25	Rehar-I	Chhattisgarh	3	57	171	46.84	264.38	8.70
26	Bhareli-II	Ar.Pradesh	5	120	600	51.00	2345.00	1.67
27	Bardang	HP	3	38	114	55.00	438.41	2.91
28	Shamnot	J&K	4	92.5	370	56.33	1650.19	1.69
29	Khartoi Lumti Talli	Uttaranchal	2	27.5	55	56.60	241.51	3.00
30	Tizu	Nagaland	3	50	150	64.19	568.41	2.56
31	Duimukh	Ar.Pradesh	3	50	150	65.00	551.48	8.50
32	Kameng Dam	Ar.Pradesh	5	120	600	65.00	2345.55	2.29
33	Khab-II	Himachal Prad	3	62	186	70.00	640.00	3.04
34	Nand Prayag	Uttaranchal	3	47	141	72.00	794.00	2.05
35	Kawar	J&K	4	80	320	74.00	1426.56	1.09
36	Naitwar-Mori	Uttaranchal	3	11	33	76.00	151.00	1.85
37	Dikhu	Nagaland	4	35	140	79.44	513.41	2.80
38	Nunglieban	Manipur	2	52.5	105	82.42	268.93	5.16
39	Tamankal	Karanataka	2	150	300	87.29	401.00	3.32
40	Luhri	HP	3	155	465	88.00	1825.13	2.41
41	Ratle	J&K	4	140	560	92.33	2483.37	1.40
42	Mawput	Meghalaya	3	7	21	93.42	83.95	4.07
43	Bhareli-I	Ar.Pradesh	8	140	1120	97.00	4112.40	1.85
44	Khoksar	HP	3	30	90	99.00	351.91	2.46

Sl No	Scheme	State	Installed Capacity			Head (m)	Annual Energy (GWh)	Tariff (Rs/kWh)
			Nos of Units	Size(MW)	Total (MW)			
	Total (Below 100.0 m) - 44Nos.		154		7821			
<b>Head : 100.0 m - 200.0 m</b>								
45	Kalika Dantu	Uttaranchal	2	115	230	100.00	1067.30	2.95
46	Ramganga	Uttaranchal	3	22	66	100.10	327.00	3.25
47	Kiru	J&K	4	107.5	430	105.33	1935.77	0.77
48	Bhaironghati	Uttaranchal	2	32.5	65	108.90	293.18	1.80
49	Chamba	HP	3	42	126	110.00	646.82	1.48
50	Sushen	Meghalaya	2	32.5	65	114.58	220.60	3.85
51	Yangnyu	Nagaland	2	20	40	115.00	176.45	4.48
52	Shuas	J&K	2	115	230	115.70	1117.87	2.94
53	Pabaram	Manipur	2	95	190	116.67	474.77	4.33
54	Barinium	J&K	2	120	240	117.77	1170.34	2.54
55	Dengser	Ar.Pradesh	4	138	552	120.00	2666.71	3.26
56	Sebu	Ar.Pradesh	2	40	80	123.00	227.53	3.71
57	Tlawng	Mizoram	2	22.5	45	123.67	151.67	5.84
58	Emini	Ar.Pradesh	4	125	500	125.00	1695.45	3.51
59	Simang	Ar.Pradesh	3	30	90	125.00	417.82	5.43
60	Amulin	Ar.Pradesh	3	140	420	132.00	1716.40	3.37
61	Gondhala	HP	3	48	144	134.00	586.08	1.92
62	Mirak	Ar.Pradesh	3	47	141	136.40	748.44	3.42
63	Demwe	Ar.Pradesh	12	250	3000	138.00	10823.82	1.97
64	Bagoli Dam	Uttaranchal	3	24	72	139.50	340.70	4.10
65	Jadh Ganga	Uttaranchal	2	25	50	142.60	220.88	2.19
66	Ujh	J&K	4	70	280	143.33	465.06	5.06
67	KurungI&II	Ar. Pradesh	3	110	330	151.00	1435.40	4.04
68	Dibbin	Ar.Pradesh	2	50	100	151.24	332.00	2.23
69	Badao	Ar.Pradesh	4	30	120	154.50	448.67	2.32
70	Phanchung	Ar.Pradesh	2	30	60	157.13	174.83	3.24
71	Boinu	Mizoram	4	160	640	158.67	1118.93	4.83
72	Chhatru	HP	3	36	108	160.00	455.72	2.89
73	Thopan Powari	HP	3	160	480	161.14	1786.26	1.81
