

Assumption Parameters for SHP Category- II (Above 2 MW to 5 MW)

Sr. No	Assumption Head	Sub Head	Sub Head(2)	Unit	Value
1	Power Generation	Capacity	Installed Generation Capacity	MW	1
			Capacity Utilisation Factor	%	55
			Auxiliary Consumption	%	0.5
			Transformation Losses	%	0.5
			Transmission losses	%	0.7
			Useful Life	%	40
		Free Energy Structure	For First 12 Years For remaining 28 Years	% %	7 13
2	Project Cost	Capital Cost /MW	Project Cost	Rs. Lacs/MW	750
3	Project Financing	Debt Equity	Tariff Period	Year	40
			Debt	%	70
		Debt Component	Equity	%	30
			Loan Amount	Rs. Lacs/MW	525
			Moratorium Period	Year	0
			Repyment Period	Year	12
			Interst Rate	%	12.875
		Equity Component	Equity Amount	Rs. Lacs/MW	225
			Return of equity for first 10 Years	%	19
			Return of equity from 11th Years onwards	%	22
4	Subsidy	Subsidy	MNRE Capital Subsidy for 2 MW	Rs. Lacs/MW	115
			90% Capital Subsidy adjusted	Rs. Lacs/MW (at 2 MW Capacity)	103.5
5	Depreciation	Depreciation	Recovery of Depreciation	%	90
			Annual Rate of Depreciation till completion of Loan Repayment (balance spread in remaining years)	%	5.83
6	Operation & Maintenance		Total O&M Expenses	Rs. Lacs/MW	22
			Annual Escalation	%	5.72
7	Working Capital		O&M Charges	Months	1
			Maintenance Spares	% of O&M expenses of a Year	15
			Recievables	Months	2
			Interest on Working capital	%	13.375
8	Accelerated Depreciation	Accelerated Depreciation	Book Depreciation	%	5.28
			Tax Depreciation	%	80
			Additional Depreciation	%	20
			Corporate Tax including Surcharge & Cess	%	32.445
9	Discount Factor		Discount Rate	%	10.58

GENERIC LEVELLISED TARIFF OF CATEGORY -II (Above 2MW to 5 MW)

As per HPERC (Promotion of Generation from the Renewable Energy Sources and Terms and Conditions for Tariff Determination) Regulations, 2012.

DETERMINATION OF TARIFF COMPONENT	UNIT	YEAR→	levellised value	Y 01	Y 02	Y 03	Y 04	Y 05	Y 06	Y 07	Y 08	Y 09	Y 10	Y 11	Y 12	Y 13	Y 14	Y 15	Y 16	Y 17	Y 18
Gross Generation (MU)	(MU)			4.82	4.82	4.82	4.83	4.82	4.82	4.82	4.83	4.82	4.82	4.82	4.83	4.82	4.82	4.82	4.83	4.82	4.82
Auxiliary Consumption @ 1 % (.5% +.5%)	(MU)			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Net Generation (MU)	(MU)			4.77	4.77	4.77	4.78	4.77	4.77	4.77	4.78	4.77	4.77	4.77	4.78	4.77	4.77	4.77	4.78	4.77	4.77
Project Line Losses @ 0.7% (MU)	(MU)			0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Saleable Energy (MU)	(MU)			4.74	4.74	4.74	4.75	4.74	4.74	4.74	4.75	4.74	4.74	4.74	4.75	4.74	4.74	4.74	4.75	4.74	4.74
Free Power	%			7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	13%	13%	13%	13%	13%	13%
Net Saleable Energy (Levellised/ Annual)	(MU)		4.326	4.40	4.40	4.40	4.42	4.40	4.40	4.40	4.42	4.40	4.40	4.40	4.42	4.12	4.12	4.12	4.13	4.12	4.12