74	Agoline	Ar. Pradesh	3	125	375	163.00	1267.38	3.51
75	Baljori	Orissa	2	89	178	165.75	479.80	5.90
76	Ringong	Ar.Pradesh	3	50	150	166.50	649.58	3.61
77	Hutong	Ar. Pradesh	12	250	3000	166.77	9901.00	1.28
78	Tato-II	Ar. Pradesh	4	175	700	168.00	3465.90	1.48
79	Gharopa	HP	3	38	114	169.00	534.25	2.09
80	Khab-I	Himachal Prad	3	150	450	170.00	1551.00	2.24
81	Talong	Ar.Pradesh	3	100	300	171.67	915.50	2.24
82	Jangi Thopan	HP	3	160	480	174.14	1779.45	2.00
83	Chanda	Ar.Pradesh	4	27.5	110	175.67	401.91	2.67
84	Tarangwarang	Ar.Pradesh	2	15	30	185.55	92.88	2.88
85	Yangthang	HP	3	87	261	186.45	938.02	2.08
86	Kalai	Ar. Pradesh	10	260	2600	193.21	10608.64	1.01
87	Jelam Tamak	Uttaranchal	2	30	60	195.58	268.12	1.71
88	Lower Kolab	Orissa	3	155	465	196.90	845.86	7.10
	Total (100.0 m - 200.0 m) - 44Nos.		150		18167			
<b>Head : 200.0 m - 300.0 m</b>								
89	Maleri Jelam	Uttaranchal	2	27.5	55	200.33	243.07	1.80
90	Niare	Ar.Pradesh	4	200	800	205.00	3356.62	2.02

Sl No	Scheme	State	Installed Capacity			Head (m)	Annual Energy (GWh)	Tariff (Rs/kWh)
			Nos of Units	Size(MW)	Total (MW)			
91	Nongnam	Meghalaya	2	25	50	215.17	212.59	2.44
92	Lungleng	Mizoram	5	163	815	219.67	1169.06	4.17
93	Naba	Ar.Pradesh	4	250	1000	221.00	3995.25	2.14
94	Nalo	Ar.Pradesh	4	90	360	221.00	1733.00	3.27
95	Devsari	Uttaranchal	3	100	300	227.50	878.50	2.77
96	Rishi Ganga - II	Uttaranchal	1	35	35	236.96	164.64	2.22
97	Papu	Ar.Pradesh	2	100	200	238.00	505.00	2.94
98	Naying	Ar. Pradesh	4	250	1000	245.00	5077.15	1.18
99	Kapakleyak	Ar.Pradesh	4	40	160	245.00	627.95	1.74
100	Arakot Tiuni	Uttaranchal	3	24	72	250.20	382.90	1.00
101	Umduna	Meghalaya	3	19	57	253.17	231.24	1.68
102	Sela Urthing	Uttaranchal	2	115	230	255.50	816.73	1.40
103	Oju-I	Ar.Pradesh	4	175	700	257.00	3291.58	2.08
104	Attunli	Ar.Pradesh	4	125	500	264.00	2247.32	2.35
105	Lata Tapovan	Uttaranchal	4	77.5	310	265.00	1123.00	2.21
106	Emra-II	Ar.Pradesh	3	130	390	278.00	1648.09	3.02
107	Bajoli Holi	HP	3	60	180	278.00	762.98	2.03
108	Khongnum Chakka st.-II	Manipur	2	33.5	67	281.25	192.84	4.59
109	Harsil	Uttaranchal	3	70	210	281.33	920.57	1.10
110	Perianjakully	Kerala	2	30	60	282.90	86.30	6.25
111	Hirong	Ar. Pradesh	4	125	500	285.00	2535.80	1.62
112	Mihumdon	Ar.Pradesh	4	100	400	286.00	1451.75	3.60
113	Utung	Ar.Pradesh	3	33.3	100	291.00	359.13	3.10
114	Tamak Lata	Uttaranchal	4	70	280	291.40	1040.70	2.30
115	Chhunger - Chal	Uttaranchal	2	120	240	292.83	853.28	1.13
Total (200.0 m - 300.0 m) - 27Nos.			85		9071			
<b>Head : 300.0 m - 400.0 m</b>								
116	Umngi	Meghalaya	2	27	54	304.75	89.65	2.86
117	Panan	Sikkim	4	50	200	312.00	762.00	2.15
118	Rangmaw	Meghalaya	2	32.5	65	321.00	229.60	2.32