Fixed Cost		Y 01	Y 02	Y 03	Y 04	Y 05	Y 06	Y 07	Y 08	Y 09	Y 10	Y 11	Y 12	Y 13	Y 14	Y 15	Y 16	Y 17	Y 18
O&M Expenses	Rs Lacs.	22.00	23.26	24.59	26.00	27.48	29.05	30.72	32.47	34.33	36.29	38.37	40.56	42.89	45.34	47.93	50.67	53.57	56.64
Depreciation	Rs Lacs.	43.73	43.73	43.73	43.73	43.73	43.73	43.73	43.75	43.75	27.75	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46
Interest on Term loan	Rs Lacs.	58.11	45.82	40.19	34.55	28.92	23.29	17.65	12.02	6.39	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lacs.	4.42	4.21	4.16	4.11	4.06	4.02	3.99	3.96	3.93	3.58	3.37	3.49	3.62	3.75	3.89	4.04	4.20	4.36
Return on Equity	Rs Lacs.	42.75	42.75	42.75	42.75	42.75	42.75	42.75	42.75	42.75	42.75	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50
Total Fixed Cost	Rs Lacs.	171.00	159.76	155.41	151.13	146.94	142.84	138.83	134.95	131.15	112.16	99.70	102.01	104.46	107.04	109.78	112.67	115.72	118.95

Levellised Tariff Corresponding to Tariff Period

Per Unit Cost of Generation		Y 01	Y 02	Y 03	Y 04	Y 05	Y 06	Y 07	Y 08	Y 09	Y 10	Y 11	Y 12	Y 13	Y 14	Y 15	Y 16	Y 17	Y 18
O&M Expenses	Rs./ kWh	0.955	0.50	0.53	0.56	0.59	0.62	0.66	0.70	0.74	0.78	0.82	0.87	0.92	1.04	1.10	1.16	1.23	1.30
Depreciation	Rs./ kWh	0.698	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.63	0.19	0.19	0.21	0.21	0.21	0.20	0.21	0.21
Interest on Term loan	Rs./ kWh	0.466	1.32	1.04	0.91	0.78	0.66	0.53	0.40	0.27	0.15	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs./ kWh	0.101	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.09	0.09	0.09	0.10	0.10	0.11
RoE	Rs./ kWh	1.046	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	1.12	1.12	1.20	1.20	1.20	1.20	1.20	1.20
Total Cost of Generation	Rs./ kWh	3.266	3.88	3.63	3.53	3.42	3.34	3.24	3.15	3.06	2.98	2.55	2.26	2.31	2.53	2.60	2.66	2.73	2.81

Proportionate values for discounting at discount factor of 10.58% p.a.		1.000	0.904	0.818	0.740	0.669	0.605	0.547	0.495	0.447	0.404	0.366	0.331	0.299	0.271	0.245	0.221	0.200	0.181
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Generic Levellised Tariff without Accelerated Depreciation	Rs./ kWh	3.266
Accelerated Depreciation benefit (Levellised) as per sheet IV of Appendix-B	Rs./ kWh	0.290
Generic Levellised Tariff considering Accelerated benefit	Rs./ kWh	2.977

1. Generic Levellised Tariff without Accelerated Depreciation = Rs. 3.27/kWh

2. Generic Levellised Tariff with Accelerated Depreciation = Rs. 2.98/kWh (#)

(#) Subject to review in view of the position explained in sub para (i) of para 24.3. para 43.3, & para 45.2 of the main order.

NOTES:

1. The associated terms and conditions have been given in sheet -VI of Appendix -B

2. For Illustrations please refer Sheet -VII of Appendix -B

3. These calculations have been carried out on the basis of per MW of installed capacity

GENERIC LEVELLISED TARIFF OF CATEGORY -II (Above 2MW to 5 MW)

As per HPERC (Promotion of Generation from the Renewable Energy Sources and Terms and Conditions for Tariff Determination) Regulations, 2012.

DETERMINATION OF TARIFF COMPONENT	UNIT	Y 19	Y 20	Y 21	Y 22	Y 23	Y 24	Y 25	Y 26	Y 27	Y 28	Y 29	Y 30	Y 31	Y 32	Y 33	Y 34	Y 35	Y36	Y37	Y38	Y39	Y40
Gross Generation (MU)	(MU)	4.82	4.83	4.82	4.82	4.82	4.83	4.82	4.82	4.82	4.83	4.82	4.82	4.82	4.83	4.82	4.82	4.82	4.83	4.82	4.82	4.82	4.83
Auxiliary Consumption @ 1 % (.5% +.5%)	(MU)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Net Generation (MU)	(MU)	4.77	4.78	4.77	4.77	4.77	4.78	4.77	4.77	4.77	4.78	4.77	4.77	4.77	4.78	4.77	4.77	4.77	4.78	4.77	4.77	4.77	4.78
Project Line Losses @ 0.7% (MU)	(MU)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Saleable Energy (MU)	(MU)	4.74	4.75	4.74	4.74	4.74	4.75	4.74	4.74	4.74	4.75	4.74	4.74	4.74	4.75	4.74	4.74	4.74	4.75	4.74	4.74	4.74	4.75
Free Power	%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Net Saleable Energy (Levellised/ Annual)	(MU)	4.12	4.13	4.12	4.12	4.12	4.13	4.12	4.12	4.12	4.13	4.12	4.12	4.12	4.13	4.12	4.12	4.12	4.13	4.12	4.12	4.12	4.13