119	Oju-II	Ar.Pradesh	4	250	1000	322.00	4629.93	1.46
120	Gangotri	Uttaranchal	1	55	55	336.33	264.76	1.62
121	Bogudiyar - Sirkari Bhyal	Uttaranchal	2	85	170	344.47	744	1.99
122	Lachen	Sikkim	3	70	210	350.00	865.94	2.35
123	Dikchu	Sikkim	3	35	105	352.00	469	2.15
124	Elango	Ar.Pradesh	3	50	150	363.00	583.14	5.00
125	Jakhol Sankri	Uttaranchal	3	11	33	364.00	144.24	1.71
126	Umjaut	Meghalaya	3	23	69	375.20	276.7	1.51
127	Etabue	Ar.Pradesh	3	55	165	378.00	683.66	3.43
128	Gangavali	Karanataka	2	200	400	378.30	759	1.46
129	Etalini	Ar.Pradesh	16	250	4000	385.00	16071.6	1.70
130	Sirkari Bhyol Rupsiabagar	Uttaranchal	3	70	210	388.97	967.97	1.55
131	Karappara Kuriarkutty	Kerala	4	16.5	66	390.00	126	7.88
132	Talem	Sikkim	3	25	75	393.19	305.48	4.34
133	Ashupani	Ar.Pradesh	2	15	30	395.00	126.45	8.75
Total (300.0 m - 400.0 m) - 18Nos.			63		7057			
<b>Head : Above 400.0 m</b>								
134	Mawblei	Meghalaya	2	70	140	400.33	303.66	4.44
135	Kalinadi Stage-III	Karanataka	2	150	300	407.67	610	1.67
136	Urthing Sobla	Uttaranchal	4	70	280	414.96	1360.2	1.49
137	Karmoli	Uttaranchal	2	70	140	419.67	621.31	1.30
138	Agnashini	Karanataka	4	150	600	427.00	1431	1.07

Sl No	Scheme	State	Installed Capacity			Head (m)	Annual Energy (GWh)	Tariff (Rs/kWh)
			Nos of Units	Size(MW)	Total (MW)			
139	Selim	Meghalaya	2	85	170	433.67	534.68	2.02
140	Mawhu	Meghalaya	3	40	120	438.15	482.96	1.40
141	Rongni Storage	Sikkim	3	65	195	442.00	510.35	8.60
142	Rupsiabagar Khasiyabara	Uttaranchal	2	130	260	449.47	1195.63	1.59
143	Pakke	Ar.Pradesh	2	55	110	452.50	335.26	3.33
144	Bokang Baling	Uttaranchal	3	110	330	455.20	1124.62	1.68
145	Badrinath	Uttaranchal	2	70	140	459.67	702.7	0.81
146	Bichlari	J&K	2	17.5	35	462.60	148.29	1.11
147	Nongkolait	Meghalaya	2	60	120	463.00	332.87	1.97
148	Mapang - Bogidiyar	Uttaranchal	2	100	200	465.07	882.04	1.30
149	Garba Tawaghat	Uttaranchal	3	210	630	470.97	2483.11	0.90
150	Tidong-I	HP	2	30	60	511.50	211.65	2.71
151	Rishi Ganga - 1	Uttaranchal	2	35	70	536.17	327.3	1.18
152	Rukel	Sikkim	3	11	33	537.10	149.41	5.48
153	Deodi	Uttaranchal	2	30	60	560.30	296.76	1.37
154	Taluka Sankri	Uttaranchal	2	70	140	564.90	559.47	1.33
155	Tidong-II	HP	2	35	70	575.00	256.18	2.02
156	Teesta-I	Sikkim	4	80	320	576.85	1298.12	1.80
157	Gohana Tal	Uttaranchal	2	30	60	584.52	269.35	1.64
158	Gundia	Karanataka	2	150	300	600.00	616	1.41
159	Rangyong	Sikkim	3	47	141	723.18	639.52	2.70
160	Lingza	Sikkim	3	40	120	736.00	477.51	2.85
161	Tenga	Ar.Pradesh	4	150	600	875.00	1046.5	3.52
162	Ringpi	Sikkim	2	35	70	1106.37	317.41	3.17
	Total (Above 400.0 m) - 29Nos.		73		5814			
	<b>Total</b>		525		47930			