Fixed Cost		Y 19	Y 20	Y 21	Y 22	Y 23	Y 24	Y 25	Y 26	Y 27	Y 28	Y 29	Y 30	Y 31	Y 32	Y 33	Y 34	Y 35	Y36	Y37	Y38	Y39	Y40
O&M Expenses	Rs Lacs.	59.88	63.30	66.92	70.75	74.80	79.07	83.60	88.38	93.43	98.78	104.43	110.40	116.72	123.39	130.45	137.91	145.80	154.14	162.96	172.28	182.14	192.55
Depreciation	Rs Lacs.	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46
Interest on Term loan	Rs Lacs.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Lacs.	4.54	4.72	4.92	5.13	5.35	5.58	5.82	6.08	6.36	6.65	6.95	7.28	7.62	7.98	8.36	8.77	9.19	9.65	10.12	10.63	11.16	11.73
Return on Equity	Rs Lacs.	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50	49.50
Total Fixed Cost	Rs Lacs.	122.37	125.98	129.80	133.83	138.10	142.61	147.38	152.42	157.75	163.38	169.34	175.63	182.29	189.33	196.77	204.64	212.95	221.74	231.04	240.87	251.25	262.24

Levellised Tariff Corresponding to Tariff Period

Per Unit Cost of Generation		Y 19	Y 20	Y 21	Y 22	Y 23	Y 24	Y 25	Y 26	Y 27	Y 28	Y 29	Y 30	Y 31	Y 32	Y 33	Y 34	Y 35	Y36	Y37	Y38	Y39	Y40
O&M Expenses	Rs./ kWh	1.45	1.53	1.62	1.72	1.82	1.91	2.03	2.14	2.27	2.39	2.53	2.68	2.83	2.99	3.17	3.35	3.54	3.73	3.95	4.18	4.42	4.66
Depreciation	Rs./ kWh	0.21	0.20	0.21	0.21	0.21	0.20	0.21	0.21	0.21	0.20	0.21	0.21	0.21	0.20	0.21	0.21	0.21	0.20	0.21	0.21	0.21	0.20
Interest on Term loan	Rs./ kWh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs./ kWh	0.11	0.11	0.12	0.12	0.13	0.13	0.14	0.15	0.15	0.16	0.17	0.18	0.18	0.19	0.20	0.21	0.22	0.23	0.25	0.26	0.27	0.28
RoE	Rs./ kWh	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Total Cost of Generation	Rs./ kWh	2.97	3.05	3.15	3.25	3.35	3.45	3.58	3.70	3.83	3.95	4.11	4.26	4.42	4.58	4.78	4.97	5.17	5.37	5.61	5.85	6.10	6.35

Proportionate values for discounting at discount factor of 10.58% p.a.	0.164	0.148	0.134	0.121	0.109	0.099	0.089	0.081	0.073	0.066	0.060	0.054	0.049	0.044	0.040	0.036	0.033	0.030	0.027	0.024	0.022	0.020
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Generic Levellised Tariff without Accelerated Depreciation

Rs./ kWh

Accelerated Depreciation benefit (Levellised) as per sheet IV of Appendix-B

Rs./ kWh

Generic Levellised Tariff considering Accelerated benefit

Rs./ kWh

Computation of Per Unit Benefit of Accelerated Depreciation (Above 2 MW to 5 MW)

As per HPERC (Promotion of Generation from the Renewable Energy Sources and Terms and Conditions for Tariff Determination) Regulations, 2012.

Depreciation amount		90.00%																	
Book Depreciation rate		5.28%																	
Tax Depreciation rate		80.00%																	
Additional Depreciation		20.00%																	
Income Tax (Normal Rates)		32.45%																	
Capital Cost (in Lacs per MW)		750.00																	
Years ----->	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Book Depreciation	%age	2.64%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	2.88%
Book Depreciation	Rs. Lacs	19.8	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	39.6	21.6
Accelerated Depreciation																			
Opening	%	100.00%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%							
Allowed during the year	%	50.00%	45.00%	4.00%	0.80%	0.16%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%							
Closing	%	50.00%	5.00%	1.00%	0.20%	0.04%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%							
Accelerated Depreciation	Rs. Lacs	375.00	337.50	30.00	6.00	1.20	0.24	0.05	0.01	0.00	0.00	0.00							
Net Depreciation Benefit	Rs. Lacs	355.20	297.90	-9.60	-33.60	-38.40	-39.36	-39.55	-39.59	-39.60	-39.60	-39.60	-39.60	-39.60	-39.60	-39.60	-39.60	-39.60	-21.60
Tax Benefit	Rs. Lacs	115.24	96.65	-3.11	-10.90	-12.46	-12.77	-12.83	-12.85	-12.85	-12.85	-12.85	-12.85	-12.85	-12.85	-12.85	-12.85	-12.85	-7.01
Net Saleable Energy	MU	1.32	4.40	4.40	4.41	4.41	4.40	4.40	4.41	4.41	4.40	4.40	4.41	4.33	4.12	4.12	4.12	4.13	4.12
Average Discounting Factor For Full year		1.00	0.95	0.86	0.78	0.70	0.64	0.58	0.52	0.47	0.43	0.39	0.35	0.31	0.28	0.26	0.23	0.21	0.19
Discounted Tax Benefit	Rs. Lacs	115.24	92.03	-2.68	-8.49	-8.77	-8.13	-7.39	-6.69	-6.05	-5.47	-4.95	-4.47	-4.05	-3.66	-3.31	-2.99	-2.71	-1.34
Discounted Net Saleable Energy	MU	1.32	4.19	3.79	3.43	3.11	2.81	2.54	2.30	2.08	1.88	1.70	1.54	1.36	1.17	1.06	0.96	0.87	0.78
Discounted Benefit	Rs./ kWh	8.72	2.09	-0.06	-0.19	-0.20	-0.18	-0.17	-0.15	-0.14	-0.12	-0.11	-0.10	-0.09	-0.09	-0.08	-0.07	-0.07	-0.03
Tax Benefit Levellised (Rs. Lacs)		11.7056																	
Net Saleable Energy (Levellised) in MU		4.0425																	
Levellised Benefit Rs./kWh		0.290 (#)																	

(#) Subject to review in view of the position explained in sub para (i) of para 24.3, para 43.3, & para 45.2 of the main order.

Computation of Per Unit Benefit of Accelerated Depreciation (Above 2 MW to 5 MW)

As per HPERC (Promotion of Generation from the Renewable Energy Sources and Terms and Conditions for Tariff Determination) Regulations, 2012.

Depreciation amount	90.00%																							
Book Depreciation rate	5.28%																							
Tax Depreciation rate	80.00%																							
Additional Depreciation	20.00%																							
Income Tax (Normal Rates)	32.45%																							
Capital Cost (in Lacs per MW)	750.00																							
Years ----->	Unit	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
Book Depreciation	%age																							
Book Depreciation	Rs. Lacs																							
Accelerated Depreciation																								
Opening	%																							
Allowed during the year	%																							
Closing	%																							
Accelerated Depreciation	Rs. Lacs																							
Net Depreciation Benefit	Rs. Lacs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tax Benefit	Rs. Lacs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Saleable Energy	MU	4.12	4.12	4.13	4.12	4.12	4.12	4.13	4.12	4.12	4.12	4.13	4.12	4.12	4.12	4.13	4.12	4.12	4.12	4.13	4.12	4.12	4.12	2.89
Average Discounting Factor For Full year		0.17	0.16	0.14	0.13	0.12	0.10	0.09	0.09	0.08	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02
Discounted Tax Benefit	Rs. Lacs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discounted Net Saleable Energy	MU	0.71	0.64	0.58	0.52	0.47	0.43	0.39	0.35	0.32	0.29	0.26	0.23	0.21	0.19	0.17	0.16	0.14	0.13	0.12	0.11	0.09	0.09	0.06
Discounted Benefit	Rs./ kWh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tax Benefit Levellised (Rs. Lacs)	11.7056																							
Net Saleable Energy (Levellised) in MU	4.0425																							
Levellised Benefit Rs./kWh	0.290 (#)																							